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Prof. Dr Eng. Jan Pająk
Fundamental discoveries and inventions

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This monograph is a scientific report from results of the author's research. For this reason all parts which have documentary or evidential value are presented accordingly to standards applicable for scientific publications (reports). Special attention is given to the requirement of repetitiveness, i.e. that on the basis of this monograph any professional scientist or hobby investigator who would like to verify, repeat, or extend the author's research should be able to recreate his work and arrive at very similar results and conclusions.

This monograph no 2 belongs to the series of the most important scientific publications by the author. It can be read either separately, or as a volume from the whole series. The entire series is marked [1/5] and have a general title "Advanced Magnetic Devices". It is already the fifth edition of this series. The previous (fourth) edition of it was the 18-volume scientific monograph [1/4] published in 2001 which carried the following title and editorial data: "Advanced Magnetic Devices". Monograph, Wellington, New Zealand, 2001, ISBN 0-9583727-5-6, a private edition by the author, 1800 pages (including 7 Tables and 163 illustrations, in 18 volumes).

All correspondence to the author of this monograph from the series [1/5] can be directed at the following his address in Korea before the end of 2007:
Prof. Dr Eng. Jan Pajak,
Ajou University, Suwon, South Korea
After the beginning of 2008 the correspondence should be directed at following author's permanent address in New Zealand:
P.O. Box 33250, Petone 5046, New Zealand
Home 2010 +64 (4) 5694-820; E-mails: pajakjan@yahoo.co.nz or janpajak@gmail.com

ABSTRACT of this monograph 2 from the series [1/5$_E$] "Advanced magnetic devices",
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What the "Oscillatory Chamber" is going to be. Imagine a transparent cube of perfect form which represents a new device for producing a super-powerful magnetic field. It looks like a crystal of a regular shape made of some transparent mineral, or like a cube cut beautifully from shiny glass and showing its content through transparent walls. For dimensions not larger than those of a Rubik's cube it could produce a magnetic field exceeding the power of fields able to be produced on Earth thousands of times, including fields from the most powerful magnetic cranes and fields from the largest electromagnets in leading scientific laboratories. If we took this cube in our hands, it would demonstrate extraordinary properties. For example, in spite of its small dimensions it would be unusually "heavy" and at its full magnetic output even the strongest athlete would not be able to lift it. Its "heaviness" results from the fact that the magnetic field it produces would attract the cube in the direction of Earth's centre, thus the force of the magnetic attraction created would add to its real weight. The cube would also oppose our attempts to rotate it, and similarly like a magnetic needle it would always try to point into the same direction coinciding with the magnetic north-south meridian. However, if we somehow could manage to turn it into orientation exactly opposite to this natural alignment like a magnetic needle, then to our surprise it would take off and begin lifting us into space. In this way just on its own this crystal would be capable of propelling our space vehicles.

The Oscillatory Chamber may soon become one of the most important technical devices of our civilization. Its application could be universal. It can accumulate an unimaginably vast amount of energy (e.g. the chamber of the dimensions of a dice is capable of satisfying the energy needs of even the largest cities or factories). It can be used as a propulsion system enabling vehicles, people, furniture, and even buildings to glide into space. It can also function as any device presently used for handling or converting energy, such as engines, motors, thermal or solar cells, generators, transformers, magnets, heaters, torches, etc. The future significance of the Oscillatory Chamber to our material sphere could be likened to the present impact computers made in our intellectual sphere.

The Oscillatory Chamber was invented at night, in first hours on the 3rd January 1984. Immediately after publishing its principles of operation, a number of hobbyists in several countries initiated experiments aimed at its completion. Unfortunately it is a device rather difficult to build. So far hobbyists have produced only a model of the chamber, but they have been unable to obtain a technically useful prototype. But their undisputable achievement is independent confirmation that the principles of the chamber's operation are correct and can be technically implemented.

Independently from these attempts of practical completion, I also initiated theoretical research aimed at confirmation that the idea of this device is correct and able to be implemented. This research has re-confirmed the correctness of the chamber's idea before a program for its completion could even be started.

This monograph contains basic information regarding the Oscillatory Chamber. It describes the design, operation, and the progress to-date regarding the completion of this device. It reviews all major applications of the chamber, although it mainly concentrates on the applications for propelling purposes (which represents only a small fraction of its total application). It also reveals facts which document that this device has already been built and sometimes even used on Earth. Thus this monograph represents a resource publication for all those who wish to familiarize themselves with the Oscillatory Chamber for research and invention purposes, or simply to extend their horizons.

CONTENT
of the monograph no 2 in [1/5$_E$] "Advanced magnetic devices", ISBN 978-1-877458-82-8.

Notes:

(1) This monograph is a subsequent publication in a whole series of 18 scientific monographs by the author. Each chapter and subsection of this series is marked with a next letter of alphabet. Chapters and subsections marked with letters other than these provided in the list of content above are positioned in different monographs (volumes) of this series. The full list of content for all 18 monographs (volumes) of this series is provided in the first monograph (volume 1).

(2) A Polish language version of this series of monographs [1/5] is also available. Therefore, in case there is any difficulty with accessing an English version of this monograph, while the reader knows the Polish language, then it could be beneficial for him or her to read the Polish version of this monograph.

(3) Both language versions in this series of monographs [1/5], namely English and Polish, use the same illustrations. Only captions under these illustrations use a different language. Therefore, if illustrations for the English version are difficult to access or unreadable, then illustrations for the Polish version can be used equally well. It is also worth to know, that enlarged copies of all the illustrations for these monographs [1/5] are made available in the Internet. So in order to e.g. examine enlarged copies of these illustrations, it is worth to view them directly from the Internet. To find them, the reader needs to find any totaliztic web page which I authorise, e.g. by typing the key word "**totalizm**" to any search engine (e.g. to www.google.com), and then, after running a totaliztic web page, the reader needs to run from it the web page named "text_1_5.htm" available on the same server, or choose the option [1/5] from the menu of that totaliztic web page. Note that all totaliztic web pages allow also the uploading of free copies of this entire series of monographs [1/5].

(4) In case of making a printout of the above list of content, the page numbers provided here not necessarily need to correspond to the page numbers that appear on subsequent pages. This is because the formatting of this monograph was made for the font "Aerial" (size: 12 pt), and for the printer "HP LaserJet 5MP" controlled from the word-processor "Word for Windows XP". All other fonts and other printers are going to cause a different density of print, and thus also a different allocation of page numbers.

(5) The update and reediting of this fifth edition of [1/5] is going to progress gradually. But readers can realize from the content pages which chapters and subsections are already reedited, or are just subjected to reediting, because on the title page these are marked with the comment "**Proof Copy** ([1/5$_E$] in the process of updating)". The remaining chapters and subsections of this monograph still should be digested in the formulation that was made for the previous, fourth edition [1/4] of this monograph.

(6) Note that the spelling used in this series of monographs is a mixture of US and UK English. The reason is that subsequent updates of this monograph ware carried out at several different countries, some of which officially used US English, some other - UK English.

(7) To improve the structure of this series of monographs [1/5], the order of chapters and subsections from various volumes was slightly changed in relation to this order that appeared in the monograph [1/4].

THE "PERIODIC PRINCIPLE" IN THE DEVELOPMENT OF PROPULSION SYSTEMS

Motto: "Look closer at the past and you see the future".

The name "Periodic Principle" is given to the general regularity, or symmetry, which governs the invention of subsequent devices that belong to the same category (e.g. the invention of all propelling devices), or which can be found in subsequent discoveries relating to the same type of phenomena (e.g. in discoveries concerning the conversion of energy). The essence of this Principle can be expressed by the following condensed recommendation for everyday use:

"Identify patterns of the past to disclose directions of the future."

This condensed form of the Periodic Principle says in simply words that:

"Subjects (e.g. devices or phenomena) belonging to the same category are always mutually interlinked by various repetitive relationships and symmetries. These repetitive relationships and symmetries, amongst others define the principles, properties, and the order of subsequent inventions or discoveries concerning a given subject category. By identifying some of them it is possible to reason about properties of subjects which are as yet unknown by the extrapolation of properties of subjects already known. This in turn allows the process of gradual inventions or discoveries of individual subjects to be replaced by a single disclosure of all subjects constituting a given category."

The Periodic Principle has the effect that every new device built (or every new phenomenon utilized) follows the same universal pattern which is repetitive, predictable and valid for all possible devices (or phenomena) of a given category. Knowing the pattern that this Principle reveals, it is possible to predict the order of completion of future inventions (or discoveries), their principles, implementation, and also the approximate year when they will become utilized.

The Periodic Principle represents the operation of a more general law, called the "Principle of the Symmetry of Nature" (see description contained in subsection F1), after it is related specifically to inventions and discoveries. The example of the first historically famous application of the Periodic Principle was the formulation of the "Mendeleyev Table" (also called the "Periodic Table of the Elements").

The discovery of the Periodic Principle has already been described in subsections A1 and A4. One of the consequences of this discovery was that I realized that the electric motor, built by Jacobie around 1836, must have a follow-up in the form of a magnetic propulsor. This propulsor should become operational within 200 years since the electric motor was completed, i.e. before the year 2036. It will be utilized in a vehicle called the Magnocraft, and its operation will employ the same interactions between magnetic fields which are the basis for the principles of the electric motor. In this way the discovery of the Periodic Principle triggered a sequence of inventions which over 20 years later enabled the formulation of this monograph.

The discovery of the Periodic Principle introduces revolutionary consequences for our future progress. This is because it completely eliminates the random factor in the process of invention, i.e. the personality of an inventor. From now on, a formal methodology (or even a computer program) can be developed which, by utilizing the Periodic Principle, will be able to determine with high accuracy not only the principles of operation of future devices, but also their design and specifications. Therefore, the Periodic Principle is able to close the previous

period of inventions, and open a completely different period of systematic synthesizing of subsequent new devices that fulfils the "general plan" defined by the laws of the universe.

The operation of the Periodic Principle was initially worked out from the example of the development of propelling devices - see Table B1. However, evidence already gathered confirms that a version of this Principle also operates in every other field of our technical development (e.g. see Table F1). Therefore, after appropriate modification, the Periodic Principle may allow for the introduction of a strict methodology into every area which until now advanced through subsequent inventions or discoveries.

B1. Everything in our environment, including the formulation of inventions, is governed by appropriate laws

We are ready to accept the fact that everything around us is governed by natural laws. No one is surprised that scientists create new technologies and design new machines making use of these laws. Some of us complain about economists who overlook some economic laws, thereby making our life more difficult. We criticize weather forecasting, while at the same time realizing that it is done when not all the atmospheric and climate laws are known or understood. But we are surprised by the statement that scientific discoveries and the creation of new ideas are also governed by particular laws.

The discovery of the Periodic Principle reveals that the process of inventing is not a spontaneous activity that happens at random. It seems rather to be a controlled and predictable consequence of the intellectual state that our civilization reaches at a particular level in its development. It seems that inventions and ideas are always ready and waiting in the "counter-world" (explained in subsection H2) and more sensitive individuals have the ability to view and extract them continually. But in order to recognize their meaning and to crystallize their final shape, it is necessary for the civilization in which inventors live to achieve an appropriate level of awareness.

There seem to be two separate components of the Periodic Principle. In the case of the Magnocraft and the Oscillatory Chamber only their conjunction would culminate in the creation of a new propelling device. These are:
1. The conceptual crystallization of an idea,
2. The physical completion of a device.
Both of these components are governed by different types of laws. The conceptual crystallization is ruled with an iron hand by the set of laws related to physics and mathematics. They determine the operation of subsequent devices, the order of their appearance, and also the approximate time when our civilization will be mature enough to complete them. Moreover, they ensure that statistically in each generation there are a few individuals who can sense a future device and crystallize in their minds its concept.

But as we may realize from the content of this monograph, possessing the final concept of a new device does not automatically guarantee its future construction. This is because the physical completion of a new propulsion is governed by different, sociological laws. The author has not worked out yet their content completely, but he has noticed that they impose a set of very restrictive social, moral, educational and philosophical requirements on the nation which is first able to complete a new propulsion system. Subsequent chapters from this part of the monograph try to identify some of these requirements (especially chapter E). It appears that the laws of the universe prevent unsound nations from overtaking others in the race for the most powerful propelling devices.

B2. The basics of propulsion

In this monograph the term "propulsion" is used to describe a device which is able to produce a controllable motion. In turn the controllable motion is the motion whose parameters, form, and timing have been previously defined or can be maintained at a desired level. Therefore the characteristic attribute of all propulsion systems is that every aspect of the motion produced by them allows for their use as the source of motion. Examples of propulsion are: the electric motor, the wheel of a car, or helicopter blades.

There are two main types of propulsion that are currently in use. The first of these is called here a "motor", whereas the second is called a "propulsor". The "**motor**" is a type of propulsion which produces **relative** movement of one of its parts in relation to another of its parts. An example of a motor is an internal combustion engine in which the movement of a piston occurs in relation to its cylinder, or an electric motor which causes the turning of its rotor relative to its housing.

When a motor is joined with elements from another machine, it causes a movement of the combined parts, but it is still a relative movement. For example, a motor in a car forces rotation of the wheels relative to the body, a motor in a ventilator causes rotation of the airscrew relative to the base, and a motor in a washing machine causes rotation of the drum relative to the housing. Motors by themselves never create motion of objects relative to their surroundings, although they can supply the mechanical energy necessary for this movement. For example, the movement of a car relative to the ground is caused by the wheels, not by a motor, and we still could make a car to move if the motor is replaced with pedals.

The "**propulsor**" is the second main type of propelling device, which produces motion of whole objects in their surrounding. Propulsors are completely different from motors because they produce an **absolute** movement, such as the floating of a boat, the flying of an aeroplane, or the thrust of a rocket. Examples of propulsors are the wheels of a car, treads of a tank, a boat propeller, a hovercraft's outlet, helicopter blades, etc.

It should be noted here that propulsors are always able to operate in the natural environment for which they are created. If, for the operation of a particular propelling device, any man-made rail, bar, duct, channel or transmission pipe is necessary, this device represents the linear motor only (not a propulsor) in which one stationary part is lengthened to the required distance. For example railways represent linear motors, not propulsors. This can be better realized when we look at Blenkinsop's engine (see Figure E1) which for the purpose of propulsion utilized a cog wheel that slotted into teeth on a track.

In every propulsion system three different components must be present. These are: (1) a working medium, (2) an energy transferor and (3) a working space.

The **working medium** is an agent applied in a particular propulsion, whose function is to absorb one kind of energy and then to return this energy in the form of a force interaction creating the motion. Examples of working medium are: the force of mechanical elasticity (in a bow), running water (in a water wheel), steam (in a steam engine), combustion gases (in a space rocket) or a magnetic field (in an electric motor).

The **energy transferor** is a space or a device within the propulsion system, where the working medium is produced and where this medium absorbs the energy that is later released for the creation of a type of motion. Examples of energy transferors are: the boiler in a steam engine, or coils of electromagnets within an electric motor.

The **working space** is a space or a device in a propulsion system, where the actual creation of motion occurs. In this space the energy contained within the working medium is transformed into the work of providing the motion for a propelled object. Examples of working spaces are: the space between the cylinder and the piston in a steam engine, the outlet in a space rocket, or a gap between the rotor and the stator in an electric motor.

B2.1. <u>The working medium</u>

From the analysis of the propulsion systems completed so far, it becomes evident that only three types of circulating agents can provide usable working mediums. These are: (1) a circulation of forces, (2) a circulation of matter (masses), and (3) a circulation of magnetic field force lines. Thus, all the known working mediums can be classified into one of three general types (see the first column in Table B1), depending on which of the above agents the particular medium represents. Because during the development of our civilization these three consecutive types of working medium were discovered and utilized in sequence, we may talk about three eras in our history when a particular general type of medium was dominant. And so in ancient and medieval times the era of media based on the **circulation of forces** prevailed (e.g. wheel and axle, flywheel, spring). Since the invention of the steam engine (1769) until now, the era of media based on the **circulation of matter** has been prevalent (e.g. those used in a windmill, watermill, airscrew, boat propeller, jet propulsion). At present we are approaching the third era, where the **circulation of magnetic field force lines** will be employed. Up to now we have completed only the first and the most primitive device, the electric motor, which utilizes the circulation of magnetic field force lines. But soon a number of more advanced propulsion systems of this kind will become operational.

For every type of working medium three different generations of propulsion systems are completed (see Table B1). In each subsequent generation further attributes of the working medium are utilized as energy carriers. The first generation always uses **force interactions** only (e.g. pushing, pulling, pressure, suction, repulsion, attraction) created by the working medium. The second generation, in addition to these force interactions, also employs **inertia-related actions**. The third generation of propulsion systems utilizing a particular general type of working medium makes use of force interactions, inertia-related actions, and in addition the impact of **internal energy** (e.g. elasticity, heat).

B2.2. The primary requirement for building a controllable propulsion system

One of the primary principles of physics, called the "Conservation of Momentum Principle", states that when a system of masses is subjected only to internal forces which the masses of the system exert on one another, the total vector momentum of the system is constant. The consequence of applying this Principle to propulsion systems is that the working medium must always be forced to circulate along closed circuits which also pass through the environment (in propulsors) or through the part (in motors) in relation to which the motion should be created. The above condition represents the primary "requirement to circulate a working medium through the environment to achieve the controllability of a propulsion system". This requirement is met in all commercially useful propulsion systems completed by man to-date, even if sometimes it takes an indirect form (e.g. in space rockets, where the propellant is taken first from the environment and placed in the rockets' tanks, and then during flight it is burned and rejected {circulated} back into the environment).

Sometimes the designer of a propelling device ignores the requirement to circulate a working medium through the environment. In effect the motion produced is uncontrollable and therefore can not be utilized to provide useful work. The device producing such uncontrolled motion will be called here a semi-propulsion system (i.e. semi-motor or semi-propulsor). Semi-propulsion can easily be transformed into propulsion, if the appropriate circulation of a working medium is organized. An example of the semi-propulsor so modified is a parachute which, after circulating its working medium (air), takes the form of a hang-glider. The other semi-propulsor still waiting modification is a balloon. If a controllable jet outlet is placed on a side surface of a balloon propelled by hot air, then this very old flying device can also move horizontally in the desired direction and with the speed required. Such a minor modification may transform hot-air balloons into the most simple, inexpensive, pleasant, and at the same time effective means of transportation. The transformation of semi-propulsion into propulsion does not usually require any major change in construction, principles, and the working

medium used. Therefore in the light of the Periodic Principle, we will assume that a particular propulsion is completed, independently of whether its final or semi-final form has been obtained.

B3. Application of the Periodic Principle to propulsion systems

The Periodic Principle recommends to "disclose directions of the future by identifying patterns of the past". The application of this recommendation to the development of propulsion systems allowed the author to identify the repetitive regularity governing the inventions of subsequent propelling devices. This regularity can be expressed in a definition which has a short and a long version. Let us first write this definition, and then explain its meaning. The short version states that:
"Each motor must have a corresponding propulsor".
The long version states that (see also Table B1):
"All known forms of propulsion are invented in pairs. Each such pair consists of a motor and a corresponding propulsor. Both, the motor and the propulsor, utilize exactly the same working medium and operate in a very similar manner. For each level of utilization of a particular working medium two subsequent motor-propulsor pairs are built. These two pairs form a single generation of a particular propulsion system. After key devices of one such generation are built, the path becomes cleared for inventing devices of the next generation. This next generation incorporates propulsion systems of a higher level of advancement."

To explain the above in simple terms, the appearance on Earth of a new generation of propulsion systems is preceded by the invention of a motor, then (by a different inventor) a corresponding propulsor is built, which forms a pair with this motor. The completion of the propulsor usually occurs no later than 200 years after the completion of the motor's technology. Both - the motor and the propulsor - utilize the same working medium, are based on the same physical phenomena, and demonstrate a close analogy in construction and principles of operation. To realize how striking the similarities between both propelling devices of each pair are, let us consider, as an example, the internal combustion engine (which is a motor of the second pair in the third generation of matter circulating propulsion systems - see Table B1) and the space rocket (which is a propulsor from the same pair). If one removes a piston from the cylinder of an internal combustion engine, he/she obtains an outlet for the space rocket jet. The fuel supply, the process of combustion, and the phenomena involved in the creation of motion remain unchanged for both the above propelling devices. The other examples of similarly corresponding pairs are: the windmill and the sailing boat, aneroid (formerly used to propel clocks - an example of such "Atmospheric Clock" is still exhibited in Clapham's Clock Museum, Whangarei, New Zealand; the French makers of this clock claimed it was "as close to perpetual motion as you'll ever get") and balloon, pneumatic motor and hovercraft, etc. - compare two consecutive columns from Table B1.

The action of the Periodic Principle for the propulsion systems is illustrated by the Periodic Table B1. Each row from this Table presents four subsequent propelling devices constituting one complete generation of propulsion systems. Inventions of all four propelling devices that belong to the same generation form a single cycle of development of propulsion systems. Within each generation, two subsequent pairs of a motor and a corresponding propulsor are invented. Each of these pairs occupies a separate column in which two additional sub-columns are distinguished for each single propelling device. At the bottom part of each column and sub-column the descriptions of the devices presented therein are provided. On the left side of each row the characteristic attributes of the generation of propulsion systems presented in this row are specified. These attributes describe:

(a) the general type of working medium applied by this generation (this medium can be either based on a circulation of (1) force, (2) matter (mass), or (3) magnetic field force lines);

(b) the subsequent number of this generation within the general type of working medium under consideration (i.e. 1, 2, or 3); and

(c) the energy carriers exploited by this generation of propulsion systems (e.g. (1) pressure, (2) inertia and pressure, or (3) internal energy, inertia, and pressure).

Note that Table B1 also shows the general direction in which the subsequent working media develop (top arrow), as well as the direction of the development of individual propelling devices built for any one of these media (bottom/right arrow).

We have learned that particular principles of operation can be applied to a number of different technical versions of the same propelling device. For example the internal combustion engine can be built as: a Diesel engine or a petrol engine, a two-stroke or four-stroke engine, a piston engine or a turbo-engine. If we analyze each of these versions we will find that all of them employ exactly the same properties of the working medium and utilize exactly the same set of phenomena. The only differences appear in the technical implementation of the device that releases these phenomena. Therefore from the point of view of the Periodic Principle all such versions represent the same propulsion which, however, is built in different technical implementations. No matter how many of these different implementations of a particular propulsion are completed, they still belong to the same stage of our development and are not able to lift our civilization to a higher level. In order **to progress and advance we must complete different propulsion systems, not different technical versions of the same propulsion** (e.g. the Magnocraft instead of magnetic railways which represent only a linear version of the electric motor). Notice that Table B1 always lists the first or the most representative technical version of every subsequent propulsion system, no matter how many versions of this propulsion were completed. For example, the sail in Table B1 shown as the first propulsor employing the pressure of the circulating stream of matter (air), is only the first one of many possible propulsion systems operating on this principle. The other propulsors utilizing the same principle are: an aeroplane wing, a parachute, and a hang-glider.

Table B1 illustrates also the difference between the first and second pairs in each generation of propulsion systems. The essence of this difference is that the first pair uses a special device (energy transferor) to produce a working medium (e.g. a steam generator in a steam engine, or a combustion chamber in a jet propulsor) physically separated from the working space where the motion is created, whereas the second pair of propulsion produces a working medium inside the working space (e.g. combustion gases in a cylinder of the internal combustion engine, or in the outlet of a space rocket).

The analysis of Table B1 reveals that each next generation of propulsion systems repeats the technology already utilized in the lower generation built for the same type of working medium, but this technology achieves a higher level of efficiency and employs more advanced energy carriers. In this way, the development of propulsion systems takes the shape of an ascending helix (spiral), where each coil symmetrically repeats the general pattern of a pervious invention, but on a higher level of efficiency. This helix carries on a number of key attributes from one propulsion to another. Therefore the characteristics of propulsion systems discovered so far define very strictly the details of the propelling devices to be completed in the future. The key information about future propulsion systems, which the Periodic Principle reveals, is: (1) the working medium utilized in a subsequent propulsion, (2) the employed attributes of this working medium (e.g. energy carrier such as force, inertia, or internal energy, and the kinds of phenomena involved), (3) the principles of operation of a new device, (4) the general design and the similarities to the other propulsion systems already completed, (5) the approximate date when our civilization will attain the level required for the completion of this device.

Knowing all the above, the synthesizing of the final shape of a new propulsion system is just a matter of ordinary design routine and development procedures.

B4. The first generation of the magnetic propulsion systems

Having knowledge of the Periodic Principle, we can state that if there exists a "single" motor of the first kind, a propulsor that will form a pair with this motor must also be completed in the near future (i.e. within around 200 years since the invention of this motor). Moreover, two further propulsion devices, which complete a full generation to which this motor belong, will also soon be developed.

We are all aware of such a "single" motor: it is the common electric motor invented by Jacobie around 1836. In this motor the motion is created because of repulsive and attractive interactions between magnetic fields. The name "electric" (instead of "magnetic") for this motor is derived from the flow of an electric current through the motor's coils which is applied to produce magnetic fields. Because Jacobie built the first such motor around 1836, the Periodic Principle predicts that no later than by the year 2036 humanity will create the Magnocraft, i.e. a spacecraft that will utilize the same type of magnetic interactions for flying in space. Moreover, as the first generation of the devices that utilize magnetic field is just beginning, a motor of the second pair, which can be called the "pulsatory motor", may be built about the year 2040. Around 2140 the pulsatory motor may be followed by the creation of a most powerful vehicle to operate on the principle of physical dislocation of objects in space, which is called here the "star-shaped space ship" from its similarity to an eight-pointed star.

The first generation of propulsion systems utilizing magnetic interactions (i.e. electric motor, Magnocraft, pulsatory motor, and star-shaped space ship) will close the present era of human development during which our means of transportation has operated on the principle of the physical dislocation of objects in space. Beyond this era there are only propulsion systems operating on other principles, i.e. telekinetic and time travel. It seems to be a repetitive pattern that every first generation should bring about the close of some longer period in our development. Also the first generation of matter circulating propulsion systems (i.e. windmill, sail, aneroid and balloon) closed the period when sources of energy provided in a ready form by untamed nature were utilized for the purpose of propulsion.

The Periodic Principle also explains the operation of these future propulsion devices, and as a result, their construction. This is because all necessary information is contained in the symmetry and analogies reflected by the Periodic Table B1. For example, the operation of the Magnocraft is an analogy for the operation of a multiphase asynchronous electric motor from one side, and the sail, hovercraft and jet propulsor from the other. Thus, when the operation and the construction is known, we may initiate research more promptly in the right direction and expedite the completion of the propulsion systems indicated. Consequently, the utilization of the clues provided by the Periodic Principle may cause the acceleration of our progress.

Just in order to demonstrate the predictive capabilities of Periodic Tables, in the subsection to follow the Magnocraft will be briefly presented the invention of which was firstly suggested by the content of the first such table prepared by the author.

B5. How the "omnibus trend" should culminate in three conventions of the Magnocraft's operation

In plain English the word "convention" means "unambiguously defined behaviour". In this monograph the same term will be used to describe the strictly defined behaviour of an advanced flying vehicle. Thus, by the "**convention** of operation of a vehicle" will be understood a name assigned to the basic principle employed in a particular spacecraft to cause its own motion. This name is usually derived from the most advanced energy carrier that is utilized in the working medium of this vehicle (see the third column in Table B1). In the case of the Magnocraft, depending on which generation this vehicle belongs, three conventions of its operation can be distinguished, i.e. magnetic, telekinetic, and time travel.

To explain more precisely the interpretation of "convention of a vehicle's operation", a hypothetical flying aircraft called an "omnibus" will be discussed. The omnibus has the shape of an open-ended barrel or tube. It incorporates in one vehicle the capabilities of as many as three different generations of propulsors operating on the principle of circulation of matter, i.e. a glider, a hovercraft and a jet propulsor. When the omnibus flies at high altitudes and extinguishes its fuel combustion, it glides through the air, thus functioning as the first generation of propulsors belonging to the matter circulating propulsion systems. In Table B1 these propulsors are represented by a sail (see also explanations from subsection B3). When the omnibus directs the stream of its exhaust gases downward, it operates like a hovercraft, flying horizontally just above the ground. During such an operation it represents the second generation of the matter circulating propulsors. The omnibus may also operate as a jet propulsor, thrusting its way up into the air. In such an operation it represents the third generation of the propulsors based on the circulation of matter.

The above explanations show that in order to describe how an omnibus operates in a particular instant of time, the use of the term "convention" is necessary. Thus, we may state that the omnibus operates either in a glider convention, in a hovercraft convention, or in a jet convention. In each one of these, the single omnibus behaves the same as aircraft belonging to an entirely different generation of matter circulating propulsion systems. By naming the convention in which it operates we are able to clarify all possible ambiguity concerning its behaviour and properties.

The experience accumulated so far indicates that all three successive generations of the matter circulating propulsors complement one another. Thus, the contemporary propulsors of the third generation, such as jet or rocket, not only are unable to replace or substitute the propulsors of the first or second generation, such as a glider or hovercraft, but also they introduce a growing need for simultaneous application of these simple propulsors. An example of such a need can be the space shuttle "Columbia" which had to operate as a rocket, as a glider, or as an inertial satellite. On the other hand, our increasing knowledge of the propulsion systems provides technological capabilities for building omnibuses. Therefore it gradually becomes evident that as our development progresses, our ability to build omnibuses increases. An example of this "omnibus trend" can be contemporary military aircraft, which already are required to display the capabilities of jet aeroplanes, as well as the ability to take-off vertically (i.e. for operation as a hovercraft), and also the ability for gliding.

The above observation can be expressed in the form of a general rule which states that:

"In highly developed civilizations the '**omnibus trend**' becomes so dominant that the development of higher generations of flying vehicles are achieved through adding further conventions to the existing vehicles of lower generations utilizing the same working medium."

As is shown in the Periodic Principle, there exists a striking symmetry in the development of propelling devices that utilize three general types of working media. Therefore the regularities observed during the development of matter circulating aircraft must also be in operation for the flying vehicles based on the circulation of magnetic fields. To put this another way, the omnibus trend described above impacts to the same extent on the development of contemporary aircraft as the development of future Magnocraft.

The omnibus trend will have a direct impact on our civilization when the second and third generations of magnetic spacecraft eventuate. These two advanced vehicles will not be built as entirely new and different spacecraft, but rather as improved versions of the ordinary Magnocraft. Their shape, internal design and one of the conventions of their operation (i.e. magnetic convention) will be identical to those of the Magnocraft. The only difference these advanced vehicles will display in comparison to the Magnocraft, is that independently of the magnetic convention they will also be capable of using, when required, the telekinetic (vehicles of the second generation), and telekinetic or time travel (vehicles of the third generation) conventions. To emphasize that both these advanced magnetic vehicles evolved from the ordinary Magnocraft, they will also be called here the Magnocraft of the second generation (i.e. able to operate in the magnetic or telekinetic conventions) and the Magnocraft

of the third generation (i.e. able to operate in the magnetic, telekinetic, or time travel conventions). In contrast to this, the ordinary Magnocraft, which can only operate in the magnetic convention, will be called here the Magnocraft of the first generation, or simply the "Magnocraft". It should be stressed that each of these vehicles can operate only in one convention at a time. For example, when the Magnocraft of the second generation flies in the magnetic convention its telekinetic capabilities must be switched off, but when it turns on its telekinetic operation it must simultaneously extinguish its forces of magnetic attraction and repulsion.

B6. Three successive generations of magnetic propulsion systems

Subsection B2.1 has shown that for each general type of working medium as many as three successive generations of propulsion systems will eventually be completed. The electric motor, Magnocraft, pulsatory motor, and star-shaped space ship, all represent only the first and the most primitive generation of the propulsion systems based on the circulation of magnetic field force lines - refer to Table B1. The only magnetic field attribute employed by this generation is the force of magnetic repulsion or attraction. But the Periodic Principle shows that after completion of this first generation, the second and third generations of the magnetic propulsion systems must appear. Each one of these generations will allow the completion of as many as four separate propelling devices belonging to two motor-propulsor pairs, as illustrated in Table B1. The operation of all these advanced devices will utilize not only magnetic attraction and repulsion forces, but also such sophisticated magnetic phenomena as technically induced telekinetic motion (which is triggered by the magnetic equivalent of mechanical inertia - see explanation in chapter L) and the alteration of time (time is a magnetic equivalent, or a mirror reflection, of internal energy of material systems - see chapter H, subsection H9.1). To put the above into terminology used in this monograph: the second and third generations of magnetic propulsion systems will be capable of operating in, respectively, telekinetic (telekinetic) and time travel conventions.

Two chapters that follow are to explain the theory behind the phenomena employed in the operation of all these advanced magnetic propulsion systems, starting from the explanations for the so-called "Telekinetic Effect" utilized in the operation of the Magnocraft of the second generation.

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              ┌──┐  ┌──┐
           ┌──┘  └──┘  └──┐
        Direction
        of the development
     of working mediums (perfecting
      of devices through time elapse)
```

Direction of the development of working mediums (perfecting of devices through time elapse) →

Era	Type of working medium	Generation	Energy carrier / Device (kind)	Motors of 1 pair (relative motion)	Propulsors of 1 pair (absolute m.)	Motors of 2 pair (relative motion)	Propulsors of 2 p. (absolute motion)	
3.	Circulation of magnetic field lines	3.	3.Time + 2.	?	Time vehicle: 2300	?	?	Future times
		2.	2.Self-mob.+1.	Telekin.motor:2036	Telekin.magno:2200	?	?	↓
		1.	1.Force inter.	Electric mot.:1836	Magnocraft: 2036	Pulsatory motor	Star-shaped ship	.....
2.	Circulation of mass	3.	3.Heat + 2.	Steam engine: 1769	Jet propulsion1939	Inter.comb.eng:1867	Space rocket:1942	The present time and level
		2.	2.Inertia + 1.	Pneumatic mot:1860	Hovercraft: 1959	Newcomen engin:1712	Airscrew: 1903	
		1.	1.Pressure	Windmill: 1191	Sail: around 1390	Vidi's box: 1860	Balloon: 1863	
1.	Circulation of force	3.	3.Elasticity+2	Bow-inertial drill	Catapult	Spring:around 1500	Ball	↓
		2.	2.Inertia + 1.	Potter's wheel	Battering ram	Flywheel	Centrifugal sling	
		1.	1.Force	Crank	Rafting pole	Drum treadmill	Wheel	Progress

Level of perfection | First motor-propulsor pair: energy transferer separate from working space | Second motor-propulsor pair (energy transferer within the working space)

Table B1. **The Periodic Table completed for the propulsion systems**. This Table was constructed by listing along its vertical axis the phenomena utilized in the operation of successive generations of propelling devices, and by the listing along the horizontal axis all possible types of propelling devices that utilize these phenomena. The symmetry and repetitiveness in the internal structure of this Table give it enormous potential for prediction, as it allows for the transfer (extrapolation) of vital attributes between various devices. Its empty spaces indicate the devices still waiting to be invented. By analysis of the location of these empty spaces (i.e. their row and column) it is possible to determine the future operation and characteristics of devices yet undiscovered. The invention and development of the Magnocraft was the direct result of the completion of this Table.

A remark regarding Vidi's box: the "Atmospheric Clock" utilizing for propelling purposes a version of the Vidi's box is exhibited in Clapham's Clock Museum, Whangarei, New Zealand. The French makers of this clock claimed it was "as close to perpetual motion as you'll ever get".

THE MAGNOCRAFT

As I am going to explain this step-by-step in subsection A4, the development and publishing the design and operation of the Magnocraft that I described above, gave me to the hand an end from the extremely long rope, or from the mythological "Ariadna thread", which later gradually led me to countless further discoveries and inventions. These in turn, in the final effect eventuated in the writing of this monograph. Thus the Magnocraft turned out to be a source of inexhaustible and constant inspiration that motivated my actions throughout the rest of my life.

C1. The Magnocraft of the first generation - means my personal "Ariadna thread"

Before we begin the presentation of next topics of this monograph, their deductions become much clearer if at this stage we explain briefly to ourselves the design and operation of this extraordinary Magnocraft. After all, later this Magnocraft, like a mythological "thread of Ariadna", become the source of everything that is described in this monograph. Thus it directly led to the eventuation of this monograph. The cyclic table that I discussed previously, indicates that there will be many generations, kinds, and types of Magnocraft completed on Earth - similarly as presently many different types of aeroplanes are build. Each one of them will be called differently. Also each one of them will have slightly different attributes. All of them are more exactly named and presented in subsections B1 and M6. But at the very beginning, the simplest one of them will be build. In this monograph this simplest one is called the "discoidal Magnocraft of the first generation" or just the "Magnocraft". For a better understanding of next topics, let us now learn in brief basics of this extraordinary space vehicle.

The appearance of a discoidal Magnocraft of the first generation, presented in a side view, is shown in part (b) of **Figure C1**. In turn the general design of this vehicle is illustrated in part (a) of the same Figure C1. The external shape of this vehicle resembles a disk, or an inverted saucer. Its propulsion system is composed of the devices called "oscillatory chambers" (in Figure C1 these oscillatory chambers are illustrated as transparent cubes assembled inside of spherical casings).

An "**oscillatory chamber**" is a device of my own invention, for the production of extremely powerful magnetic fields. Thus it would be appropriate to state, that it is a kind of a super powerful "magnet" (i.e. the magnet so powerful, that such a chamber on its own is capable to repel itself from the Earth's magnetic field and to ascend in space, simply due to a repulsive interaction with the Earth's magnetic field). The operation of this chamber is based on a completely new principle, previously unknown on Earth, in details described in chapter F of this monograph, and also in English monographs [1e] and [2e]. This chamber usually takes the shape of a transparent cubical box, empty inside. Along side walls of this box oscillatory electrical sparks are maintained, which force the streams of sparks to rotate along peripherals of a square. The square rotation of this electrical sparks forms a powerful magnetic field. Thus a single oscillatory chamber is a kind of extremely powerful magnet, that is able to lift itself (together with a heavy structure of a space vehicle attached to it) exclusively due to the repulsion from the magnetic field of Earth, Planets, Sun, or Galaxy. In order for this lifting to be possible, the magnetic output from the oscillatory chamber must exceed the value, that is expressed through a magnetic constant called the "**starting flux**". This starting flux is defined as "the smallest output from any source of magnetic field, related to the unit of weight of this source, which after being oriented repulsively towards Earth's magnetic field, causes the

overcoming of gravity pull and the ascend of this source of field into space". The value of the starting flux is calculated in subsection F5.1 of this monograph. It is also calculated in English monographs [1e], [2e], and Polish [1/3]. For the area of Poland it amounts to Fs=3.45 [Wb/kg].

The output from a single oscillatory chamber would be quite difficult to control. Therefore, for the purpose of better controllability, the Magnocraft uses special arrangements of oscillatory chambers, called "**twin-chamber capsules**" (such a capsule is shown in part (c) of Figure C1, while described in subsection F7.1 of this monograph and in subsection F6.1 of monographs [2e] and [1e]). Such a capsule is composed of a larger outer (O) oscillatory chamber, inside of which a smaller inner (I) oscillatory chamber is freely floating. Magnetic poles N/S of the inner chamber (I) are reversed in relation to magnetic poles of the outer chamber (O), so that outputs from both these chambers mutually subtract from each other. In the result, the part of the output (C) from the chamber with the larger output, is bend back and circulated as input directly to the smaller chamber, thus forming the so-called "circulating flux" (C) that never leaves the interior of the twin-chamber capsule. Only the excess of the output from the chamber with larger yield is forwarded to the environment, thus forming the so-called "resultant flux" (R) that represents the useful output from this capsule. The division of the magnetic energy contained in such a capsule into the "resultant flux" (R), and the "circulating flux" (C), allows the extremely fast and effective control over the output from such a capsule, without the need to change the amount of energy contained in such a capsule. This control depends on the simple change of mutual proportions between the flux (C) that is circulated inside of such a capsule, and the flux (R) that is directed to the environment from this capsule. Thus, there is a possibility to control the operation of this capsule, so that to the outside is directed no output at all (this happens when the entire magnetic field produced by both chambers of such a capsule is trapped in the circulating flux), or to cause that the entire magnetic energy of the capsule is directed outside. It is also possible to accomplish fluently any state between these two extremes. In turn this effective control over the output from such a capsule, allows to precisely control the flight of the vehicle that is propelled by the resultant magnetic flux (R) directed by this capsule to the environment.

Unfortunately, the twin-chamber capsule is rather resistant to accept control signals. After all, such control signals must be forwarded without any wire to the smaller oscillatory chamber that freely floats inside of a very powerful stream of magnetic energy. Therefore, the construction of this capsule requires rather advanced technology. Thus, in the first stage of constructing of Magnocraft, instead of this capsule, much simpler propelling device is going to be used, which also allows the effective control over magnetic output that is yield to the environment. This simpler device is called the "**spider configuration**". The description of it is contained in subsection F7.2 of this monograph, and in chapter F of monographs [2e] and [1e]. In the first period of production of Magnocraft, that is more exactly described in subsection M6, these vehicles are going to use such much simpler for control prototype spider configuration (instead of the difficult to control, and technically very advanced twin-chamber capsule).

In the design of the Magnocraft, all "twin-chamber capsules" (or "spider configurations") are assembled into spherical casings, and furnished with appropriate control devices that allow to manipulate the direction and the amount of the magnetic output (and thus also the magnetic thrust force). Such individual propelling modules of the Magnocraft, which include a twin-chamber capsule (or a spider configuration), together with the control devices and with the spherical casing that hosts them, are called "**magnetic propulsors**".

Each propulsor in Magnocraft produces magnetic field of an enormous effective length. At some stage I carried out appropriate calculations of this length. (I published these calculations in subsection F5.3 of this monograph.) I determined, that for example magnetic field from a propulsor that has a physical length of 1 meter, actually extends its **effective length** so much, that even in the most difficult conditions it exceeds the value of 1000 kilometres. This practically means, that a propulsor that has a physical length of 1 meter, actually is going to behave like a magnet that is long for around 1000 kilometres. Thus, the magnetic field from such a propulsor is able to overcome the so-called "uniform" character of

the Earth's magnetic field, and to produce a significant "net" magnetic lifting force. In turn this "net magnetic lifting force" is going to propel Magnocraft in the direction defined by its control computer.

Magnocraft consists of two kinds of propulsors: main (M) and side (U) - see part (a) of Figure A1. The single **main propulsor** (M) is suspended in the centre of the vehicle. The magnetic poles of this propulsor are oriented so as to repel the environmental magnetic field (which could be the field of the Earth, a planet, the Sun, or a galaxy). By this means, (M) produces a lifting force which supports the craft (in part "a" of Figure A1 this lifting force is shown as "R" - from "repulsion"). The magnetic axis of (M) propulsor, is usually kept tangential to the force lines of the environmental magnetic field existing in the craft's area of operation. Therefore the most effective orientation of the Magnocraft during flight is while its base is perpendicular to the local direction of the Earth's magnetic field. Sometimes, however, this orientation must be slightly altered to enable it to manoeuvre or to land.

The Magnocraft also consists of a number "n" of **side propulsors** (U), placed in equal distances on the peripherals of this vehicle. Their magnetic poles are oriented so as to attract the environmental field. Therefore side propulsors produce "n" number of attraction forces (A), which stabilize the craft and fix its orientation in space (in part "a" of Figure A1 these forces are shown as "A" - from "attraction"). To increase the vehicle's stability, the side propulsors are located below the main propulsor, together forming a kind of "bell configuration", which in physics is known for its greatest stability. All these "n" side propulsors are located at regular intervals in the horizontal flange surrounding the base of the spacecraft. This flange, together with side propulsors contained in it, is covered with a lens-like aerodynamic hulk made of a material that is penetrable by magnetic field.

The number "n" of side propulsors in a Magnocraft is strictly defined by the design conditions described in subsection F4.2 of this monograph, and in subsection G4.2 of monographs [2e] and [1e]. This number characterizes a particular type of Magnocraft. It depends on the design factor marked as "K". The mutual relationship between this number "n", and the factor "K", is expressed by the equation:

$$n=4 \cdot (K-1) \tag{1A2.1}$$

The symbol "K" originates from the word "Krotnosc", which in the Polish language means: ratio of the vehicle's diameter "D" to its height "H" (base to top), i.e.:

$$K=D/H \tag{2A2.1}$$

This is because the value of "K" shows how many times the Magnocraft's height is aliquot in the outer diameter of this vehicle. Because of the various interactions and relationships that appear in the Magnocraft, and that for the first time were described in the Polish journal **[1A2.1]** "Horyzonty Techniki" no 5/1985, pages 10-11 (then repeated in my various monographs, including subsection F4.2 of this monograph and subsection G4.2 of monographs [2e] and [1e]), the **"K" factor** may take any integer value in a range from K=3 to K=10. Because of the value that this factor has, the consecutive types of the Magnocraft are called K3, K4, K5, K6, K7, K8, K9, or K10. For example, the Magnocraft type K3 shown in Figure A1, has this factor equal to K=3 (thus, according to equation (1A2.1), such K3 vehicle has n=(4(3-1)=8 side propulsors), the Magnocraft type K4 has this factor equal to K=4 (and thus n=12 side propulsors), whereas the largest Magnocraft of K10 type has this factor equal to K=10 (thus n=36).

The "K" factor is extremely important for the design of Magnocraft. It defines all the design parameters of this vehicle, including its shape and dimensions. For example the outer diameter "D" of the Magnocraft also depends on this "K" factor and is described by the following equation:

$$D=0.5486 \cdot 2^K \text{ [meters]} \tag{3A2.1}$$

All these parameters are described by the set of equations which express the relationship between this "K" factor and some important dimensions of the Magnocraft, such as: D - outer diameter of the vehicle (i.e. the maximal diameter of its flange), d - nominal diameter of the circle on which the centres of the side propulsors are located (note that this "d" diameter also

describes the mean dimension of the ring of scorched marks left on the ground by a landed Magnocraft), H - height, D_M - outer diameter of the spherical casing of the main propulsor, and L - width of the flange containing side propulsors. Apart from equations (1A2.1), (2A2.1) and

(3A2.1), other important out of these equations include following ones: $d=D/\sqrt{2}$, $H=D/K$,

$D_M=H(2-\sqrt{2})$, $L=0.5(D-d)=0.25 \cdot K \cdot D_M$. The deductions of the above equations are contained in subsection F4 of this monograph, and also in subsections G4 of monographs [2e] and [1e].

Because the "K" factor can easily be determined from the Magnocraft's outline or photographs, even with the use of a radar and a computer program, it provides an extremely important identification parameter which enables anyone to quickly establish many technical details about a vehicle being observed. The determination of this "K" factor, and thus a type and technical details of an observed Magnocraft, boils down to finding out from the equation (2A2) how many times the height "H" of the vehicle fits into its outer diameter "D". Because the same magnetic laws must also apply for the Magnocraft-like vehicles built by other civilizations, the described here manner of identifying a type of these vehicles by the value of their "K" factor is universal and applicable to UFOs as well - for details see also subsection P2.15.

The **crew cabin** (1) is located between the main (M) and side (U) propulsors - see (1) in part (a) of Figure A1. It has the shape of a parallel-piped ring. This cabin looks similar to the side walls of an inverted saucer. The hulk of this cabin is covered by a material which is impenetrable by the magnetic flux. (Thus this material displays a property that is called "magnetoreflectiveness - means it reflects magnetic field in a manner similar like a mirror reflects light - see descriptions provided in subsection F2.2 of this monograph). Along the interior (slanted) wall of the crew cabin lie the telescopic legs (2) of the craft. These legs are extended only at the moment of landing.

The **hulk** of the Magnocraft is a kind of mechanically robust protective shell, made of a "magnetoreflective" material, which protects people inside from the action of this powerful magnetic field, and which holds together all devices of the vehicle, and also which separates the interior of the vehicle from the surrounding space. It is made of a transparent material, which has a smoothly controlled degree of transparency and light reflection. Therefore at nights, and deeply in space, it can be controlled into being completely transparent, thus allowing to see everything around the Magnocraft. In turn during daylight, and close to suns, it can be switched into reflecting light like a silver mirror, thus protecting crew inside from a powerful light. Through this hulk the casual observer can see internal components of the Magnocraft (i.e. propulsors, cabins, levels, crew sits, etc.) - as this is shown in Figure A1 (b). Through this transparent hulk also magnetic circuits which are formed by the vehicle's propulsors can be seen. Actually, when viewed from the centre of the Magnocraft, these circuits look like a huge "tree of life", as they separate into many branches at the top part of the spaceship, and they also separate into many roots underneath of the Magnocraft. Note that there are entire monographs already published, which describe Magnocraft in great details - as an example see monographs [2e] and [1e].

The final structure of Magnocraft includes its hulk, propulsion system (propulsors), crew cabin, log computer, life support system, and other vital devices and components. The general appearance of this final structure is shown in Figure A1 (b).

The basic design of discoidal Magnocraft described above can then be modified to obtain other propelling devices and vehicles. Two most useful out of such modifications are "personal propulsion" and "four-propulsor Magnocraft". The detailed description of their designs, principles of operation, and attributes, together with appropriate illustrations, is provided in chapters D and E of this monograph, and in chapters H and I of monographs [2e] and [1e]. **Personal propulsion** system is a kind of Magnocraft that is build into a form of suit that is wear by the user. In this suit two miniaturised main propulsors are assembled into soles of shoes, while eight miniaturised side propulsors are assembled in a special eight-segment belt. The propelling system received in this manner allows the user to fly in the air, to walk on

water or on ceiling, or to jump on huge heights or lengths without the use of any visible vehicle. **Four-propulsor Magnocraft** is received through attaching appropriate propulsors to four corners of a portable cabin. The propulsors of this vehicle use "spider configurations" of oscillatory chambers. As this was explained before, such spider configurations are simple combinations of oscillatory chambers, that work as alternatives to twin-chamber capsules. In them, a single central oscillatory chamber is surrounded with four side chambers. Thus, the resultant configuration slightly resembles a barrel, while its operation imitates a miniature Magnocraft that has no crew cabin. When four such spider configurations are propelling a portable cabin attached to them, the effect resembles a "log cabin" that is lifted by corners with four miniature Magnocraft. The famous UFO abduction of the late Jan Wolski of Poland, that is described in chapter Q of this monograph, and in chapter O of monograph [1e], was carried out by such four-propulsor UFO.
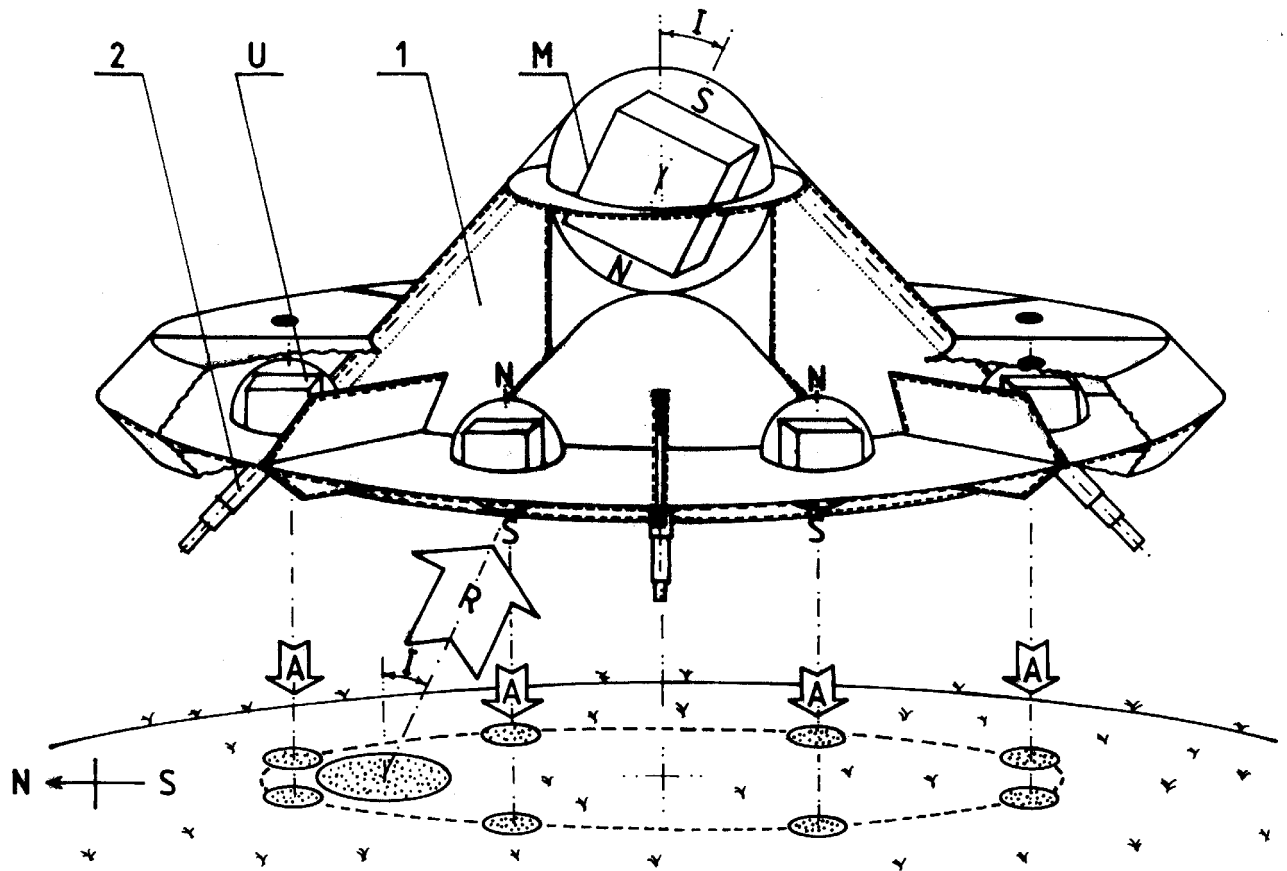
Fig. C1(a). **The Magnocraft (and UFO) type K3**. Illustrated is the appearance, design, and operation of a single Magnocraft of the smallest type, called the K3 type, for which the factor K=D/H takes the value of K=3. As it was formally proven that "UFOs are already operational Magnocraft" (see subsection J2 in monograph [1e]), some readers could have seen this vehicle, only that they would call it a UFO.

(a) A cut-away view of the Magnocraft type K3, illustrating its internal design and main components. On this diagram, the front shell of a horizontal flange was removed to illustrate the location of side propulsors. The vehicle is shown as if approaching a landing on flat ground. The edges of the walls made of a material impenetrable by a magnetic field are indicated by a broken line. The cuttings through the walls from a material penetrable to a magnetic field are shown with a wavy line. Symbols: M - the spherical main propulsor whose repulsion "R" from the environmental magnetic field produces a lifting force (note a cubical twin-chamber capsule visible inside); U - one of the eight side propulsors whose attraction "A" towards the environmental magnetic field stabilizes the vehicle; N, S - north and south magnetic poles; I - inclination angle of the environmental magnetic field; 1 - the crew cabin in the shape of a parallel-piped ring; 2 - one of the four telescopic legs extended at the moment of landing.
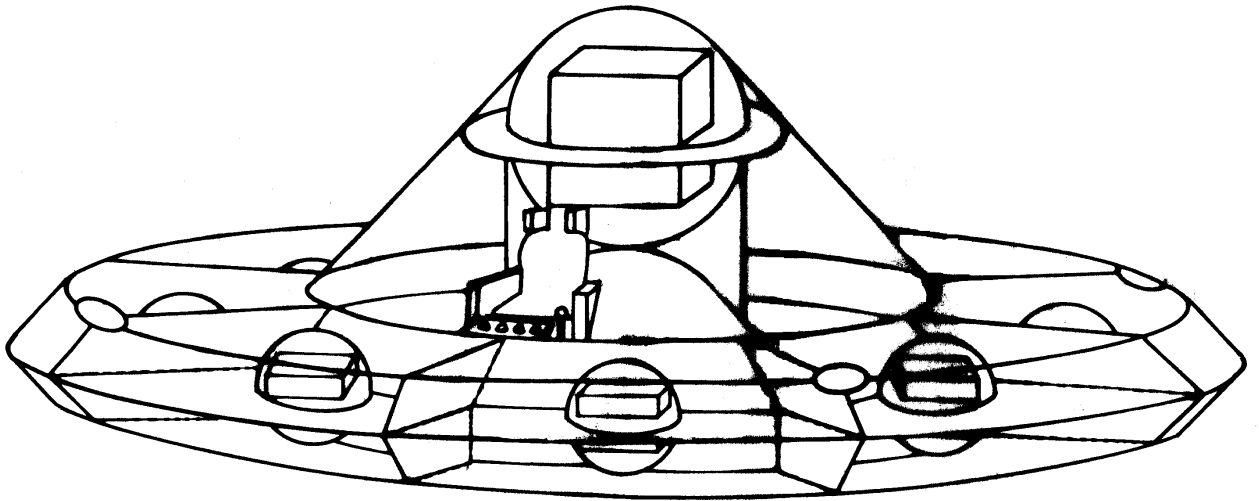
Fig. C1(b). **The Magnocraft (and UFO) type K3**. Illustrated is the appearance, design, and operation of a single Magnocraft of the smallest type, called the K3 type, for which the factor K=D/H takes the value of K=3. As it was formally proven that "UFOs are already operational Magnocraft" (see subsection J2 in monograph [1e]), some readers could have seen this vehicle, only that they would call it a UFO.

(b) The side appearance of the Magnocraft. This vehicle resembles an inverted saucer. Its propelling devices take the form of spherical "propulsors" which in Magnocraft of the first generation host cubical twin-chamber capsules. The Magnocraft type K3 has a single lifting propulsor located in its centre, and eight stabilizing propulsors placed in its side flange, all nine of them loaded with magnetic energy. These propulsors are arranged like a parabolic mirror in a torch. Therefore an explosion of these propulsors would create a directional impact, similar to that formed by anti-tank cumulative charges. Because this vehicle always flies with its central axis parallel to the local course of Earth's magnetic field, its explosion must create a characteristic "butterfly" area of destruction, existing both in Tapanui and Tunguska - see Figure A4 in treatise [7/2].
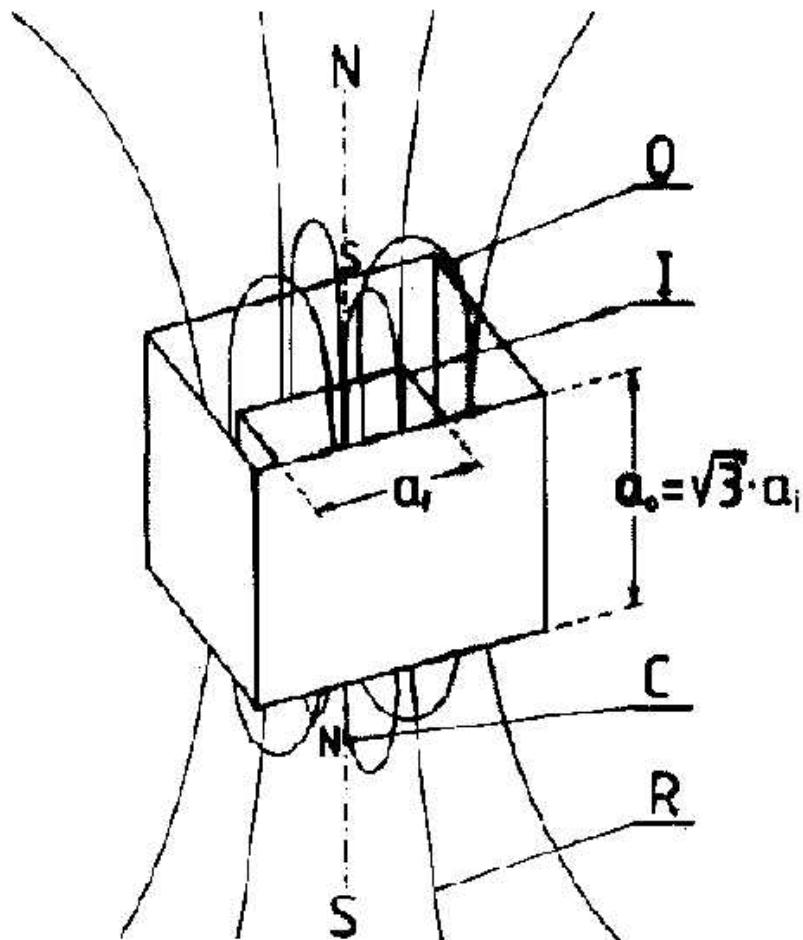
Fig. C1(c). **The Magnocraft (and UFO) type K3**. Illustrated is the appearance, design, and operation of a single Magnocraft of the smallest type, called the K3 type, for which the factor K=D/H takes the value of K=3. As it was formally proven that "UFOs are already operational Magnocraft" (see subsection J2 in monograph [1e]), some readers could have seen this vehicle, only that they would call it a UFO.

(c) A device, which is the main component of every "magnetic propulsor". It generates a powerful pulsating magnetic field used by Magnocraft (and UFOs) to propel themselves. In Magnocraft of the first generation this device is composed of two cubical "oscillatory chambers", one bigger and one smaller, each one of them working like a powerful "electromagnet" which utilises electric sparks to generate pulsating magnetic field. Both oscillatory chambers are then combined together thus forming a device called the "twin-chamber capsule" which is the major component of every Magnocraft's propulsor (a magnetic propulsor is basically a twin chamber capsule enclosed in a spherical casing and supplied with steering devices which point the magnetic field into a required direction). Such a twin-chamber capsule contains two oppositely oriented oscillatory chambers placed one inside of the other. Because of the need for free floating of the inner (I) chamber suspended inside of the outer (O)

one, the side edges "a" of both oscillatory chambers fulfil the equation (F9): $a_o=a_i\cdot\sqrt{3}$. The resultant magnetic flux (R) yield to the environment from such a capsule is obtained as a difference between outputs from both its chambers having opposite orientation of poles. The twin-chamber capsule allows full control over all the attributes of the produced magnetic field. Symbols: O - outer chamber, I - inner chamber, C - circulating magnetic flux trapped inside the capsule, R - resultant magnetic flux yield from the capsule to the environment.

Chapter D:

THE FOUR-PROPULSOR SPACECRAFT

This chapter is to present the next vehicle the propulsion of which utilizes Oscillatory Chambers. This vehicle is called the "**Four-Propulsor Magnocraft**", or the "Four-Propulsor Spacecraft". In order to clearly distinguish it from the vehicle described in subsection A2, that previously described vehicle will be referred here to as the "**discoidal Magnocraft**" or simply the "Magnocraft". The Four-Propulsor Spacecraft, after the discoidal Magnocraft, represents the second basic application of magnetic propulsors. While the operation of the first propulsion system is the most optimal if utilizing the so-called "twin-chamber capsule", this second basic spacecraft requires the use of a second arrangement of Oscillatory Chambers, called the "spider configuration" - see subsection F7.2. Each propulsor of the Four-Propulsor Spacecraft consists of one such spider configuration. A magnetic field produced by this configuration displays all the attributes required for flight and for manoeuvring a space vehicle. This is the reason why the Four-Propulsor Spacecraft can limit its entire propulsion system to four propulsors only (contrary to the eight side propulsors plus one main propulsor minimum required for the flight of the discoidal Magnocraft). Because the number of propulsors is the most distinct feature of this spacecraft, its name incorporates this number. Each of its propulsors is attached to the corner of crew cabin. Thus, the four barrel-shaped propulsors protruding outside the main body of the spacecraft also form a visual feature very characteristic of this type of vehicle.

Where the chronology of completion of subsequent Magnocraft is concerned, the Four-Propulsor Spacecraft most probably will be built as the third vehicle utilizing Oscillatory Chambers (after the discoidal Magnocraft based on spider configurations, and the discoidal Magnocraft based on twin-chamber capsules are completed - see period 1C in the classification provided in subsection M6). The reason for this is that the Four-Propulsor Spacecraft requires much more advanced controlling systems than the ordinary Magnocraft. Thus such advanced control systems become developed only after our civilization exploits discoidal Magnocraft for some time and thus gathers appropriate knowledge and experiences about vehicles with magnetic propulsion. Although spider configurations used in Four-Propulsor Spacecraft are much simpler to build from twin-chamber capsules used in the propulsors of discoidal Magnocraft, these higher control requirements will cause the vehicle discussed here to wait slightly longer for its turn to be completed.

D1. The general design of the Four-Propulsor Spacecraft

The general design of the Four-Propulsor Spacecraft is shown in **Figure D1**. This vehicle is composed of two basic components, i.e. body (2) and propulsors (3).

The main body (2) represents the most apparent part of this vehicle. Usually it takes the form of a cubicle, or a hut. On the top of this cubicle (or hut) a gable roof (1) shaped as a small pyramid is placed. This roof provides the vehicle with the required aerodynamical properties, and simultaneously it allows for the recognition at a distance the type of the Four-Propulsor Spacecraft.

The main body (2) of this vehicle is occupied by its living compartment. This compartment is hermetically covered with a shell made of material magnetically impenetrable (i.e. displaying the property called "magnetoreflectiveness".) Therefore the interior of the Four-Propulsor Spacecraft is screened from the access of dangerous magnetic field. The living

compartment houses the crew cabin, life support system, passenger decks, cargo holds, log computer, control devices, navigation instruments, equipment utilities, etc.

The walls of the living compartment are made of a mirror-like transparent material, whose degree of transparency and light reflectiveness can be regulated by the crew. Therefore during flights at night the crew can make these walls completely transparent, thus making the vehicle look like it is made of glass. On the other hand, during flights near the Sun they can transform the walls, making them completely reflective so that inside the spaceship a pleasant shade can prevail. In other cases of flights the walls can be smoothly controlled at any degree of transparency between these two extremes. Therefore there will be no need to provide the vehicle with windows. However, to enable crew and passengers to go into (and from) the deck, the Four-Propulsor Spacecraft must contain a door.

At all four corners of the living compartment, individual, barrel-shaped or jug-shaped propulsors (3) are placed. Each of these propulsors produces its own column of a spinning magnetic field, whose core is marked as (4) in Figure D1. Within each column, a dark core (4) and lighter crust (5) (or vice versa - depending if propulsors operate with the inner or outer flux prevalence) can be distinguished. For reasons described in the later part of this monograph (see subsection F10.4), these columns will be clearly visible for outside observer, who perceives them as kind of black, fast spinning, drills.

The general design of a propulsor for the Four-Propulsor Spacecraft is shown in **Figure D2**. It consists of five Oscillatory Chambers arranged together into the "spider configuration" and covered with a magnetically penetrable shell. The propulsor's shell can take either the shape of a barrel (see (1) in part (a) of Figure D2) or the shape of a jug (see (2) in part (b) of Figure D2). The propulsor's spider configuration is composed of the main Oscillatory Chamber (M) which is surrounded by four side chambers (U, V, W, and X).

D2. The operation of the Four-Propulsor Spacecraft

The operation of the Four-Propulsor Spacecraft is slightly different from the operation of both of the magnetic propulsion systems utilizing Oscillatory Chambers, i.e. from the discoidal Magnocraft and Personal Propulsion System. But this operation is also quite similar. In the Four-Propulsor Spacecraft, each of its four propulsors forms a kind of miniature Magnocraft. This means that each of its propulsors is capable of independent flight and manoeuvring. Therefore the living compartment of the Four-Propulsor Spacecraft is carried by something like four independent, miniature Magnocraft, flying on parallel paths, each of them joined to the main body. Every propulsor produces its own column of magnetic field. Thus during landings every propulsor can make its own scorch mark on the ground. This mark, depending on the mode of propulsors' operation (i.e. inner or outer flux prevalence), is either composed of a characteristic well-scorched central mark and a less visible ring of peripheral scorching (see 6 in Figure D1), or contain a slightly scorched central mark surrounded with a more apparent ring of peripheral scorching.

The arrangement of the Oscillatory Chambers into spider configurations gives to propulsors of the Four-Propulsor Spacecraft all the attributes that previously were provided by the entire propulsion unit of the Magnocraft - compare subsections F7.2 and F1.2. For example, it is able to produce a spinning magnetic field, whose parameters are strictly controlled. Therefore even when acting in isolation from the rest of the spacecraft, this configuration would be able to fully control its flight and manoeuvres. Thus, with a large simplification, the flying of the Four-Propulsor Spacecraft could be described as depending mainly on an appropriate coordination of the actions of all four propulsors, so that the total effect is to pull the spacecraft in the desired direction. However, as readers will probably realize from the content of this chapter, detailed principles of controlling this vehicle are more complex than principles of controlling the discoidal Magnocraft.

The propulsors of the Four-Propulsor Spacecraft are capable of producing two kinds of magnetic whirls: local and vehicle. Each propulsor produces a **local** magnetic whirl which involves its own output spinning around its own axis "m". In Figure D1 these four local whirls are marked as spinning columns (4) of magnetic field. Simultaneously all four propulsors can cooperate in producing an amplitudinal magnetic whirl that circulates around the entire **vehicle**. But this whirl is not as efficient as the one formed by the Magnocraft. Thus it is switched on only in special circumstances (e.g. during fast flights at high altitudes or in free space). An entirely different principle is employed in the creation of this whirl than that used in an ordinary Magnocraft. A rotation of amplitude (buoyancy) is employed here instead of rotation of the magnetic circuits used in the Magnocraft. Also it rotates around a different path. Therefore, the whirl just suffices to create an inductive shield that protects the Four-Propulsor Spacecraft from material objects directed at it (e.g. missiles or meteorites), but it is insufficient to produce an effective vacuum bubble. For this reason, as this will be explained later in this chapter, the Four-Propulsor Spacecraft will not display any of the attributes which depend on the creation of an effective vacuum bubble.

All propulsors in the Four-Propulsor Spacecraft produce a very high magnetic output. At the same time, the like-poles of these propulsors are oriented in the same direction (e.g. "N" poles of each propulsor towards the roof of the vehicle). Therefore, if their output was non-spinning, they would repel one another with a powerful force. However, because their output spins, they create the relativistic phenomenon described below, which significantly reduces the forces of this reciprocal repulsion. Moreover, the magneto-dynamic effect described in subsection F6.3.2 produces forces acting in the opposite directions, and therefore further neutralizing the repulsive interactions among propulsors. In this way, the force stability of the Four-Propulsor Spacecraft is achieved in a dynamic manner. To maintain this stability, the output from the spacecraft's propulsors must always be spinning. For this reason, the basic requirement of the mutual neutralization of inter-propulsor interactions explained above is that the magnetic field produced by each propulsor must spin all the time, even when the vehicle is motionless.

The relativistic phenomenon employed in neutralization of interactions between propulsors of the Four-Propulsor Spacecraft is quite well known amongst experts in magnetism. It depends on extending the effective length of a bar magnet as the result of a very fast spinning of its force lines around the magnet's central axis - see subsection G5.3. If the force lines spin fast enough around the magnet's central axis, their curvature contracts, and as a result the flux is limited to an area just around the magnet. This transforms a short bar magnet so that it acts like a very long thin one. Of course, it is not possible to mechanically spin a magnet fast enough to obtain the desired results. But the spider configuration simulates this spinning by forming a rotating magnetic wave similar to the wave produced by the side propulsors of the Magnocraft (see explanation in subsections G7.2 and F7.2). This wave is formed due to the synchronization of subsequent outputs from four side Oscillatory Chambers. It spins around the propulsor's main magnetic axis "m". It can reach any desired angular velocity, causing the formation of the relativistic phenomenon which keeps the Four-Propulsor Spacecraft stable.

D3. The properties of the Four-Propulsor Spacecraft

The differences in the operation of the Four-Propulsor Spacecraft, in comparison to the operation of the Magnocraft, cause differences in the properties of both these vehicles. In general, the Four-Propulsor Spacecraft is not able to create an effective vacuum bubble around its surface (see subsection F10.1). Therefore all properties connected with the existence of the protective vacuum bubble do not apply to this vehicle. For example its flights are accompanied by friction with the atmosphere and by the sound effects produced from such friction (e.g. by a **loud bang** after passing the sound barrier). Therefore the vehicle's

speed in the atmosphere will also be limited by the heat barrier. However, in free space, its speed may still be close to the speed of light. The absence of a vacuum bubble protecting this spacecraft will also make its flights through solid matter impossible (e.g. in rocks). The manoeuvrability of the Four-Propulsor Spacecraft will be on the same level as the manoeuvrability of the Magnocraft. But its ionic picture will have quite a different shape and features. During the ascent of this vehicle the picture will contain four very distinctive columns of ionized air, placed around the perimeter of the amplitudinal magnetic whirl that surrounds the spacecraft's shape (e.g. a gable-roofed hut). This hut-shaped whirl will be much less intensive than the four local whirls produced by the propulsors. During the descent of the Four-Propulsor Spacecraft, the local whirls from its propulsors can diminish, thus only a resultant hut-shaped whirl may remain visible.

A number of Four-Propulsor Spacecraft are able to couple with one another into several configurations known from the Magnocraft. Two or more of these vehicles can join together forming an equivalent of the cigar-shaped flying complex (shown in Figure F1 "c") or an equivalent of the spherical flying complex (shown in Figure F1 "b"). Also, the set of flying cigars formed in this way may join further into a higher ranking arrangement, representing an equivalent to the flying system or flying cluster of the Magnocraft (shown in Figures F12 and F13).

The Four-Propulsor Spacecraft may also form configurations with the discoidal Magnocraft. In these configurations the spacecraft clings to the Magnocraft in such a way that the outlets from its four propulsors exactly align with the outlets of the Magnocraft's side propulsors. In order to enable such an alignment, the Four-Propulsor Spacecraft will only be built in such sizes which correspond to the sizes of the Magnocraft (i.e. which allow for the exact alignment of outlets from propulsors of both these vehicles). For this reason, eight separate types of the Four-Propulsor Spacecraft will also be distinguished. Their dimensions are provided in **Table D1**. The subsequent types of this spacecraft are marked as T3, T4, ..., and T10. Each of these types corresponds to an appropriate type of Magnocraft (e.g. type T3 of the Four-Propulsor Spacecraft corresponds to type K3 of the Magnocraft, T4 to K4, etc.).

D4. The external appearance of the Four-Propulsor Spacecraft

The external appearance of the Four-Propulsor Spacecraft is shown in Figure D1. Because of the dynamic neutralization of magnetic forces acting between subsequent propulsors, the shape and dimensions of the living compartment in the Four-Propulsor Spacecraft is not limited by strict stability conditions, as was the case with the Magnocraft (see subsection F4). Therefore, the main design criteria for this spaceship are: (1) enabling the magnetic coupling of a given vehicle with discoidal Magnocraft, (2) allowing for the fastest and simplest identification of a given vehicle, (3) providing the highest comfort for the crew and passengers, (4) ensuring the easiest landing, (5) supporting the easiest carrying and unloading of the transported cargo.

The above criteria allow for a relative freedom in designing the shape of the Four-Propulsor Spacecraft. However, because of the highest usefulness of a cubical shape for the transporting of people and cargo, most frequently this vehicle will be built as a cubicle with a roof resembling a small pyramid - such as shown in Figure D1. On some occasions it can take the shape of a hut-like shape also with a pyramidal roof. Of course, on special occasions many other forms can be used, for example spherical, rocket-like, or cone-like (because these other shapes will be used rather rarely, an illustration of their characteristics is not provided here).

Criteria number (1) and (2) listed above superimpose several mathematical conditions on the dimensions of the Four-Propulsor Spaceship. In order to satisfy these conditions the dimensions must fulfil various equations the deduction of which will be omitted here, but which are listed at the bottom of Table D1. Because of these equations, the dimensions of all types

of the Four-Propulsor Spaceship will be strictly defined. Their values are listed in Table D1. The availability of this table allows for an instant determining of all the details of a given vehicle (e.g. dimensions, weight, propulsors) if only one of its data (e.g. the number of crew members) becomes known.

The vital elements of the appearance of the Four-Propulsor Spaceship are long, thin columns of the spinning magnetic field produced by each propulsor. Because these columns posses clearly defined boundaries and the magnetic field which forms them is pulsatory, they will represent a kind of trap for the light. During the day to the casual witness they will appear as columns of a black material (i.e. black bars - see subsection F3.4). Because they will be in a permanent spin, they will give an observer the impression of looking at a set of four black drills rotating with enormous velocity.

These columns will assume an entirely different shape if witnessed during the night. Because they ionize air, their appearance on the background of a black environment will resemble a "white noise" usually seen on screens of TV sets (this "white noise" is the picture composed of white and black moving dots which appears on the screen of a TV set if this set remains switched on but it does not receive any station).

In every column of the magnetic field yield from propulsors of the Four-Propulsor Spaceship to the environment two areas can be distinguished, i.e. the darker core (4) and the lighter crust (5) - see Figure D1. The core (4) is formed because the output of the main Oscillatory Chamber (marked M in Figure D2) of the propulsor's spider configuration spins around its own magnetic axis "m". But the four segments of the crust (5) are formed because the four columns of magnetic field produced by the side Oscillatory Chambers (marked U, V, W and X in Figure D2) rotate at some distance from the magnetic axis "m". These four side crust segments and their central core appear like elements of a dark drill (this is because they are attached to each other and spin together around the same central axis "m" just like body of a drill).

As it was explained above, for an outside observer during the daytime the appearance of these two parts of the field's columns make them look like spinning black drills. In turn these drills bear some resemblance to helicopter blades, except that they are quite narrow and long instead of wide and short. This, combined with the rectangular, helicopter-like shape of the vehicle, could cause that some amateur witnesses not acquainted with the latest aircraft technology may occasionally confuse the Four-Propulsor Spacecraft with a multiple-rotor helicopter.

D5. Identification of the type of Four-Propulsor Spacecraft

To allow other space travellers to identify from a distance the type of Four-Propulsor Spacecraft they are approaching, significant geometrical features of this vehicle are built in appropriate proportions. Therefore the identification of its type is very simple and can be done by a computer. It only requires to determine the mutual proportion between the vehicle's significant dimensions. In turn, these proportions describe the type factor "T" of a given Four-Propulsor Spacecraft. The value of this "T" factor is equal to the ratio of the crew cabin total height "H" to the height "Z" of the roof, or to the height "h" of a propulsor (see Figure D1):

$$T = H/Z = H/h \tag{D1}$$

Each type of Four-Propulsor Spacecraft has a corresponding type of discoidal Magnocraft (e.g. T3 has K3, ..., T10 has K10). For this reason, the shape and dimensions of the Four-Propulsor Spaceship were so designed, that they also allow for the determining of the type factor "K" of the Magnocraft to which a given spaceship corresponds. This "K" factor can also be determined through dividing the total height "H" of this spacecraft by the height "Z" of its roof, or by the height "h" of its propulsors, i.e.:

$$K = H/Z = H/h \tag{D2}$$

When a given Four-Propulsor Spacecraft reveals the value of its factors T or K, all its remaining data can either be learned from appropriate tables (e.g. see Table D1) or can be determined from appropriate mathematical relationships describing these vehicles (e.g. see equations listed under the Table D1).

Table D1. **Data sheet of construction parameters for eight basic types of the Four-Propulsor Magnocraft.** The interpretation of symbols used is shown in Figure D1. The dimensions of the square base version of these vehicles (cubicles) are determined on the assumption that the mutual distance "l" between magnetic axes of the subsequent propulsors is described by the equation: l = 0.5486·2$^{(T-1)}$ [meters]). All linear dimensions from this table are expressed in meters.

No	Ty-pe	Disco-idal type	Crew cabin dimensions for square base vehicles (cubicles)				Distance between propulsors' axes d		Rectangular base ve.		square	Dimensions of propulsors		C-r-e-w	Weight of vehicle
	T	K	W	G	Z	H	d=l√2	ANG	lw	lb	l=lw,b	h	a	no	
–	–	–	m	m	m	m	m	°	m	m	m	m	m	–	tonne
1.	T3	K3	2.01	1.46	0.73	2.19	3.10	22.5	2.86	1.19	2.19	0.73	0.18	3	0.5
2.	T4	K4	4.11	3.29	1.09	4.38	6.20	30	5.37	3.10	4.39	1.09	0.27	4	4
3.	T5	K5	8.35	7.02	1.76	8.78	12.41	33.75	10.32	6.89	8.78	1.76	0.43	5	33
4.	T6	K6	16.82	14.64	2.93	17.55	24.82	27	15.64	7.97	17.56	2.93	0.73	6	270
5.	T7	K7	33.86	30.09	5.02	35.11	49.65	30	43.00	24.83	35.11	5.02	1.25	7	2 164
6.	T8	K8	68.02	61.44	8.78	70.22	99.30	32.14	59.46	37.36	70.22	8.78	2.20	8	17 312
7.	T9	K9	136.54	124.84	15.60	140.44	198.61	28.125	123.86	66.20	140.44	15.60	3.90	9	138 497
8.	T10	K10	273.86	252.79	28.09	280.88	397.22	30	344.00	198.61	280.88	28.09	7.02	10	1107981

The list of equations that describe the mutual interrelations occurring between variables presented in the above table:

T=H/Z   T=K   Z=h   d=l√2   a=h/4   d^2=l$_w^2$+l$_b^2$=2·l^2 l=0.5486*2$^{(T-1)}$ [m]

Z=H/T   H=l   Z=l/T   ANG=arctan(lb/lw)   h=l/T   Weight=0.05*l^2*H   Crew=T=K
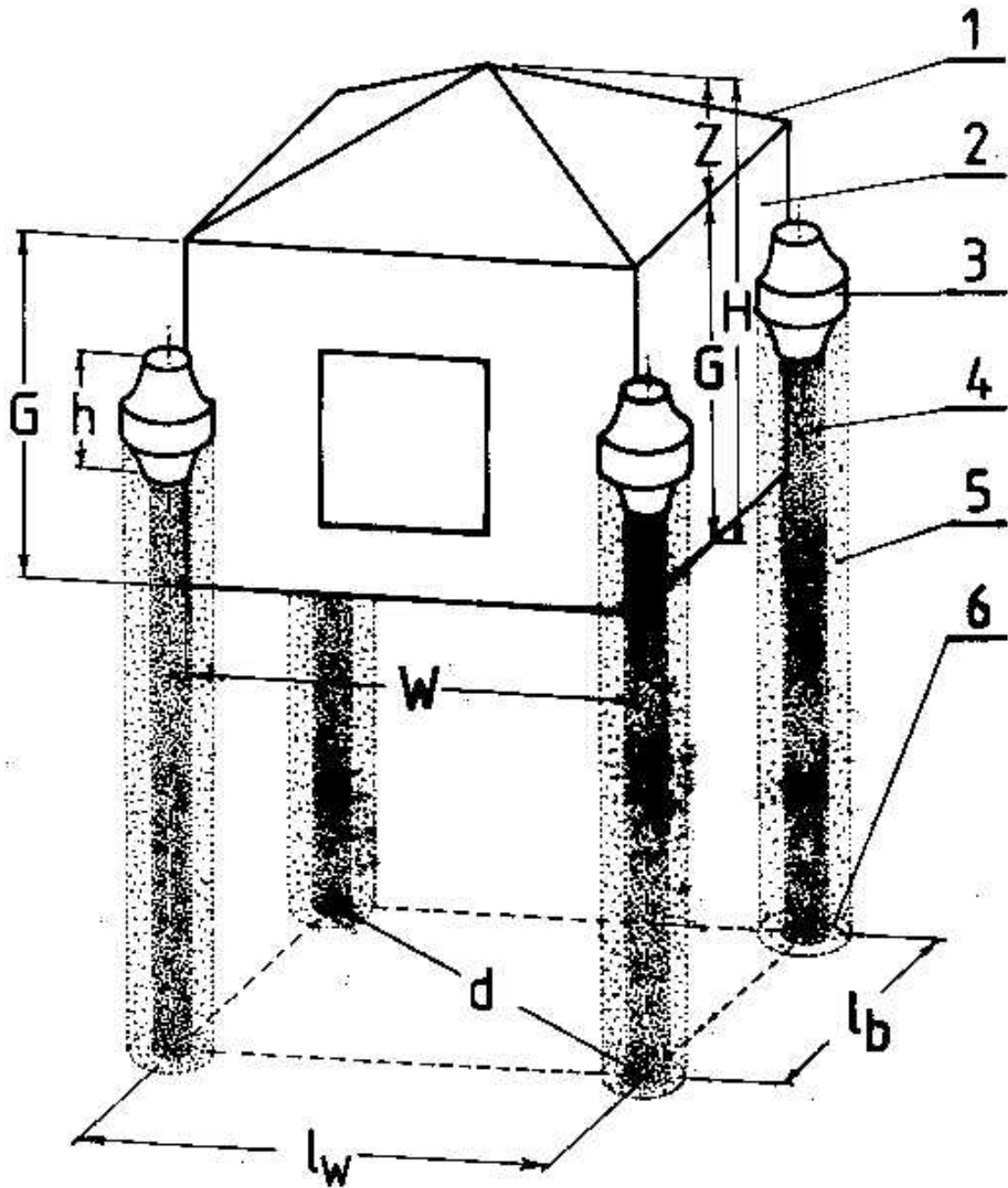
Fig. D1. **A Four-Propulsor Magnocraft** which, after two subsequent implementations of a discoidal Magnocraft - see subsection M6, represents the third basic application of magnetic propulsors (the fourth basic application of these propulsors is Magnetic Personal Propulsion System described in chapter E). Illustrated are: the appearance, components, and basic dimensions of this vehicle. Symbols: 1 - a gable roof; 2 - a cubical living compartment containing crew cabin; 3 - one of the four propulsors; 4 - a core of high density spinning magnetic field yield from the M chamber of the vehicle's propulsors (see "M" in Figure D2), 5 - a crust of spinning segments of magnetic field yield from the U, V, W and X chambers of each vehicle's propulsor; 6 - one of the four scorch marks left on the ground by a low hovering vehicle. Dimensions: H, Z, G, W - describe the size of a cubical-like crew cabin (i.e. total height, roof height, wall height, width); d, $l_w=l_b=l$ - describe the span of the vehicle's magnetic axes; h - describe height of propulsors.
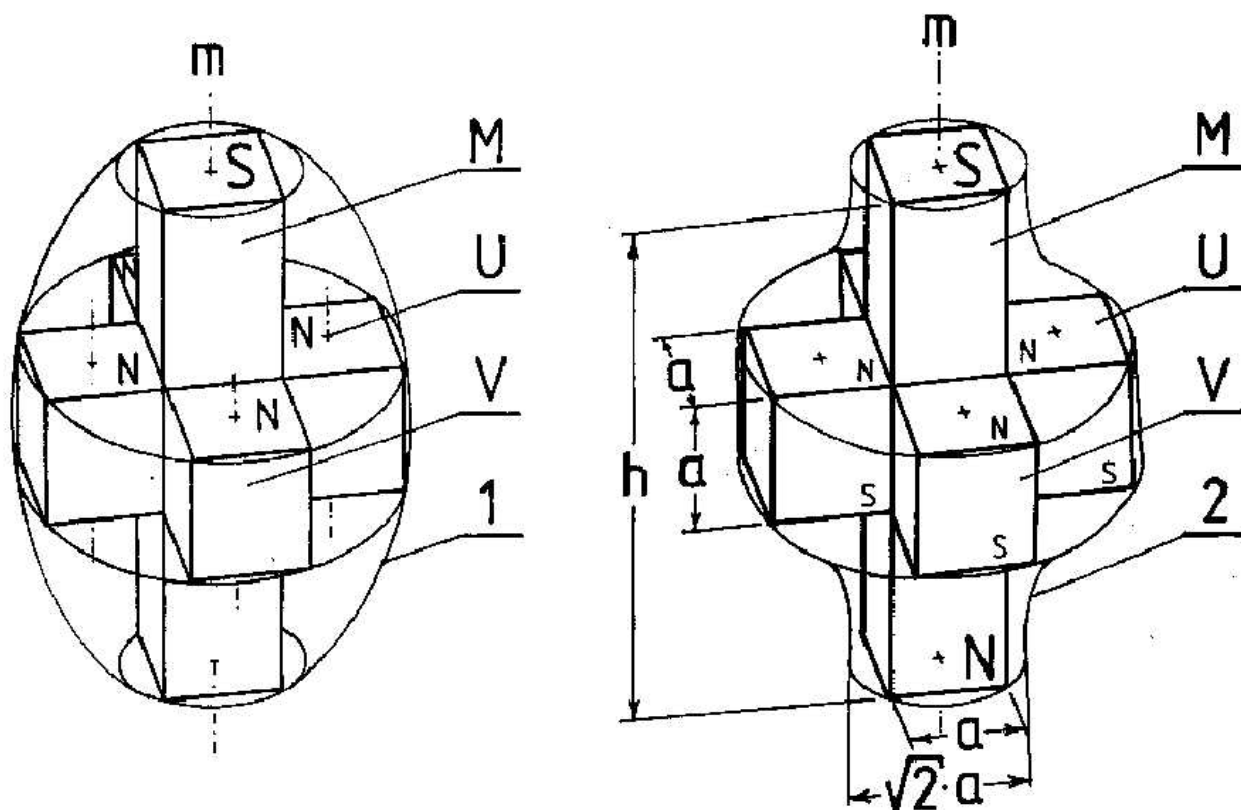
Fig. D2. The shape, dimensions, and components of **propulsors utilized in the Four-Propulsor Magnocraft**. These propulsors utilize the arrangement of Oscillatory Chambers called the "spider configuration" (for details see Figure F9). Symbols: M, U, V - subsequent chambers of the spider configuration; 1 - barrel-like aerodynamic shell that may cover the propulsor (note that this shell can take any form, from barrel-shaped to rectangular; not just the shape shown in this illustration); 2 - jug-like aerodynamic shell that may cover the propulsor; a - side dimensions of cubical Oscillatory Chambers; h - the height of the propulsor; N, S - the orientation of magnetic poles in subsequent Oscillatory Chambers; m - magnetic axis of the propulsor.
(left) The barrel-shaped propulsor.
(right) The jug-shaped propulsor.

MAGNETIC PERSONAL PROPULSION

Almost everyone at some stage dreams about flying. Let us now remind ourselves how this dreaming looks like. Our brain swells with the decision of ascending, and the body obediently and weightlessly followed directives of the mind. We have no need to flap with our hands or fidget with our legs. Whatever we thought of, it was immediately completed.

It is interesting where this divergence of our dreams with logic originates from. After all the logic says that flying should require energetic flapping, as all birds always earn their flight with heavy wings waving. The author believes that our intuition already knows what is going to come in a not-too-distant future. Thus the effortless dreams of our flights probably are intuitive pictures of the propelling devices the completion of which is about to occur.

How our descendants will complete their flights can already be deducted from the operation of discoidal Magnocraft flying in the inverted position. This operation is illustrated in Figure E1 (a) - see also Figure F3 (b). Let us recap it briefly. The eight side propulsors (U, V, W, X) repel the vehicle from the environmental magnetic field thus producing the lifting force which carries it into the space. Simultaneously a single main propulsor (M) placed in the centre, is attracted by the environmental magnetic field thus producing a stabilizing force which fixes the orientation of the Magnocraft in space and controls its ascent, hovering and descent.

It's easy to predict that one day Oscillatory Chambers will be miniaturized to the size of only a few millimetres, without any significant decrease in the output. Therefore, the propulsors of the Magnocraft can be built small enough to allow for their assembly into articles of human apparel (i.e. belts and shoes) without causing any noticeable discomfort or change in the size and weight of these articles. In this manner a new type of the propulsion system will be obtained, which is called here "magnetic personal propulsion system". This new propulsion system will provide all the advantages of the Magnocraft, simultaneously its propulsors hidden inside of the garment will remain almost unnoticeable for an outside observer. Thus, without the use of any visible vehicle, it will provide the wearer with the ability to fly in the air or space with a speed limited only by the performance of physiological functions (especially breathing), with enormous physical strength, with invisibility, and with protection from the action of any weapon that could be used against him/her.

The propulsion unit utilized in magnetic personal propulsion system represents only a slightly modified unit of the Magnocraft. It is shown in **Figure E1** (b). The main characteristic of this new unit is that its framework creates a human-shaped structure. Similarly as is the case with the Magnocraft, personal propulsion also contains a set of eight side propulsors (marked U, V, W, and X) and a set of two main propulsors (in Figure E1 (b) marked M_L, M_R). Both these sets are connected by the body of the user into one effective propulsion system. The body performs the function of a "carrying structure" or a framework. Each propulsor from both sets contains a single twin-chamber capsule, only a few millimetres in size, which is assembled inside of a spherical casing. The casing, and the capsule inside of it, are similar to these used in the Magnocraft (see Figure F2), only they are drastically miniaturized. Each of the twin-chamber capsules is composed of two small Oscillatory Chambers inserted one inside the other, as was described in subsection F7.1.

Where the order of completion of subsequent propulsion systems is concerned, magnetic personal propulsion will be build as fourth system on Earth utilizing Oscillatory Chambers (see period 1D in the classification explained in subsection M6). The reason for this will be the initial technological difficulties with the miniaturization of twin-chamber capsules to the sizes small enough to be applicable for this type of propulsion system.

E1. The standard garment of personal propulsion

The standard garment of personal propulsion is shown in **Figure E2**. This garment includes a number of components resembling the elements of a typical human dress. Their only difference from the ordinary dress depends on the ability to perform propelling functions in addition to the dressing functions. Thus for an unfamiliar observer it will not be possible to visually detect such a propulsion, and the existence of it will become apparent only after propelling effects caused by it become revealed (e.g. the user will ascent into the air).

The following elements compose a standard garment of a personal propulsion system. Shoes (1) contain miniature magnetic propulsors built into the soles. These are called "main propulsors". Apart from them, the personal propulsion garment uses another eight miniaturized propulsors assembled into a segmented belt (2). These are called "side" propulsors. The garment also includes a kind of magnetoreflective "skin". This "skin" consists of a one-piece costume (3) with a protective hood (5), and gloves (4). These are worn to prevent the magnetic field from looping through the person's body. The hood (5) and gloves (4) are so designed that they hermetically join with the costume (3), thus forming a single-piece garment. At the back of the user's neck a controlling computer and sensors which reads the controlling signals directly from the head's bio-currents are build in.

Each part of the garment's "skin" is made of a magnetoreflective material, which cannot be penetrated by a magnetic field, so that it protects the body from the destructive action of a strong, pulsating magnetic field. This material deflects the magnetic field in a way similar as a mirror deflects the light. Even though the face remains uncovered, the magnetic field cannot penetrate the brain because the design of the hood makes the looping of the force lines impossible. A graphite-based cream can be used to additionally protect the facial skin. (It was discovered that graphite is the best natural magnetoreflective material.) But this cream which stops the magnetic field from acting, also gives the face a strange colouring. In the case where there is a danger of the layer of protective cream being torn from the face (i.e. as the effect of work being performed), the user needs to wear a special mask on his/her face (similar to the type used by the "spiderman" and "superheroes" in American movies, or to masks favoured by bank robbers).

The special gloves (4) complementing the magnetic personal propulsion are so designed that they not only protect the fingers from the magnetic field, but also from electric charges. These charges are a by-product of the propulsors' operation. The pulsating magnetic field generated by the side propulsors (2) induces a strong electrical field around the person's hip. Charges from this field accumulate at the tips of the person's fingers. The forces of relative repulsion from these charges part the fingers (similar to the way they do with the foils of an electroscope). This action is too weak to cause bodily injury, but after a length of time could cause a painful stretching of the skin and muscles. The web-like connectors between the fingers of the gloves protect the wearer from these unpleasant effects.

When the wearer of this costume is required to do heavy physical work, he/she wears two additional enhancement propulsors, which are placed on the joints of the wrists (similar to our wrist watches - see (3) in Figure E4 (a)). These propulsors, by cooperation with the magnetic framework created by the other propulsors, give unusual strength to his/her hand movements. Therefore, a person so equipped is able to lift loads weighing several tons, remove strong structures, tear trees out by the roots, and so on.

E2. Principles of operation of magnetic personal propulsion

The principles of operation of magnetic personal propulsion are illustrated in **Figure E3**. The left part of this Figure shows the **external** (or outside) forces created due to the interaction of the personal propulsion with the environmental magnetic field. Eight side

propulsors are assembled into the belt, and are oriented so as to repel the Earth's magnetic field. By this they create a lifting force "R" which carries the wearer. The miniature main propulsors in the soles of the shoes are oriented to produce the attraction with the environmental magnetic field. Thus they form stabilization forces "A" which determine the position required by the person during flight. Both forces "R" and "A" are produced by the Earth's magnetic field interacting with the field generated by the main and side propulsors. This is why the product of this group of interactions can be called the "outside" forces. Apart from these, the personal propulsion produces another type of interaction, which can be called **internal** (or inside) forces. These are formed by the relative interactions between the subsequent propulsors themselves. The "inside" forces are shown in the right part of Figure E3. They include:

B - The forces of relative repulsion occurring between both of the main propulsors from the soles of the shoes. The repulsive forces "B" are created because the magnetic poles of both these main propulsors are oriented in the same direction.

E - The forces of relative repulsion between each of the eight side propulsors from the belt. These forces "E" will cause the outward tension and expansion of the belt.

Q - The forces of relative attraction between each main propulsor from the shoes and each side propulsor from the belt. These attraction forces "Q" are created because the magnetic poles of the two main propulsors are oriented in opposition to the poles of all of the side propulsors.

Note that there is a close correlation between the sets of "outside" and "inside" forces formed in the personal propulsion, and the similar forces formed in the structure of the Magnocraft - see Figure F15 and subsection F4.3.

The presence of the outside and inside forces benefit the person because they join the separate elements of the propulsion into one solid system. The operation of this system is so determined that opposing forces are relatively balanced. For example, when the carrying "R" and stabilizing "A" forces tense the wearer, simultaneously the forces "Q" appear which compress his/her body along the same direction. This system of mutually balanced forces creates a "magnetic framework" which holds and carries the person in a way identical to that of the Magnocraft being carried by its magnetic framework. There is, however, a condition imposed on the mutual balancing of "R/A" and "Q" forces. This condition states that the user must not bend his/her legs, because such bending causes an instant advantage of forces "Q" (whose values increase exponentially if the distance between propulsors from the shoes and propulsors from the belt is decreasing) over forces "R/A". If a user breaks this condition, once bent his/her legs will be pulled rapidly into a squat position in which they will remain for the rest of the flight. Therefore flying in a cross-legged squat position is one of two distinctive stances characteristic for the wearers of a magnetic personal propulsion system (the second stance is the legs straighten and set apart - its description is to follow). It is interesting that flights of medieval devils was frequently described as with cross-legged squat position.

Another condition imposed by this propulsion is to balance the repulsive forces "B" acting between the legs. This requires the shoes which hold the main propulsors to be parted at all times when the personal propulsion is used. The fulfilment of this condition gives the user the other stance which is very distinctive for wearers of this personal propulsion and allows for their identification. Their legs must be kept apart not only during all flights, but also when aiding the usual manner of moving, such as walking, swimming, etc. Although this looks quite clumsy and strange, the overall performance of a user wearing such propulsion is not disadvantaged, and may surprise and impress any non-accustomed witness.

Independently from the static force interactions, a personal propulsion system will also produce dynamic actions. These actions will be cause by the magnetic whirl that spins around the hips of a user. The formation of this whirl will be almost identical as that in the Magnocraft (i.e. by 90° phase shift between pulsations of subsequent side propulsors) or in asynchronous electric motors. It will provide personal propulsion with numerous desirable advantages, for

example it will form a kind of "inductive shield" around the user making him/her resistant for the action of any weapon (all bullets shoot in his/her direction will simply evaporate).

The next type of interaction in personal propulsion will be configurative actions. They will result from the fact of surrounding the user with a magnetic field taking appropriate spacial distribution. After the appropriate selection of the shape of this distribution personal propulsion is able to form a magnetic lens capable to deflect the light thus making the user invisible for naked eye observation (see the description from subsection F10.4).

To control the personal propulsion specially adjusted micro-computers are used. These computers read bio-currents from the back of the neck and translate them into control signals. So just to think of moving up, sideways or downwards causes instant achievement of the desired displacement, which is obtained without any movement from the appropriate parts of the body. The means used for flight control are similar to these utilized by the Magnocraft. Also the method of obtaining a magnetic whirl is similar. Only the frequency of rotation of the whirl is much higher here, to make impossible the creation of a plasma whirl (which could burn the person's hands). But even if the angular speed of the rotating magnetic whirl is too high to sweep up and accelerate the ionized particles of the air, the outlets of the propulsors can ionize the air locally. Therefore at night an emission of light can be noticed near the belt and the shoes. Also, foreign materials that stick to the garment and the shoes are dispelled by the centrifugal action of the magnetic whirl.

E3. The garment with the main propulsors in epaulettes

In the standard version of personal propulsion described before, the main propulsors were built into the soles of shoes. Such a solution displays, however, a serious drawback, which is the set of two forces "B" (see the right part of Figure E3). These forces, acting between the legs, cause legs to stay apart. In effect, the movements of the wearer of this propulsion are not completely free and convenient.

To eliminate these forces "B", another version of personal propulsion will be built, which is shown in **Figure E4** (a). In this version the main propulsors are removed from the soles of the shoes and placed in the epaulettes (1) of the user. From the operational point of view such a change of position does not introduce any difference in the effectiveness of the propulsion. But for the user it means freedom of leg movements. Therefore the version of personal propulsion presented here can be applied in every situation requiring the use of the legs. Its drawback is the closeness of the head to the sources of a strong magnetic field (i.e. to both main propulsors). Therefore the face and head must be protected particularly carefully. If there is a danger of removing the layer of a protective cream, the use of mask described previously becomes specially important for this type of personal propulsion.

Because of the tendency of widening the user's shoulders by the main propulsors placed within the epaulettes and repelling each other (see forces "B" in the right part of Figure E3), this version of personal propulsion gives its wearer a distinct triangular appearance.

During the completion of especially heavy work, also this version of personal propulsion can be complemented with additional enhancement propulsors. These propulsors are shown as (3) in Figure E4 (a).

In "heavy-duty" implementations of this version it can be necessary to strengthen the propulsion unit by adding reinforcing braces which would join the belt with the epaulettes. Such crossed braces/suspenders would make the mutual location of the main and side propulsors more stable and reliable. They would also remove the shoulders' widening tendency mentioned above.

E4. A special version of personal propulsion with cushions around the hips

The standard garment of personal propulsion described in the first subsection can be subjected to at least two different modifications, each time producing another set of useful operational attributes. The second such modification of the standard garment is shown in Figure E4 (b). In this version, the wearer's palms are shielded from the action of a strong field by a protective screen. Therefore it allows for the elimination of gloves. This enables the hands to perform precisely (e.g. to assemble a very precise device under water) without the necessity for switching off the action of the propulsors.

In the modification of the garment described here, the special protective cushions (1) are joined around the eight-segmented belt (3). These are filled with helium, the gas which has the highest resistance to ionization (or ionization electric potential). The inner surface of the outside cover of these cushions has a magnetoreflective screen (2). Because of this, the field yield of the belt cannot act on the hands as strongly as in the standard version of the garment, so they do not need to be protected with gloves. The cushions (1) are divided by partitions (4) into eight separate chambers similar to those from the flange of a Magnocraft. Each propulsor from the belt (3) is housed in such a separate chamber. This makes it impossible to create a plasma whirl which would follow the magnetic whirl produced by the propulsors in the belt. Therefore there is no danger of the person's hands being burnt. This costume, which has the helium cushions, looks strange as it is thicker around the person's hips.

Part (b) of Figure E4 shows also an alternative protection of the user's head. In this protection the transparent and magnetically impenetrable helmet (5) replaces the hood and the graphite cream described with the standard version of personal propulsion. It should be stressed that such a helmet can be used with every version of personal propulsion, not only with the one discussed in this section.

E5. Capabilities of Personal Propulsion

The most important capability of personal propulsion is that enables the user to fly in the air or space without the necessity to use any visible vehicle. In this way, having only an appropriate dress which he/she would wear anyway because of the protection from elements, the user in any moment may ascent into the air and fly at any distance with the speed which is limited only by performing physiological functions (mainly by breathing).

Personal propulsion additionally allows to aid traditional manners of moving (i.e. walking, jumping, swimming), increasing their range, speed, making them more effective than normally, and causing their functional extension. For example it allows to: jump from a street level directly at roofs of highest buildings, chase and catch in the run the fastest cars, walking on the surface of water, walking on the ceiling in reversed orientation of body (i.e. with head directed downwards), or climbing walls with a horizontal orientation of body.

Personal propulsion also allows to increase and multiply the physical strength of a user. This capability results from the use of enhancement propulsors that are attached to hands like wrist watches or to the upper surface of gloves. The user equipped with them will be capable of knocking down buildings, uproot trees, lift huge boulders, and do many other works which require almost supernatural strength.

Finally, personal propulsion provides its users with many extraordinary abilities which can not be acquired in any other manner. One of the examples of these abilities is the resistance to our bullets and missiles obtained due to the surrounding the user with the spinning magnetic field which forms a kind of an "inductive shield". Other extraordinary ability is to become invisible. This invisibility is achieved due the formation from the magnetic field an appropriate magnetic lens. The lens deflects the path of light preventing the user from an undesirable observation.

E6. Summary of the attributes of Personal Propulsion

For a civilization so low advanced like ours, which has not yet developed neither the Magnocraft nor magnetic personal propulsion system, the knowledge of attributes of personal propulsion is very important. When representatives of advanced interstellar civilizations pay us a visit, they most probably are equipped with just such propulsion systems. Therefore it is vital for us to be able to identify and to understand the origin and the characteristics of the most important attributes of their propulsion system.

Magnetic Personal Propulsion provides its users with a number of unique and very useful properties. Most of these are similar to those known from the Magnocraft, but there are also some which occur only with personal propulsion. These most important attributes, which enable us to identify the fact of its use, are as follows:

#1. The necessity for a special garment to be worn. It is not much different from the contemporary clothes worn by people (although it more resembles the dress of monks and nuns). Included in this outfit are:

a) Shoes, whose soles contain the main propulsors. Sometimes the propulsors can be shifted from the shoes to the epaulettes.

b) The eight-segment belt carrying the side propulsors.

c) (Optionally) Two bracelets placed on the wrist joints (sometimes also attached to the outside surfaces of gloves worn on hands) containing enhancement propulsors that assist in heavy physical work. These propulsors are not used for flight, therefore they are worn only when an increase in the user's physical strength is required.

d) The controlling computer fastened to the back of the neck.

e) The one-piece garment, including the hood or helmet.

f) (Sometimes) A cape (pelerine) sown to the sleeves and to the garment along the spine. In the case of flights in the air it is spread like wings providing additional aerodynamic properties (similar to these of hang-gliders) which increase the smoothness of manoeuvres. But because after spreading it looks like wings of a bird, it gives the user the unusual appearance of a large bat.

g) The gloves with web-like connectors between the fingers.

h) The graphite-based cream to coat the parts of the skin that are uncovered (e.g. the face). In some case this cream can be replaced with a protective mask similar to masks worn by bank robbers or by super-heros from American movies.

#2. The need for the body to adopt a particular stance which is characterized by: the legs kept straight and permanently set apart (or bent into a squat position), the hands being forced away from the belt, the parting of the fingers, etc. Also, as a result of an electrical charge accumulated on the user, all hair on the uncovered parts of the body can be standing on end. All of this makes postures and movements of the users of personal propulsion look unnatural and clumsy (although in action they can impress with their effectiveness and skilfulness).

#3. Causing the user's eyes to glow. The fluorescent glow of eyes is excited by a powerful magnetic field acting upon them (similarly like some types of invisible electromagnetic radiation cause the glow of eyes in animals which are shone with it). Such strongly glowing eyes, frequently accompanied by glaring of the suit, gives the wearer of this propulsion a very unusual, supernatural appearance.

#4. The ability of a person to fly noiselessly, together with the ability to have any required orientation of the body independent from the prevailing gravity forces (e.g. hanging, standing, lying, or being at an angle). The control and positioning of the body doesn't require it to make any movement. It is achieved by the controlling computer which reads bio-currents directly from the user's neck and processes them into the execution commands.

#5. The ability to facilitate the normal manner of movement (walking, swimming, etc.). This makes it possible to perform movements which contradict our understanding of physical laws, for example:

a) Walking upside down on the ceiling.

b) Going up or down on vertical walls with the body in a horizontal position (i.e. in the manner of an insect).

c) Jumping to enormous lengths and heights (e.g. jumping from the level of street straight onto roofs of high buildings).

d) Walking on the surface of water.

#6. Extraordinary abilities given to a person using this system of propulsion. Some of these are:

a) Resistance to the effects of guns directed at them, owing to a protective action from the "inductive shield".

b) Making oneself invisible by switching on the "magnetic lens" which bends the light.

c) Movement at a high speed which is limited only by the physiological functions of the body (basically the breathing). This movement does not require the use of any visible vehicle.

d) An unusual strength and force gained from the action of the enhancement propulsors. Such strength allows for the knocking down of buildings, tearing of trees out by the roots, carrying of huge boulders, and doing other work which to us would appear to be supernatural.

e) A biological sterilization of the environment through the killing of micro-organisms that are in the range of the field (this sterilization in turn can trigger various biological consequences).

#7. The forcing of magnetic-borne changes in the surroundings, similar to those caused by the Magnocraft's propulsion. We can mention here especially: burn marks on surfaces underneath the shoes, firing away of objects which come close to the belt (e.g. mad, water, dust), the electrical charging of insulating materials (e.g. hair), ionizing of the air (which can cause a glow near the belt and shoes), production of an active ozone, the smell of which will accompany the propulsion's wearer (this smell can be confused with the smell of sulphur by those not accustomed to it), etc.

* * *

As the important addition to the above information it should be stressed that the users of magnetic personal propulsion systems of the first generation obtain all their special abilities **only in the case if they wear the garment** of this propulsion and when its propulsors remain switched on. Thus the practical (and the only) method of overpowering these users would depend on dealing with them at the moment when for some reasons they undressed this garment (e.g. to take a bath). Of course, after being undressed these users become prone to dangers as all other mortals do, and their only defence then becomes the ordinary physical fitness and their intelligence.
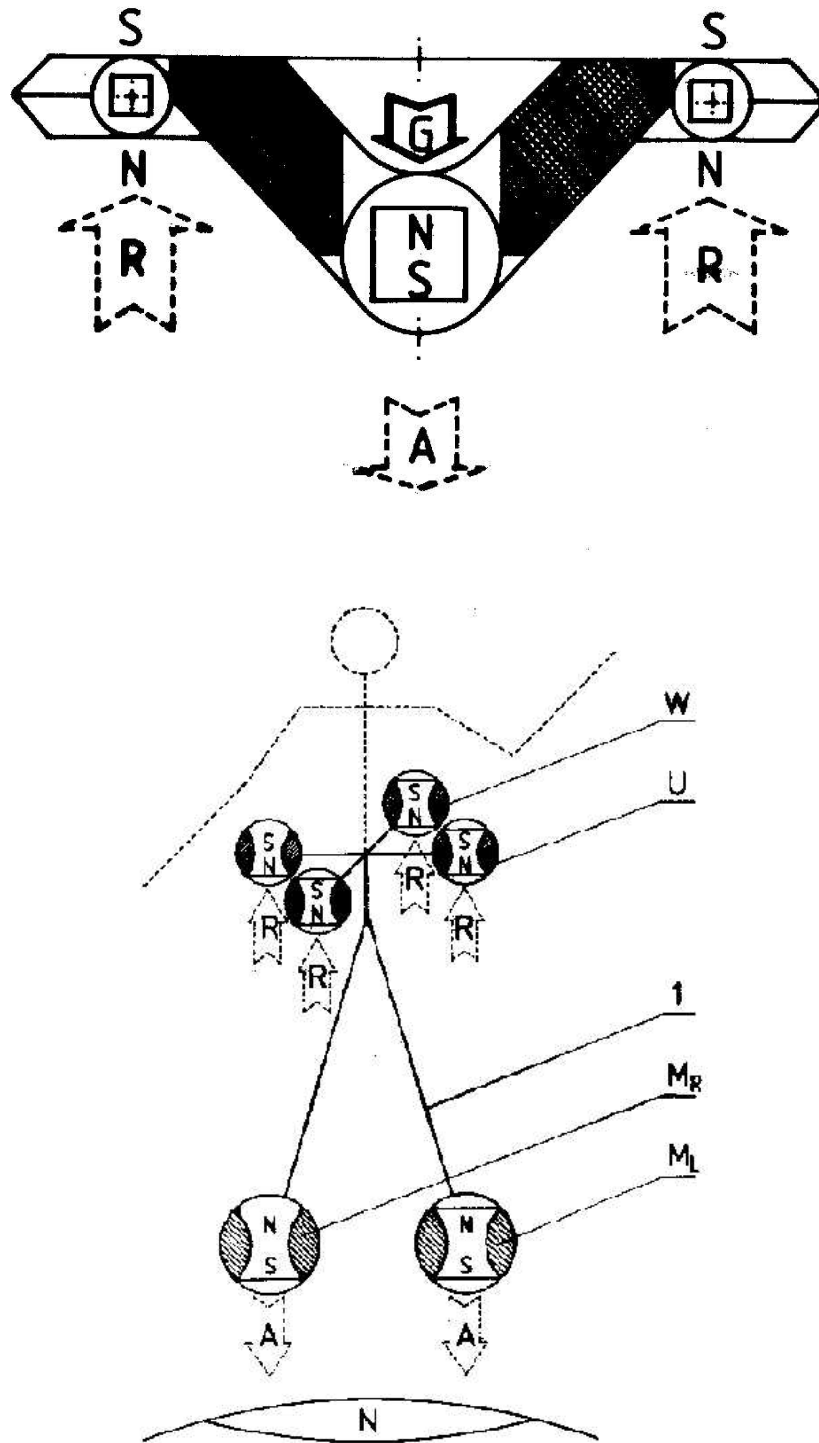
Fig. E1. **Similarities of the Magnocraft and magnetic personal propulsion system**.

(**Upper**) The Magnocraft type K3 flying in an inverted orientation (see also Figure F4 (b)).

(**Lower**) The magnetic propulsion unit composed into a human-shaped structure. This unit provides the principle for the formation of a magnetic personal propulsion system. Human figures supported with such a propulsion unit will be able to fly in the air without using any apparent vehicle. This propulsion unit contains eight side propulsors (labelled U, V, W, X) assembled inside the belt. These produce the lifting forces (R). Moreover, the unit contains also two miniaturized main propulsors (labelled M_R, M_L) assembled in the right and left soles of the shoes. These produce stabilizing forces (A). The body (1) of the propulsion's user provides a "carrying structure" that combines all these propulsors together.
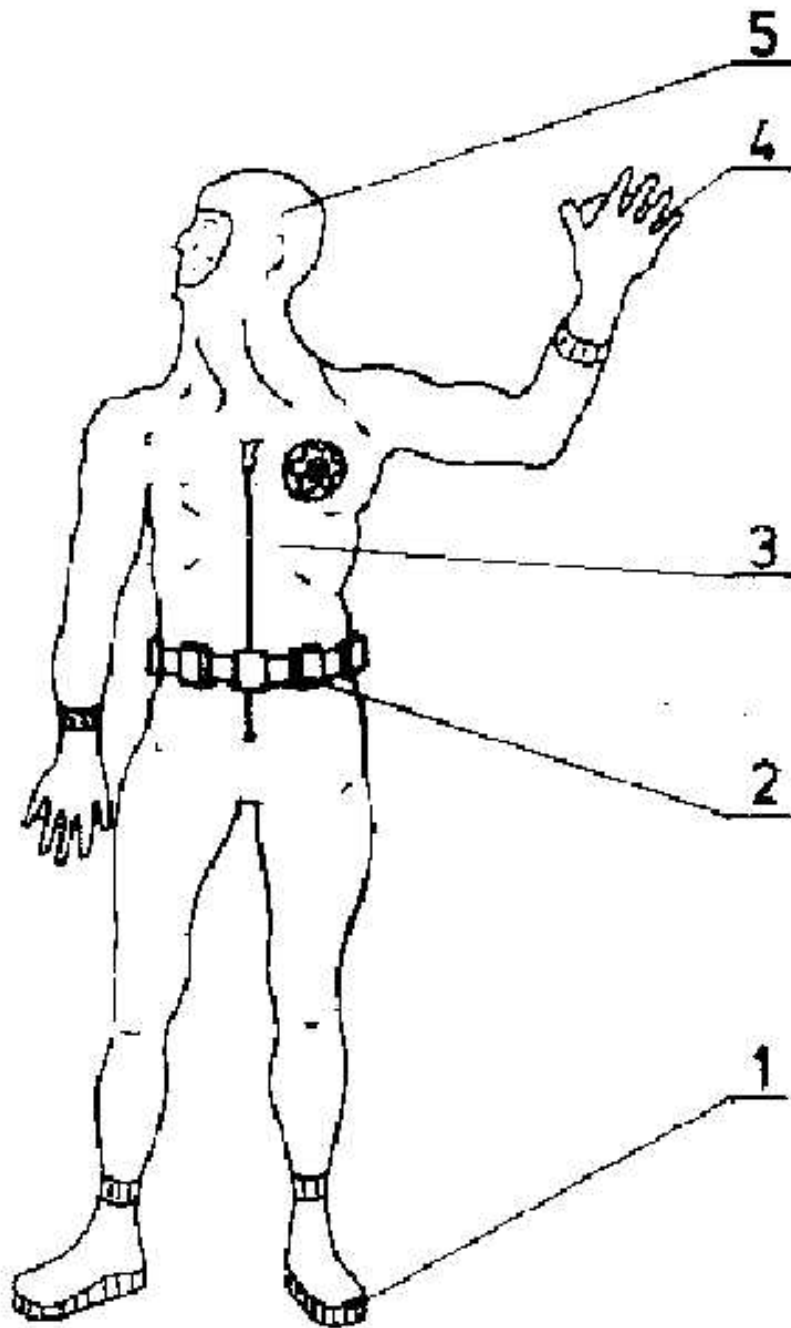
Fig. E2. **Components and general appearance of the standard personal propulsion garment**. Wearers of such propulsion will be able to fly noiselessly in the air, walk on the surface of water, become resistant to gunfire, be invisible, etc. This garment contains: (1) shoes, whose soles contain the main propulsors; (2) the eight-segment belt carrying the side propulsors; (3) the one-piece garment made of magnetoreflective material, which includes a hood (5) or a helmet; (4) the gloves with web-like connectors between the fingers. All of this is complemented with the graphite-based cream that coats the uncovered parts of the skin to protect them from the strong magnetic field, and the controlling computer fastened to the back of the neck, which reads the bio-signals and converts them into propelling actions. When a heavy job needs to be done, additional bracelets containing enhancement propulsors can be worn on the wrist joints (shown as (3) in Figure E4 "a"). These propulsors will cooperate with those from the belt and shoes, thus giving the user almost supernatural strength, e.g. enabling him/her to tear trees up by the roots, carry huge boulders, knock down buildings, etc.

(a)   **(b)**
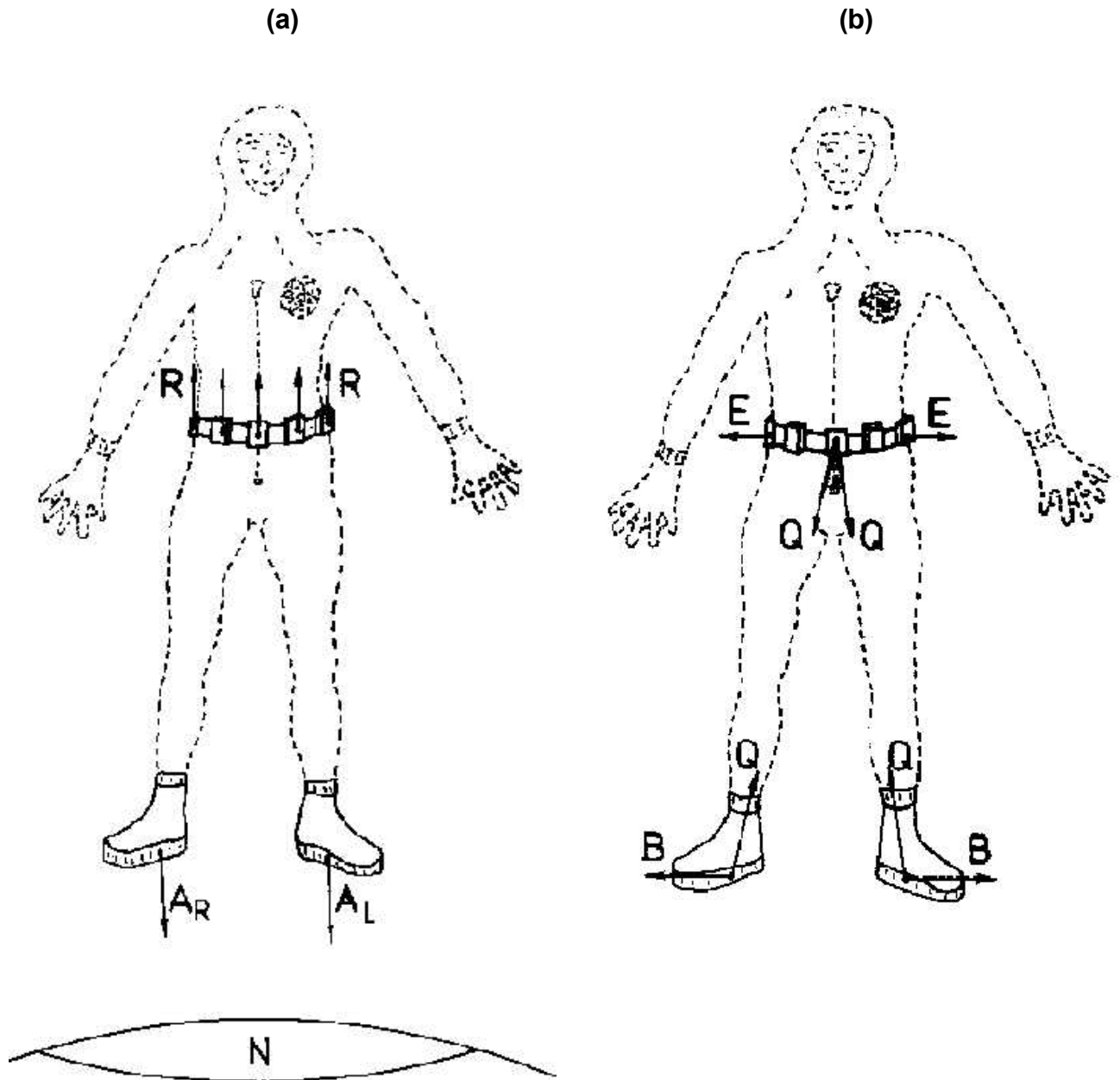
Fig. E3. **External and internal magnetic forces formed within the personal propulsion** (see the left and the right part respectively). Note that both these sets of forces neutralize each other. While forces "R" and "A" acting in opposite directions tense the user's body, forces (Q) simultaneously compress his/her body. Only forces "B" remain unbalanced, thus causing the user to keep his/her legs apart.

(**a**) The set of external forces formed because the propulsors of personal propulsion interact with the environmental magnetic field. This set of forces includes: R - lifting forces produced as the result of repulsive interactions; A - stabilization forces produced as the result of attractive interactions (indexes: R - right, L - left).

(**b**) The set of internal forces formed because all propulsors also interact magnetically between themselves. These forces include: B - the forces of relative repulsion of both of the main propulsors from each other (these cause a permanent separation {straddle} of the legs); E - the forces of mutual repulsion of the side propulsors from each other (these cause the outward tensing of the belt); Q - the forces of mutual attraction between each main and each side propulsor (if put off balance by bending the legs these "Q" forces cause the user to fly in a cross-legged squat position).
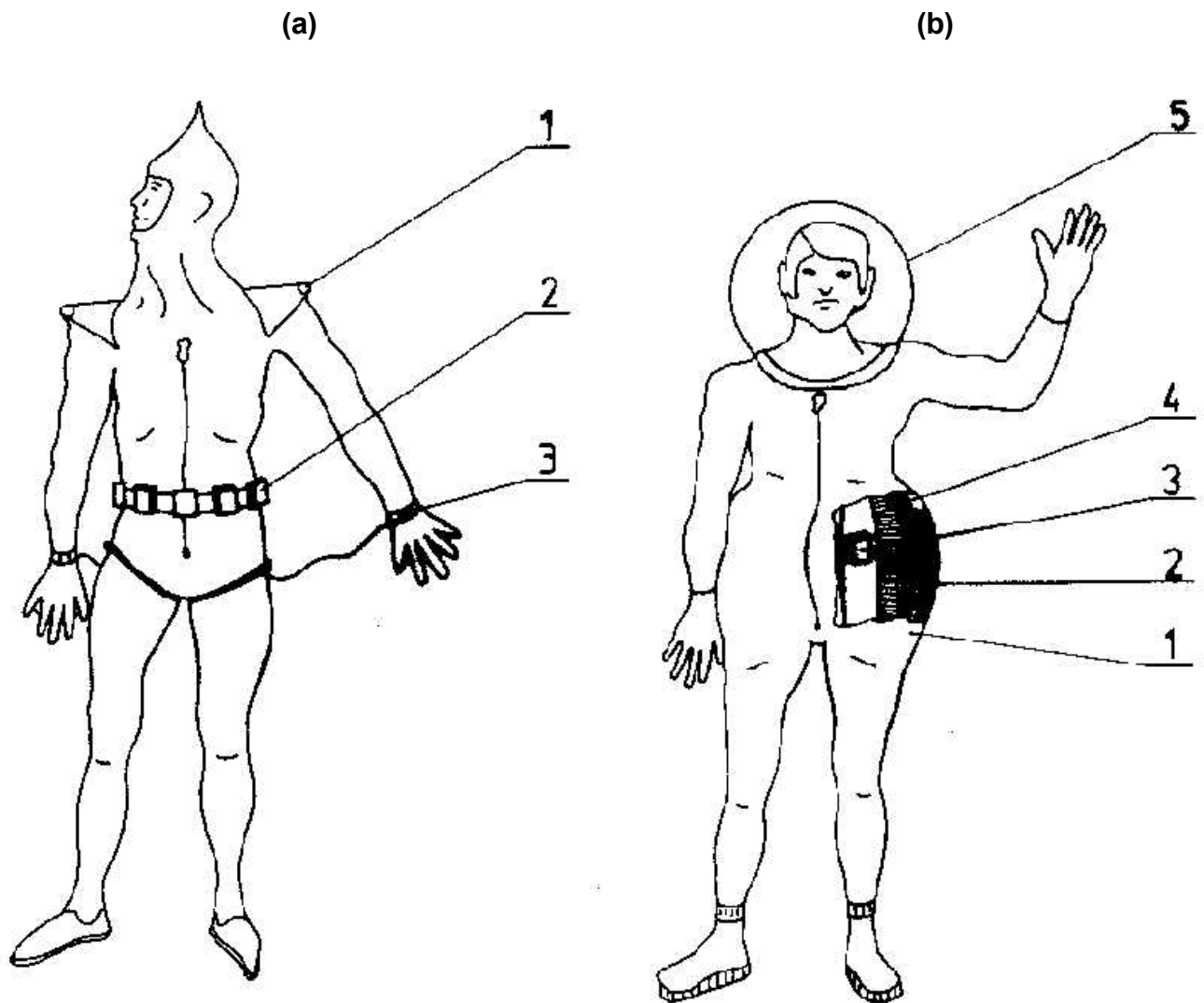
Fig. E4. Examples of **two useful modifications of the standard personal propulsion**.

(**a**) The version of personal propulsion with **the main propulsors in the epaulette**s. Shown are: (1) one of the two main propulsors; (2) the eight-segment belt housing the side propulsors; (3) one of the two bracelets placed on the joints of the wrists. These bracelets contain the additional enhancement propulsors (not used for flights) which multiply the user's physical strength when he/she performs heavy work. Note that to strengthen the garment, sometimes two crossed braces/suspenders can additionally join the belt with the epaulettes.

(**b**) The version of personal propulsion with a helmet and **protective cushions around the hips**. Shown are: (1) the cushions protecting the user's hands from the magnetic field and electrostatic charges; (2) the magnetically impenetrable screen and anti-electrostatic insulation around the outer perimeter of the cushions; (3) a single segment of the eight-segment belt containing the side propulsors; (4) one of the partitions that divide the cushion into eight separate chambers (each of these chambers houses one side propulsor).

THE OSCILLATORY CHAMBER

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Let us visualize a small and perfectly shaped transparent cube which represents a new device for producing a super-powerful magnetic field. It would look like an ideally formed crystal of some transparent mineral, or like a cube cut beautifully from shiny glass and showing its content through transparent walls. With dimensions not larger than those of a handy Rubik's cube it would produce magnetic field thousands of times exceeding the power of fields so-far produced on Earth, including fields from the most powerful magnetic cranes and fields from the largest electromagnets in leading scientific laboratories. If we take this glass cube in our hands, it would demonstrate extraordinary properties. For example, in spite of its small dimensions it would be unusually "heavy" and after being switched onto its full magnetic output even the strongest athlete would not be able to lift it. Its "heaviness" would result from the fact that the magnetic field it produces would attract the cube in the direction of Earth's centre, thus a force of magnetic attraction so created would add to its real weight. The cube would also oppose our attempts to rotate it, and similarly like a magnetic needle of a compass it would always try to point into the same direction coinciding with a magnetic north-south meridian. However, if we somehow could manage to turn it into the orientation opposite to this natural alignment simulating a magnetic needle, then to our surprise it would take off and begin to lift us into space. In this way just on its own this crystal cube would be capable of propelling our space vehicles.

After this transparent chamber is examined at close range it would show countless electric sparks flickering inside. The gradual displacement of these sparks onto different trajectories would appear as if in suspended animation. Further observation would reveal that they all orderly jump in the same direction around the perimeter of the cube, "slipping" along inner surfaces of the four transparent side walls. (The remaining two frontal walls of this cubical crystal would be occupied by outlets/poles of the magnetic field which this device produces, and thus they would allow insight into the interior because they would not be crossed by any sparks.) The jump of each individual spark would occur only between two opposite walls of the cube. But because parts of the trajectories of these individual sparks would mutually overlap each other, in the final effect they would create a kind of "vortex made of sparks" which would rotate immensely fast around the magnetic axis of the device. However, this vortex would not follow circular trajectories like this is done by the majority of other rotary phenomena, but it would move along square paths. In turn the rotation of this spark-vortex around the peripheral of a square would produce a powerful magnetic field. The production of this field would not be much different from that occurring during the flow of electric current along coils of a square-shaped inductor.

The explanation above discloses the appearance and operation of the "Oscillatory Chamber", i.e. the device which is the subject of presentation in this chapter. It realizes that the name "Oscillatory Chamber" is ascribed to a completely new principle of magnetic field production, unknown previously on Earth, and invented by myself (i.e. the author of this monograph). This principle employs effects of the rotation of four-segment electrical arc around peripherals of four inner side walls of a cubical chamber. Thus arc is formed from two streams of mutually synchronized oscillations of electric sparks that jump in two mutually perpendicular directions, four subsequent jumps of which cross outlines of a square. These four jumps occur within two oscillatory circuits formed together into the shape of a cubical

chamber. Because of the shape and principles employed by this chamber, it is called the "Oscillatory Chamber".

The structure of the Oscillatory Chamber which accomplishes or implements the above principle of magnetic field production, will take the shape of a cubical chamber made of transparent materials and empty inside (i.e. filled only with a dielectric gas under a low pressure). The six walls of this chamber will be prepared from an electric insulator (e.g. a glass) which is also magnetically neutral, melted together at edges. Two couples of side walls will hold packets of conductive electrodes. These four packets of electrodes, joined to the inner surfaces of four side walls of the chamber, perform alone the function of two cooperating oscillatory circuits with a spark gap. Each one of these two circuits is created by a different couple (i.e. two separate packets) of electrodes attached to two opposite inner walls of this cubical chamber (i.e. the surface of opposite electrodes supplies the required electrical capacitance to the circuit, the mutual distance of electrodes is to perform the function of a spark gap, while the spark itself is to supply the required electrical inductance to the circuit).

The operation of the Oscillatory Chamber summarized briefly will be as follows. The packets of electrodes located on the walls of the chamber are charged with the opposite electric charges. These charges try to neutralize each other, thus they form electric sparks that oscillate between opposite electrodes. Because the four subsequent sparks are forced to jump at appropriately synchronized moments, they form a kind of square electric arc, which circulates around the inner perimeter of the cubical chamber. Thus, the appropriate synchronisation of the oscillatory discharges occurring in such two circuits with crossing sparks, allows for the production of a dipolar magnetic field. The above principle applied in the Oscillatory Chamber allows gaining double benefits. On one hand it eliminates almost all drawbacks inherited in the principles of today's electromagnets, which so-far limited the magnetic output of electromagnets. On the other hand it also provide the Oscillatory Chamber with a variety of unique operational advantages which are the source of unique attributes of this device (i.e. attributes that are unknown in any other device build so-far on Earth).

The complete elimination of drawbacks inherent in the electromagnets is ensured by the following attributes of the Oscillatory Chamber:

1. The neutralization of electromagnetic forces acting on the structure of the chamber.

2. Leaving to the user's choice the time and amount of energy supply (i.e. each portion of energy, whatever its amount and whenever it is delivered, is collected, stored, converted into a magnetic field and released when necessary).

3. The recovery and conversion back into electricity of all the energy dissipated by sparks.

4. The channelling of the destructive consequences of the accumulation of huge electric charges into the direction which reinforces the chamber's proper operation.

5. The independence of the power of control devices from the power involved in field production (i.e. a weak control signal will cause a change in the enormously powerful field produced by the chamber).

The Oscillatory Chamber displays also the following unique advantages unknown in any other appliance built by man to date:

A. The ability to absorb and store theoretically unlimited amounts of energy.

B. Full control over all properties and parameters of the field produced, achieved without any change in the level of energy contained in it.

C. Producing the kind of magnetic field which does not attract, nor repel, ferromagnetic objects (i.e. which behaves like a kind of "antigravity field", not a magnetic one).

D. Multidimensional transformation of energy (e.g. electricity - magnetic field - heat) which allow the Oscillatory Chamber to take over the function of almost every other conventional energy-converting device (e.g. electromagnets, transformers, generators, accumulators, cells, combustion engines, heaters, air conditioners, and many more).

As the final result of such a formation of the Oscillatory Chamber, this device, when completed, will be able to raise the value of a produced magnetic flux to a level unlimited by

theoretical premises. Practically it also means that this source of field will be the first one able to lift itself as the effect of a repulsive interaction with the environmental magnetic field (i.e. the field of Earth, Sun, or Galaxy). Thus the Oscillatory Chamber become our "arkway to the stars".

F1. Why there is a necessity to replace the electromagnet by the Oscillatory Chamber

When we observe the blinding achievements in one discipline, without a delay we assume that our progress is equally spectacular in all directions. However, if we examine the matter closely, we may discover the areas where almost no progress has been achieved in the last two centuries, and where we are still treading in the same place. In order us to realize one of the most frequently encountered areas of such a inventive stagnation, let us ask now the following question: "What progress has been achieved recently in the area of principles of the controlled magnetic field production?". To our surprise the answer is "none". At the beginning of the Mars exploration era we still use exactly the same principle of the magnetic field production as that one which was used over 170 years ago, i.e. the principle discovered in 1820 by the Danish professor, Hans Oersted, and depending on the application of the magnetic effects created by an electric current flowing through the coils of a conductor. The device utilizing this principle, called an "electromagnet", is now one of the most archaic inventions still in common use because of the lack of a more suitable solution. We can realize how outdated its operation is from the following example: if the progress in propulsion systems were equal to that of magnetic field production devices, our only mechanical vehicle would still be a steam engine.

Electromagnets possess a whole range of inherent drawbacks, which make it impossible to raise their output above a particular - and not very high - level. These disadvantages can in no way be eliminated, because they result from the principle of operation of these devices alone. Below the most significant of these inherited and thus totally **unremovable drawbacks** of electromagnets are listed. Their explanation with more details will be provided in subsection F6 which presents the way in which each of these drawbacks is eliminated in the operation of the Oscillatory Chamber.

#1. Electromagnets create **deflecting forces** which tense their coils in the radial direction trying to tear these coils apart. These forces are produced as the result of mutual interaction between the magnetic field produced by an electromagnet, and the same coils of the conductor which created this field. The field tries to push these coils out from its own range (according to the action of the "left-hand rule" often called the "motor effect"). Thus the deflecting forces so formed in coils are of a type identical to the ones utilized in the operation of electric motors. In order to prevent the electromagnet from being torn apart, these electromagnetic containment forces must ultimately be opposed by some form of physical structure. The mechanical strength of this structure counter-balances the deflecting forces resulting from the output of a given electromagnet. Of course this structure significantly increases the weight of any really powerful steady-field magnet. Furthermore, when the current's flow in electromagnets exceeds a certain level, the deflecting forces grow to such an extent that they are not able to be balanced further by the mechanical strength of the structure. Thus, the gradual increase in output of electromagnets eventually causes coils to explode. In this way too high an increase in the output of electromagnets results in their **self-destruction via an explosion**. Such explosions of electromagnets are quite frequent occurrences in scientific laboratories, therefore the most powerful electromagnets must be placed in special bunkers which confine their possible explosions.

#2. Electromagnets require the **continuous supply of electric energy** if they are to produce a magnetic field whose all parameters are controllable (i.e. a field whose parameters can be changed in accordance with the application requirements). If continuous energy supply is cut off, the control over the electromagnet's field finishes. This requirement of controllability

causes that during the production of powerful magnetic fields, a single electromagnet consumes the output from a whole electricity plant.

#3. Electromagnets cause significant **energy losses**. The electric current flowing through coils of a <u>conventional</u> electromagnet releases a vast amount of heat (see Joule's law of electric heating). This heat not only decreases the energetic efficiency of the magnetic field production, but also, when the energies involved are high, it leads to a melting of the coils.

The <u>superconductive</u> electromagnet removes the heating from a current flowing through resistance. However, it introduces another loss of energy resulting from the necessity to maintain a very low temperature of the coils. This also causes a permanent consumption of energy which decreases the efficiency of such a magnet. Moreover, it should be noted here that the high density of magnetic fields cancels the effect of superconductivity and thereby restores a resistance to the coils. Thus the superconductive electromagnets are only capable to produce magnetic fields the density of which is lower than the threshold value causing the return of electric resistivity to their coils.

#4. Electromagnets are prone to **electric wear-out**. The geometrical configuration of electromagnets is formed in such a way that the direction of the greatest electric field strength does not coincide with the path of the conductor through the coil (i.e. forces of this field try to short-cut the flow of current across coils, whereas the layer of insulation channel the current to flow through the coils and along a spiral). This directs the destructive action of electric energy into the insulation, causing its eventual damage (short-circuit followed by the electric breakdown) which initiates the destruction of the entire device.

#5. Electromagnets have a **limited controllability**, e.g. can not be controlled by weak signals. The parameters of their magnetic field can be controlled only through the changes in the power of the electrical energy supply. Therefore controlling the electromagnets requires the same powers as those powers involved in the production of a magnetic field.

The only way to eliminate the five disadvantages listed above is to apply a completely different principle of magnetic field production. Such a principle, invented by myself ((the author), will be presented in later sections of this chapter. Because this new principle utilizes the mechanism of oscillatory discharges occurring inside a cubical chamber, it is called an "Oscillatory Chamber".

The principle of the Oscillatory Chamber avoids the limitations which prevent an increase of output in electromagnets (the way it is achieved is presented in subsection F6). Also, it promises a more effective and convenient preparation and exploitation, long life without the necessity of maintenance, a very high field-to-weight ratio, and a wide range of applications (e.g. as an energy storage, propulsion device, source of magnetic fields, etc. - see Table F1). The explanations that follow (especially the one from subsection F7) will describe the mechanisms for achieving all these additional advantages. Therefore, the lack in the Oscillatory Chamber of inherited drawbacks of electromagnets, combined with these numerous additional operational advantages, make highly desirable to promote the fast development of this device, so that in the not-too-distant future it may replace electromagnets presently in use.

F2. <u>History of the Oscillatory Chamber</u>

Similarly like every other device that is being developed for a longer period of time, also the Oscillatory Chamber already has its own history. What is even more fascinating, presently we all co-participate in creation of this history. The Oscillatory Chamber is probably one of these extremely rare devices, the invention of which was carried out "on order". Thus for researchers from several disciplines, the analysis of the unusual history of this device may lead to interesting findings. Furthermore, the reader's awareness of the background behind the invention of the Oscillatory Chamber may realize, that in the background of technical descriptions of this device and impersonal mathematics of chapter F, an interesting story of

the human struggle and intellectual challenge to nature is hidden. So let us briefly summarize the history of the Oscillatory Chamber's invention. This history excellently complements a general history of this monograph presented in subsection A4. But in case that the reader is not familiar yet with subsection A4, brief descriptions of all key events, which exerted a major influence on the development and evolution of the Oscillatory Chamber, are provided below as well. In the development of the Oscillatory Chamber several "milestones" can be clearly distinguished. Therefore, the history of this device is going to be presented here in stages. Each such stage, marked (#), represents a single "milestone" in the development or evolution of this extraordinary device.

#1. **Creating the need for invention of the Oscillatory Chamber**. As I already explained this in subsections A1 and A4, everything started in 1972. I was conducting then a series of lectures on "selected aspects of propulsion systems" for students of the Technical University of Wrocław in Poland. During preparation one of these lectures I discovered, that the inventions of subsequent propelling devices are subjected to an astonishing regularity. Because this regularity depends on the periodic repetition of the same characteristics in subsequent propelling devices, I called it later the "Periodic Principle". The best illustration of the Periodic Principle takes the shape of a table, called the "Periodic Table", an example of which is shown here as Table B1. In 1976, i.e. soon after discovering the "Periodic Principle", I published the first "Periodic Table". It appeared in the article **[1F2]** entitled "Teoria rozwoju napedow" (i.e. "The theory of propulsion development") from the Polish journal <u>Astronautyka</u> (PKiN, 00-012 Warszawa, Poland), no. 5/1976, pages 16 to 21. The most recent version of this table is shown here as Table B1. In turn the preparation of periodic tables is additionally explained in subsections B1 and K1 of this monograph. The elaboration on the construction of these tables is also provided in monographs numbered [1], [1e], [3], [3/2], [6], and [6/2] on the list of references from chapter Y.

Periodic Tables are similar to the "Mendeleyev Table" (also called the "Periodic Table of the Elements"), only that instead of chemical elements they illustrate propelling devices - see Table B1. Similarly as Mendeleyev Table did it to the elements, Periodic Tables also reveal propelling devices still awaiting for their inventors, and indicate principles and phenomena which will be employed in the future operation of these devices. These new tables are constructed by placing subsequently invented propelling devices in the appropriate rows and columns. The positioning of each device in these tables is such that it must meet the conditions of horizontal and vertical symmetry. The horizontal symmetry (i.e. the belongings of a given device to a particular row of the Periodic Table) defines a type of working medium and phenomena utilized in the operation of this device, whereas the vertical symmetry (i.e. the belongings of this device to a specific column of the Periodic Table) describes the general class of a propulsion system to which this device is qualified. Fields of Periodic Tables, which have no any device assigned to them as yet, indicate propelling devices still awaiting invention. The position of these empty fields (i.e. their row and column) defines the future principles employed in the operation of these devices yet to be invented. It also defines how these new devices will operate and what will be their properties and specifications. Through the examining of time gaps between the dates of completion of devices which are already invented, Periodic Tables show the average length of time required for a new invention of this type of device to take place. In turn, this enables us to determine the most probable year of completion of the next generation of these devices.

Through the analyses of my first Periodic Table (in this monograph shown as Table B1), I discovered that before 2036 a completely new generation of flying vehicles should be constructed on Earth. Later I called "Magnocraft" all flying vehicles from this new generation. According to the table, the operation of Magnocraft is to represent an advanced modification of the asynchronous electric motors currently in use. This operation should employ extremely powerful "magnets" to perform the function of propulsors. These propulsors are to produce propelling forces due to the principles of magnetic interactions. The powerful fields produced by these propulsors should interact with the environmental magnetic field (i.e. the field

produced by Earth, Sun, or Galaxy), thus forming magnetic attraction and repulsion which is to be utilized for the propelling purposes. Thus, the general principle of the formation of these propelling forces is almost identical to that from electric motors. Except, that instead of the magnetic field produced by a stator, the Magnocraft utilizes the planetary field always present in our environment. Through the subsequent processing clues provided by the Periodic Table B1, I gradually worked out the design and operation of this new vehicle. The first publication of this design and operation appeared in 1980 in the article **[2F2]** "Budowa i działanie statków kosmicznych z napędem magnetycznym" (i.e. "Spaceships with magnetic propulsion design and principles of operation"). It was published in the Polish journal, <u>Przegląd Techniczny Innowacje</u> (ul. Mazowiecka 12, 00-048 Warszawa, Poland), no 16/1980, pages 21 to 23. The birth of the idea of this vehicle introduced in turn the need for developing a propelling device, means a propulsor, which would thrust this vehicle through the space. This propelling device later turned out to be the Oscillatory Chamber.

#2. **Realising that the Oscillatory Chamber must be invented personally by myself**. The invention, development, and later dissemination of the Magnocraft, introduced the idea of a "magnetic propulsor" into use. Thus, let us define now the idea of such a propulsor. This definition is prepared on the basis of summary of the Magnocraft's operation. It reads something along the lines:

"The **magnetic propulsor** is a source of a powerful magnetic field (i.e. a 'magnet') capable of yielding an output which exceeds the threshold value called the 'starting flux'". For the practical reasons, in this definition instead of including lengthy explanations that the magnetic propulsor must be able to lift a spaceship due to a repulsive interaction with the environmental magnetic field, it is much better to just introduce a new term 'starting flux'. (This term is explained extensively in subsection F5.1.) This of course means that we still need to provide a further part of the definition, in which the term "starting flux" is explained. So let us now repeat after subsection F5.1, the definition of this new term. "The **starting flux** (F_s) is a threshold value of the magnetic output produced by an extremely powerful source of magnetic field, which after the repulsive orientation of this source in relation to the environmental magnetic field of Earth, would be capable of lifting the source in space". This definition of the "starting flux" revealed that the theory behind the Magnocraft introduces a new magnetic constant "F_s" representing an equivalent to the "escape velocity" (also called the "second cosmic velocity" in inertial space travel), and that this new constant is named the "starting flux". Every 'magnet', the output of which is to exceed the value of this particular flux, will be capable of lifting itself into space - if only someone orients it repulsively in the relation to the Earth's magnetic field. (Such a repulsive orientation towards the environmental magnetic field depends on the positioning a given 'magnet' in the position being exactly opposite to the position that this 'magnet' would be inclined to assume itself if it is given the freedom of movement similar to that displayed by needles of magnetic compasses.) Of course Theory of the Magnocraft allows for the precise calculation of the starting flux. In subsection F5.4 I completed such calculations and determined that the value of this flux applied to the boundaries of Poland is **F_s = 3.45 Wb/kg**. This means, that in order to construct our first magnetic propulsor, we must develop some kind of a controllable 'magnet', which would be capable of yielding the magnetic output in excess of this 'starting flux'. Unfortunately, as I already explained this in subsection F1, the production of magnetic flux at such level is impossible with the use of principle of electromagnets.

The above reveals that the initiation of developmental works on the Magnocraft introduced two immensely vital consequences. The first and the most important out of these was gaining the awareness that the development of the Magnocraft requires the invention of a completely new principle of magnetic field production. After all, none of the existing methods of magnetic field production allows for the acceding of value of the starting flux. This new principle that until 1984 was awaiting for being discovered, needed to be oriented at a complete fulfilling the primary condition imposed on the magnetic propulsor. Namely, the magnetic output provided by this principle must be in excess of the "starting flux". In this

manner the Magnocraft realised to me the need for my personal involvement in the invention of this revolutionary technical device, which later was named the "Oscillatory Chamber".

The second consequence of the development of Magnocraft's idea, was that it revealed the **primary condition** for building the first magnetic propulsor on Earth. This condition states, the in order to accomplish a magnetic propulsor, we must build a controllable 'magnet', the output of which exceeds the value of the "starting flux". I was fully aware of this primary condition from the very beginning of my developmental works on the Magnocraft. After all, it was presented mathematically already in my first publication [1F2] devoted to the theory of magnetic propulsion systems. Unfortunately, in the initial stage of my research I did not know what type of device would be capable of fulfilling this requirement. It is a rather well known secret that electromagnets currently used for the production of the most powerful magnetic fields available to our civilization, have numerous drawbacks which make it impossible to even come near to the starting flux. (These drawbacks inherited in the constructions of electromagnets are discussed in subsections F1 and F6.)

#3. **Finding the direction for creative searches**. As this is stressed in this chapter, from the first moment the concept of the Magnocraft was crystallized, I was fully aware that the present devices for the production of magnetic fields would not be able to produce the output in excess of the starting flux. The fact of our ignorance of such a device was also the excuse for vigorous attacks directed at the Magnocraft by various critics of this vehicle. Therefore, the finding of a concept for a device capable to produce the required level of magnetic output was the problem awaiting the most urgent solution. I was thinking about it almost continually. Thus, parallel to the research on the development of the whole Magnocraft, I also conducted an intensive search for the principle of magnetic field production that would allow for an unlimited increase of the output. Unfortunately, the aim here was extremely difficult to achieve. After all, during the last two centuries numerous generations of other scientists had already failed to find such a principle. Shortly before leaving Poland and emigrating to New Zealand, in winter 1981 I was visiting the small mountain township named Karpacz. I saw there an extremely heavy truck which - with visible difficulty, rolled up onto a steep slope of a hill. During watching the work of this powerful truck I realized that the operation of the device I was seeking must be based on some form of conversion of the electric oscillations into a magnetic field. (Similarly like in the truck's engine the oscillative motion of its piston is converted into the continuous rotation of its wheels.) Thus, this principle cannot be based on the conversion of the continuous flow of electric energy into a magnetic field, like this is the case in electromagnets. This extremely vital finding provided me in turn with the correct directions for my future searches of the principle of Oscillatory Chamber's operation.

#4. **Goal-oriented synthesis of the Oscillatory Chamber**. After I realised that the Oscillatory Chamber must be invented by myself, and after I found the general direction in which hides the solution for this device, I initiated a systematic searches directed towards a "goal-oriented synthesis of a new invention". The vital aspect of this goal-oriented synthesis is, that the final product which our mind needs to create is strictly defined and described with numerous operational conditions. Thus, such goal-oriented synthesizing is a higher level of the inventive activity, because in the normal circumstances new inventions depend on having some ideas which sometimes are totally unconnected with the direction in which the inventor is going, or with the solution he is seeking. (Typical inventions occur according to the popular saying "we now have the medicine, so let us find a suitable illness".)

However, in spite of the awareness that the device that I was synthesising must be based on the conversion of oscillatory motion into a continuous flow of energy, my mind still was imprisoned by the stereotypes prevailing at that time, which suggested that the devices producing magnetic field must take the form of a circular coil or a ring. Because of these stereotypes, to get ideas for my device I was seeking amongst various existing devices which create the circular rotation of electric charges, such as TOKAMAK. Working on various possible concepts, I analysed a vast number of different devices, the operation of which involved electric oscillations, plasma, sparks, motion of the electrically charged particles, etc.

In that manner I gradually accumulated in my mind all the components of a 'jigsaw puzzle' presently called the Oscillatory Chamber. Only that these components still remained in the form of small pieces randomly mixed together. There was a need for some kind of process of their fitting together into a complete picture.

#5. **Finding the key for the principle of the chamber's operation**. This fitting together of all components of the 'jigsaw puzzle' contained in my mind, occurred on the night from 2nd to 3rd January 1984 during a state of mind we could call a half-sleep. Taking an advantage of summer vacations in New Zealand, I was visiting Christchurch to advance my library research and to develop further the Magnocraft's concept. In spite of being preoccupied with other matters, my mind all the time was working on the problem of a magnetic propulsor. Slightly after midnight, when I was lying in a bed and thinking about the problem in a state of half-dream, the solution unexpectedly was synthesized in my mind. The **key** turned out to be the fact, that the device sought must take the shape of a cube, not a coil or a ring. I still clearly remember, that the final finding of a solution for this extremely difficult and long awaited problem turned to be such an exciting event, that in spite of getting dressed that night in order to make instant notes, drawings, and checking, I was unable to held a pen in my hand that shivered from emotions.

In this way, in first days of 1984, after several years of continuous searches, I finally synthesised in my mind an idea of a new technical device, which is able to produce a magnetic output in excess of the starting flux, without exploding and without disintegrating. This extraordinary device I called the "Oscillatory Chamber". However, the invention of this device was only the first step in the long and difficult path that leads to the completion of this device.

#6. **The first publications and the wave of enthusiastic experiments on the completion of the Oscillatory Chamber**. Soon after I synthesised the Oscillatory Chamber, descriptions of this revolutionary device were published in a number of monographs written in three languages (i.e. in English, German, and Polish). These publications were available in four different countries, namely in New Zealand, Poland, USA, and West Germany (see publications number [1F] (c), [2F] (b), and [2F] (c) in the list provided at the end of this chapter). The first of these publications appeared already in January 1984 - see [1F](a). The wide availability of chamber's descriptions, combined with the high operational attractiveness of this device, prompted a significant interest. A number of individual amateurs and small companies initiated the developmental work with the aim of completing a working model of the Oscillatory Chamber. Of course, as it presently is the case with all new ideas in the strategic areas of human development, a list of interested parties has NOT included even one single representative of the institutions that are supposed to be most concerned about the progress in magnetic field producing devices. Namely, the development of the Oscillatory Chamber was ignored by all magnet laboratories and science laboratories (in spite of strong encouragement and exact descriptions that I provided to a large number of such institutions). The majority of the amateurs interested in the chamber's development were from West Germany, Switzerland, Austria, and Poland.

#7. **Needle-shaped electrodes**, as an example of a technical solution for the first serious design problem. As this can be predicted from the description of the Oscillatory Chamber, the building of the operational prototype of this device is a difficult task. Therefore, one after another, the majority of initial developers of this device gradually gave up and withdrawn from the project. Amongst these ones, who were not discouraged by the existing difficulties and continued the research, was a Polish hobbyist. Unfortunately, after first experiences with "becoming famous", he asked me to not publish again his name. In May 1987 he sent me a photograph of his working model of the Oscillatory Chamber, which captured a stream of sparks that rotated around the peripherals of a square. A photograph of his chamber is shown in Figure F13 (a).

The technical problem which at very beginning discouraged the majority of initial developers of the chamber is illustrated in Figure F2 (a). Following the descriptions of the

chamber available to them, in the first models these developers tried to use plate-shaped electrodes, as shown in Figure F1 (b). However, when such electrodes are used, instead of jumping along the trajectory in Figure F2 (a) marked by S', sparks prefer to follow the line of least resistance and to jump along the trajectory marked by S". Various researchers tried to resolve this problem in a number of ways, starting from placing the electrodes inside "honey-comb" insulative cells, and finishing with covering the surface of electrodes with an insulating layer. It was only this anonymous researcher from Poland who finally found the correct solution. Through following my clues contained in subsection S5 of this monograph, he studied ancient descriptions of the Ark of the Covenant (which, according to my deductions provided in subsection S5, was a historic version of the Oscillatory Chamber). The final conclusion he derived from these studies was that the Ark did not contain any plate-shaped electrodes. Only tips of gold nails driven through its wooden walls protruded inside. He decided to experiment with needle-shaped electrodes in his chamber. And it turned out that this solution actually worked in practice. Such needles repel sparks passing by, therefore these sparks are unable to take short cuts by passing through the material of electrodes. In this way, the model of the Oscillatory Chamber which instead of plates used the needle-shaped electrodes - as shown in Figure F2 (b), was the first one which successfully produced sparks that rotate around peripherals of a square. This model also represents experimental proof that the principles of the Oscillatory Chamber are correct and that they can be implemented technologically in a working device. Thus, the initial stage of the completion of the oscillatory chamber was concluded.

#8. **The procedure of R&D on the Oscillatory Chamber**. My analysis of reasons for the failures of various developers in research and development (R&D) of the Oscillatory Chamber, revealed that one of the vital such reasons is the lack of clear directions how actually one should approach the systematic completion of such a complex project. So I decided to develop a kind of foolproof developmental procedure, which would let to a success if someone would find enough energy and motivations to complete this procedure. I called it "the procedure of small steps". In order to facilitate the initiation of this procedure, I also developed several research projects (in this monograph presented in subsection F8.3). This procedure, together with research projects that accompanied it, for the first time was published on 27 January 1994 in monograph [2], then on 13 September 1994 it was repeated in monograph [2e]. In this monograph it is explained in subsection F8.2.

#9. **The Oscillatory Chamber of the second generation**. In 1989 I discovered and developed the principle of operation of telekinetic batteries. This principle in turn led me to the idea of Oscillatory Chambers of the second generation. In this monograph such chambers are presented in subsections F4.1, F7.1.1, F7.1.2, and F7.2.2. Their characteristic attribute is that they are capable of creating the telekinetic effect described in subsection H6.1 (especially see subsections H6.1 and L2). In turn this effect allows the Magnocraft furnished with such chambers to operate in the telekinetic convention of flight. (What is this telekinetic convention of flight, it is described in subsections B1 and L1.) On the other hand, it allows Oscillatory chambers of the second generation to self-ignite and self-sustain their oscillations. In this way chambers of the second generation are going to be capable to operate also as telekinetic batteries, thus filling up themselves with the required amount of magnetic energy. As such, these chambers may work not only as telekinetic propulsors and as accumulators of energy of enormous capacitance, but also as telekinetic power-stations that produce and self-charge the entire energy that they use. The general directions of research on the completion of these self-charging Oscillatory Chambers of the second generation is indicated by subsection K2.4. However, readers are reminded NOT to attempt by themselves experiments on the chambers of the second generation, before effective systems for prevention of overloading and explosions of Oscillatory Chambers are developed. After all, the possible explosion of these chambers could turn out to be very destructive - for details see descriptions from subsection O5.2 and from separate monographs of [5] series. After all, such an explosion could blow up

not only the house of unfortunate experimenter, but also the entire city in which this experimenter lives.

The development of the idea of the Oscillatory Chamber of the second generation indicated also a general direction, along which the completion of Oscillatory Chambers of increasingly higher generations is going to climb. By extrapolation of this direction, later I also developed the functional bases for the **Oscillatory Chambers of the third generation** - see subsection F4.1. The first publishing of information about Oscillatory Chambers of the second generation took place on 27 January 1994, in subsection F3.1 of monograph [2].

#10. **The discovery of telepathic waves**. On Friday, 11 November 1994, during a break for lunch, I discovered what actually telepathic waves are. This discovery is described more extensively in subsection A4. According to it, "telepathic waves are sound-like vibrations of counter-matter". (Notice, that according to subsection H5.2, all motion of counter-matter manifests in our world as a magnetic field. Therefore telepathic waves can also be defined as gradientless vibrations of magnetic field.) The mechanism and phenomenon of telepathy that I then discovered, for the first time was published on 9 January 1996 in monograph [3] (see subsection D13 in [3]). In 1997 these descriptions were repeated in monograph [3/2]. To this monograph they get through monograph [1/3], in which they were repeated in subsection H13. Currently descriptions of telepathic waves are provided in subsection H7.1 of this monograph.

#11. **The birth of an idea of "magnetic resonator"**. The discovery of mechanism of telepathy realised to me a next attribute of Oscillatory Chamber. This attribute was discovered in the result of my research on telepathic transmitters and receivers. Such devices, which in a technical manner produce modulated telepathic waves, must utilise in their operation the principle of "resonating" of static magnetic fields - see also subsection H7.1. Thus, their most important component must be a device that can be called a "magnetic resonator". In our task of building the first such device, we are in a situation of scientists of previous centuries who experimented with electrostatic fields. These scientists also had no idea that one day an electronic oscillatory circuit is going to be build (means an "electric resonator"). This oscillatory circuit set electrical fields into vibrations. In this way it created foundations for present radio-communication, electronics, and cybernetics. By analogy with this historic situation, our present familiarity with static magnetic fields is only at very beginning of the path to knowledge. A lot of time probably must pass, before we build our first operating "magnetic resonator". Such a resonator in future is going to open for people the utilisation of magnetic field vibrations for various technical purposes, similarly like the electrical oscillatory circuit in past opened for people the utilisation of electric field vibrations.

From the beginning of my works on the Oscillatory Chamber I knew that my device represents just a first idea of such a magnetic resonator. For magnetic vibrations this idea already introduced the same breakthrough, as the first Henry's oscillatory circuit did this for electrical vibrations. But in spite of working out the Oscillatory Chamber, and in spite of complete realising the operation of this device, it was not clear to me what is the essence of such magnetic resonators. This essence become obvious only after a detailed design and operation of the second such a resonator was worked out, and after I discovered the nature and mechanism of telepathic waves. (This second resonator took the shape of a "telekinetic battery" described in subsection K2.4 of this monograph.) It turned then out, that the "essence of the idea of magnetic resonator is that these devices represent a mirror reflection of electrical oscillatory circuits".

In order to explain here this essence, in the sense of principles of operation, magnetic resonators mimic in a mirror manner the principle of operation of electrical oscillatory circuits. This mirror mimicking depends on a symmetrical reversing of this principle. (As we remember, electrical oscillatory circuits are utilised for a long time for production of electrical vibrations and also for inciting electromagnetic waves in telecommunication devices.) For example, electrical oscillatory circuits must be composed of at least two basic components, namely electrical capacitance "C" and magnetic inertia "L" (also called "inductance"). Therefore magnetic resonators must similarly contain two components, namely an electrical inertia "J"

and a magnetic capacitance "P". (Of course, in addition to these two "mirror" components, both groups of devices, namely magnetic resonators and electric oscillatory circuits, are also containing resistance "R".) The basic deductions that I completed on this subject are described in subsections K2.4 and N2.4 of this monograph. They reveal, that the required electrical inertia "J" is provided by incited (glowing) ions, e.g. ions produced by the mixture of salt and mercury. In turn the required magnetic capacitance "P" is provided by a specially shaped resonatory space that deflects magnetic vibrations. This space can be called a "magnetic resonance chamber". (An example of the most simple such a magnetic resonance chamber is the inner volume of a commonly known pyramid.)

The birth and crystallization of the idea of magnetic resonator opens the path for technical implementation of various telepathic devices. This idea allows also theoretical formulation of requirements that the operation of these devices imposes, the development of their mathematical models, etc. Furthermore, it also reveals, that our planet is a natural magnetic resonator that intercepts telepathic vibrations which propagate through it, and which passes these vibrations into organisms of people, animals and vegetation - see subsection D4 in monograph [5/3].

#12. **Utilisation of the Oscillatory Chamber as a telepathic transmitter and receiver**. After I developed the idea of magnetic resonators, I obtained a certainty that the Oscillatory Chamber is just one of them. (This chamber I already suspected for a long time that it is able to send and intercept telepathic signals. After all, it fulfils all the requirements to operate as a telepathic transmitter and receiver.) In this way the idea of magnetic resonators indicated for me the exact manner and principle on which the Oscillatory Chamber can be additionally adopted for functioning as a telepathic transmitter and receiver of an enormous power. The first publishing of the idea of operation of the Oscillatory Chamber as a telepathic transmitter and receiver took place in monograph [3]. Then it was repeated in monographs [3/2], [1/3], [1/3], and now in this monograph.

#13. **The development of design requirements for Oscillatory Chambers of the second and third generations**. It was accomplished during writing monograph [1/2]. In that monograph I placed a significant stress onto emphasizing and exact describing the differences between Magnocraft (and UFOs) which belong to the first, second, and third generations. After all, since we are unable to build these vehicles yet, it is vital for us that we are able to recognise them, if someone uses them in our vicinity. The appearance of Oscillatory Chambers assembled into propulsors of these vehicles, is one of such differences that is visually most easy to notice. In order to realise to the readers of my monograph [1/2], and then also [1/3], what are the differences in appearance of Oscillatory Chambers of subsequent generations, and also differences in appearance of magnetic propulsors that utilise Oscillatory Chambers of these generations, I decided to develop and illustrate graphically their appearance. For this purpose, I firstly needed to formulate mathematically the set of design conditions that subsequent generations of Oscillatory Chambers must fulfil. This set of conditions is described in subsections F7.1.1 and F7.1.2, and also in F7.2.1 to F7.2.3 of this monograph. In turn graphically it is illustrated on Figures F8 and F11. The working out of these conditions took place in 1997, while they were firstly published in monograph [1/2], the copies of which I posted to Poland starting from September 1997. Then they were distributed with all copies of monograph [1/3].

#14. **The development of "prototype spider configurations" formed from cubical Oscillatory Chambers**. The analyses of the principle of operation and technology of production of the configuration of Oscillatory Chambers called "twin-chamber capsules", revealed with the elapse of time, that in first Magnocraft such capsules cannot be used. After all, such capsules are too difficult for a fast technical accomplishing. (E.g. control signals must be supplied in them without wires to an "inner" Oscillatory Chamber, which free-floats inside of an outer Oscillatory Chamber. Thus such signals must break through very concentrated magnetic field of the outer chamber.) Therefore, for use in the first Magnocraft completed on Earth, I developed the design of the so-called "prototype spider configurations". These

prototype spider configurations are much simpler in construction. Thus can easily replace in our first Magnocraft the technically more complicated twin-chamber capsules. The prototype spider configurations were published for the first time in 1998 in monograph [1/3]. In this monograph they are described in subsection F7.2.1.

#15. **The gradual dying out of practical construction works on the Oscillatory Chamber**. For an inventor probably does not exist a worse picture, than to see his invention as it gradually dies out. Unfortunately, such a bitter experience become also my share. The intensive R&D works on the Oscillatory Chamber in years 1984 to 1988, around 1990 started to gradually cease, in order to completely diminish by around 2000. It was around 2000, when the last known to me researcher in Poland, who still carried out practical construction of the Oscillatory Chamber, abandoned his research. At present (means in 2003) no-one is carrying out any practical works on this revolutionary device. It is a huge loss for our civilisation, because the Oscillatory Chamber carries the potential to open for humanity gates to stars, and also to revolutionise every aspect of human lives - for details see subsection F9. The only work on this chamber, that is still continued, is my theoretical research aimed at perfecting the level of our understanding of the design and operation of this device, and on popularisation the idea of it. However, for reasons explained in subsection A4, so-far I seem to be continually blocked from gaining an access to appropriate conditions that would allow me to carry out practical development of this revolutionary device.

* * *

To comment on the above history of the Oscillatory Chamber's invention and evolution to-date, I should emphasize here that this device was invented in the effect of my professional interests that resulted from my job involvements as a lecturer at a Technical University. In a similar manner, all other devices developed by me, descriptions of which are contained in my monographs, were also invented in the result of my professional interests.

While emphasizing the above, I must simultaneously add, that all educational and research institutions in which I ever worked, never approved my research on advanced magnetic devices. Actually, in many cases these Universities or Polytechnics actively fought against this research and persecuted me for carrying them out. In the result of this opposition and persecution, with the elapse of time I was forced to hide from my superiors and professional colleagues the real subject of my scientific research. I was also forced to not disclose my real creative accomplishments in cases of searching for new jobs, and also to undertake job positions that lied much below the level of my real experience, expertise, and creative abilities. In turn the fact of forcing a scientist to carry out his research in conspiracy, documents that the situation at Universities and Polytechnics at the turn of 21 century reached the level of almost a parody of goals for which science and scientists supposed to serve. Therefore a burning issue is piling up, that our scientific institutions must be reformed soon, similarly like after darkness and persecution of medieval time it was necessary to reform religious institutions (more on the topic of this reformation of present science is in subsection H10). The basis of such reform should be the right of totaliztic scientists to freedom of thoughts. This right should be clearly and unambiguously declared not only in constitution documents of Universities and Polytechnics, but also should be observed and respected in practice. This right should state that a "scientist should only be accountable for <u>how productively</u> and creatively he/she works, never for <u>what subject</u> he/she researches. After all, every topic of research in the final count is always serving for the good of society and humanity." As it is known, so far such a right for freedom of thinking is not observed practically, nor even officially declared in constitution documents of numerous Universities or Polytechnics. Therefore scientists instead of "searching and revealing truth independently what this truth turns to be", rather for avoiding problems typically "silence and ignore this truth, which is inconvenient to themselves, or which may offend someone important, dangerous, or noisy" - see items #11 and §11 in subsection JB6. In turn inventors and discoverers, who in reality are the only ones that contribute new developments to our civilisation, instead of being rewarded for this contribution, in reality are punished and practically turned into martyrs.

All inventions and research described in this monograph were earned with great effort, during painstaking research. They required long-term thinking them over, numerous verifications, modifications, and improvements. Their present formulation required my continual familiarizing with the actual level of science and technology in relevant areas, and is the result of a long-term research effort extending for almost my entire productive life (i.e. extending from 1972 until the time of writing this monograph in 2004, that means already for more than 30 years). Thus, it is **not true**, as some people would be inclined to believe, that these numerous inventions appeared instantly in a final form inspired in some miraculous manner or being given to me by some kind of superior beings. Let us hope that as such they are going to be considered as "earned" with a sufficient effort and sacrifices, to be included one day into a permanent accomplishment of our civilisation. (For an explanation what is this "earning" - see the Moral Law of Earning Everything explained in item #3A of subsection I4.1.1 of this monograph.)

F3. <u>The principle of operation of the Oscillatory Chamber</u>

The electric current flowing through a wire is not the only source of a controlled magnetic field. The other well-known source is the phenomenon manifesting the flow of electric energy in its purest form, i.e. an electric spark. There are many different methods for the creation of electric sparks, but the purpose considered here is best served by the so-called "oscillatory circuit with a spark gap". The unique property of such a circuit is its ability to absorb, total and utilize the energy supplied to it. This energy then appears in the form of a gradually diminishing sequence of oscillatory sparks created by the circuit.

The discovery of the oscillatory circuit with a spark gap was achieved in 1845 by the American physicist, Joseph Henry, who noticed that when a Layden jar was discharged through coils of wire, the discharge and a spark were oscillatory. A few years later Lord Kelvin, the great English physicist and engineer, proved mathematically that the discharge in a circuit so constituted must manifest itself in the oscillatory form.

At this point it should be stressed that Henry's circuit was the first circuit discovered on our planet which produced electrical oscillations. Thus its completion had the same revolutionary consequences for our civilization as for example the development of a first steam engine. This is because Henry's circuit provided the foundations for the formulation of a number of scientific disciplines which are based on electric oscillations, such as electronics or cybernetics. Furthermore, the principle of electric oscillations is utilized presently in a vast number of technical devices, for example in radio, television, computers, measuring instruments, and many more. Thus we should honestly recognise and acknowledge that if not for Henry's discovery, our civilization would not be at the level it is now.

F3.1. <u>The electrical inertia of an inductor as the motive force for oscillations in a conventional oscillatory circuit with a spark gap</u>

Figure F1 (a) shows a conventional configuration of the oscillatory circuit with a spark gap, i.e. the configuration discovered by Joseph Henry. The most distinctive characteristic of this configuration is that it is constituted by connecting together into one closed circuit the configuration of three vital elements, i.e. L, C_1 and E, which have the form of separate devices. These elements are: (1) inductor L, containing a long wire wound into many coils, which provides the circuit with the property called an "inductance"; (2) capacitor C_1, whose property, called a "capacitance", allows the circuit to accumulate electric charges; (3) electrodes E, whose two parallel plates E_R and E_L, separated by a layer of gas, introduce a "spark gap" to the circuit.

When the electric charges "+q" and "-q" are supplied to the plates P_F and P_B of the capacitor C_1, this forces the flow of an electric current "i" through the spark gap E and the inductor L. The current "i" must appear in the form of a spark "S" and must also produce the magnetic flux "F". The mechanisms of consecutive energy transformations occurring within the inductor L (which apart from this subsection is also described in numerous books on electronics and physics) causes the spark "S", since once created between electrodes E, to continue oscillating until the energy involved is dissipated.

The oscillatory circuit with a spark gap represents an electric version of the device which produces one of the most common phenomena of nature, an oscillatory motion. The mechanical analogy of this device, well-known to everyone, is a swing. In all devices of that type, the occurrence of oscillations is caused by the action of the Conservation Energy Principle. This principle compels the initial energy provided to such an oscillating system to be bound in a continuous process of repetitive transformations into two forms: potential and kinetic. In the case of an oscillatory circuit the "potential energy" is represented by the opposite electric charges "+q" and "-q" carried within both plates of a capacitor - see Figure F1 (a). The electric potential difference introduced by the presence of these charges causes the flow of an electric current "i" through the circuit. In a swing, the same potential energy is introduced by slanting the arm of it away from the vertical position. As a result, a load (e.g. a swinging child) is raised to a particular height, later forcing its own acceleration down into the equilibrium position. The second from of energy, the "kinetic energy", within the oscillatory circuit manifests itself in the from of a magnetic flux "F" produced by the inductor L. In a swing this kinetic energy appears as the speed of a load's motion.

The mutual transformation of the potential form of energy into a kinetic one, and vice versa, requires the involvement of an agent which activates the mechanisms of energy conversion. This agent is introduced by the element possessing the property called "inertia". Inertia is a motive force maintaining the oscillations within any oscillating system. It works as a kind of "pump" which forces the transformations of energy from a potential form, through a kinetic one, back into a reversed potential form. This "pump" always restores the initial amount of potential energy existing at the beginning of the oscillation's cycle, decreased only by its dissipation occurring during the transformations. Therefore the inertial element is the most vital component of every oscillating system. In the oscillatory circuit its function is performed by the inductor L, whose inductance (expressed in units called "Henry") represents electrical inertia. In the swing, mechanical inertia is provided by the mass of a load (expressed in kilograms). This is the reason why the inductance in the electric oscillations is considered to be the equivalent of the mass from the mechanical oscillations.

To increase mechanical inertia it is necessary to join additional mass to that which is already involved in the energy transformations. The increase of electrical inertia requires the extending of the length of an electric current flow, exposed to the action of its own magnetic field. Practically this is obtained by building an inductor containing many coils of the same wire, closely wound, so that each of them is within the range of the magnetic field produced by the other coils.

Let us review the mechanism of oscillations within the oscillatory circuit shown in Figure F1 (a). We assume that in the initial time t=0 the plates P_B and P_F of the capacitor C_1 carry the opposite electric charges "-q" and "+q", and that the current "i" within the inductor L is zero. At this instant the whole energy of the circuit is stored in the potential form in the capacitor C_1. The opposite charges accumulated on the plates of the capacitor C_1 create an electromotive force which activates the current flow "i". To facilitate the interpretation of the sparks' behaviour, in this publication **the electric current is defined as a movement of electrons from negative to positive**. The current "i" appears on the electrodes E in the form of a spark "S", whereas in the inductor L it produces a magnetic flux "F". As the difference of charges "q" on the plates of the capacitor C_1 decreases, the potential energy stored in the electric field also decreases. This energy is transferred to the magnetic field that appears around the inductor because of the current "i" that is building up there. Thus in the first phase of oscillation,

which we can call the **active** phase, the electric field decreases, the magnetic field builds up and energy is transformed from the potential to the kinetic form flowing from the capacitor C_1 to the inductor L. When all the charge on the capacitor C_1 disappears, the electric field in the capacitor will be zero, and the potential energy stored there will be transferred entirely to the magnetic flux "F" of the inductor L. The electromotive force which before caused the current "i" to flow is now eliminated. But the current in the inductor continues to transport the negative charge from the P_B plate of the capacitor C_1 to the P_F plate, because of the electrical inertia. This inertia preserves the current "i" (therefore also the spark "S") from extinction and maintains its flow at the cost of the kinetic energy contained in the magnetic field. Thus in this second phase of oscillation, which we can call the **inertial** phase, energy now flows from the inductor L back to the capacitor C_1 as the electric field there builds up again. Eventually, the energy will have been transferred back completely to the capacitor C_1. After this transfer is completed, at the time $t=(1/2)T$ the situation reached now is like the initial situation at the time $t=0$, except that the capacitor is charged in the reverse way. In the next phase of oscillation the capacitor will start to discharge again, and the whole process will repeat itself, this time in the opposite direction. After the time $t=T$ (where "T" is the so-called "period of pulsations" of a given circuit) the situation returns to the original state as it was at the moment $t=0$. Thus once started, such oscillations continue until the resistance of this process dissipates the energy involved.

F3.2. <u>In the modified oscillatory circuit with a spark gap, the inductance of a stream of sparks replaces the electrical inertia of an inductor</u>

It is known that an electric spark alone introduces a high electric inertia. Therefore a spark is able to replace the inductor in providing the inductance to the oscillatory circuit. But there are two conditions of such a replacement, i.e. (1) that the spark must possess the appropriate active length, and also (2) that its path must follow a course within the range of its own magnetic field. To achieve both these conditions, it is impossible to repeat the solution used in the inductor, for the simple reason that an electric spark is reluctant to wind itself into the form of consecutive coils. However, the same effect can be achieved in another way. **The required inductance can be supplied by a whole stream of sparks jumping simultaneously along parallel paths**. Each single spark in such a stream will be the equivalent of one coil of wire within an inductor. Therefore, if the number of sparks reaches the required level, all sparks will together provide the necessary inductance to the circuit.

Figure F1 (b) shows the author's modified version of the oscillatory circuit with a spark gap, which makes use of the electrical inertia of the stream of parallel jumping sparks. The most distinctive characteristic of this version is that all three vital components of Henry's circuit, i.e. inductance L, capacitance C_1 and spark gap E, are now provided by a single physical device, which simultaneously performs three different functions. The modified device consists of only a couple of conductive plates P_F and P_B, attached to the inner surfaces of two opposite walls of a cubical chamber made of an electric insulator and filled with a dielectric gas. Each of the plates is divided into a number of small segments each insulated from the other (in the diagram marked by 1, 2, 3, ..., p). Each pair of facing segments marked by the same number, e.g. "3" or "p", forms a single elementary capacitor. In turn, after receiving a sufficient electric charge, this capacitor transforms itself into a couple of electrodes exchanging the electric spark, e.g. "S_3" or "S_p". The total number of all electric sparks jumping simultaneously in the form of a single compact stream provides the device with the required inductance.

To summarize the modification described above, one can say that the three separate devices, each of which has provided the conventional circuit with one selected property, are now replaced by the single device (i.e. a pair of plates each subdivided into a number of small segments) simultaneously providing all three vital properties, i.e. L, C and E.

If the principle of operation of this modified oscillatory circuit is considered, it becomes obvious that it is identical to Henry's circuit. After all segments of both plates are uniformly charged, the potential energy of the circuit is built up. When the difference of potentials between plates overcomes the breakdown value "U", the discharge is initiated. This discharge will take the form of a stream of parallel sparks S_1, S_2, S_3, ..., S_p, joining segments of the plates which face each other. Thus in the first, **active** phase of the oscillations' cycle, the magnetic field produced by these sparks will gradually absorb the energy stored initially within the electric field. When both plates P_F and P_B reach the equilibrium of potentials, the electrical inertia of sparks will continue the transmission of the charge between them, transforming the kinetic energy contained within the magnetic field back into the potential energy of the electric field. Therefore at the end of the second, **inertial** stage of the oscillation of sparks, the plates will again contain the initial charge, but of the opposite kind. Then the whole process repeats itself but in the reverse direction. If the slight dissipation of energy occurring in this device is somehow compensated for, the process described above will be repeated endlessly.

Operation of the modified oscillatory circuit liberates all the electric phenomena from material ties. In effect the electric current does not need to flow through a wire and its value is not the subject of limitation by the properties of the materials used. Also the electric phenomena are exposed to a controlling action that allows them to be channelled into the desired course. These are very important achievements, and as will be proved later, they are the source of many of the advantages of this device.

The sequence of sparks that oscillate in the device shown in Figure F1 (b), will produce an alternating magnetic field. Because the stream of sparks follows the same path in both directions, this field will also be a vortex - similar to that formed around a segment of a straight wire (i.e. have all force lines lying on parallel planes). Such a field will not display clear polarity, because its magnetic poles N and S are not fixed. To create a bipolar magnetic field with the steadily positioned magnetic poles N and S, it is necessary to continue one step further in the development of this modified oscillatory circuit.

F3.3. <u>The combining of two modified circuits forms an</u> "Oscillatory Chamber" <u>producing</u> <u>a bipolar magnetic field</u>

The final form of the circuit considered here is shown in Figure F1 (c). This is the form to which the name "Oscillatory Chamber" has been ascribed. The Oscillatory Chamber is constituted by combining together two circuits indicated as C_1 and C_2, both identical to the one presented in the previous subsection and illustrated in Figure F1 (b). Therefore it consists of four segmented plates, i.e. twice as many as in the modified oscillatory circuit in Figure F1 (b), indicated as P_F, P_B, P_R and P_L (i.e. front, back, right and left). Each of these plates contains the same number of segments "p", and faces the other identical plate, together with this other plate forming one of the two cooperating oscillatory circuits. Both of these circuits produce the four streams of sparks marked as S_{R-L}, S_{F-B}, S_{L-R}, and S_{B-F}, which oscillate between opposite plates. These sparks appear in succession, one after the other, having the mutual phase shift between them equal to one quarter ($^1/_4$) of a period "T" of their entire sequence of pulsations (i.e. "$(^1/_4)T$").

Before the mechanism of the discharges in this final configuration is analyzed, we should remind ourselves of the action of the electromagnetic containment forces which will try to deflect the sparks away from the range of the bipolar magnetic field. They are the same forces which cause the explosion of coils in powerful electromagnets (we already discussed them in item #1 of subsection F1). In the case of the Oscillatory Chamber, these forces will push the stream of sparks against the left plate along which the discharge occurs. For example all sparks within the stream S_{R-L} jumping from the plate, let say, P_R to the plate P_L will be pushed to the surface of the plate P_F (at this moment the plate P_F increases its own negative charge). For this reason the individual sparks forming consecutive streams S_{R-L}, S_{F-B},

S_{L-R}, and S_{B-F}, instead of crossing the paths of the other sparks, will bend themselves towards the left walls of the chamber and produce a kind of orderly rotating arc. Notice that the plate along which the sparks are jumping is prevented from being entered by them. This prevention mainly depends on the formation of the plate from a large number of small segments (needles), each insulated from the other, and therefore the resistance against conduction along the plate is not less than the resistance of the discharge through the dielectric gas in the chamber.

Let us assume that the initial charging of the Oscillatory Chamber is provided in such a way that at the moment of time t=0 the stream of sparks marked as S_{R-L} will occur first, and then after a period of time equal to t = $(^1/_4)$T - the stream S_{F-B} will follow (compare part (c) of Figure F1 with part (a) of Figure F4). Let us also assume that right from this initial time t=0, along the vertical (magnetic) axis "m" of the chamber already prevails the magnetic flux "F" produced by this device. This flux pushes sparks against the wall located at their left sides. After the initial charging of the C_2 capacitor, at the time t=0, the **active** stream of sparks S_{R-L} will appear, which will jump from plate P_R to plate P_L. These sparks produce their own magnetic flux "ΔF" which is totalled to the flux "F" already existing in the chamber. The flux "F" bends the paths of all these sparks, pushing them close to the surface of their left plate P_F. At time t = $(^1/_4)$T the potentials of plates P_R and P_L reach an equilibrium, but the inertia of sparks S_{R-L} still continues transporting charges from P_R to P_L, at the cost of the kinetic energy accumulated in the magnetic field. Thus the stream S_{R-L} enters its **inertial** stage. At the same instant (t = $(^1/_4)$T) the operation of the second circuit begins, and the active jump of the S_{F-B} stream of sparks is initiated. Similarly this stream produces its own magnetic field "ΔF" which adds to the entire flux "F" already prevailing in the chamber. The flux "F" pushes sparks against the surface of the plate P_L located on their left side. So in the timespan t = $(^1/_4)$T to t = $(^2/_4)$T = $(^1/_2)$T, there are two streams of sparks present in the chamber (S_{R-L} and S_{F-B}), the first of which (inertial) transfers energy from the magnetic to the electric field, whereas the second (active) one transfers energy from the electric to the magnetic field. At time t = $(^2/_4)$T = $(^1/_2)$T the plates P_L and P_R reach a difference of potentials equal to the initial one (at t=0), but with the opposite location of charges. Therefore the stream of sparks S_{R-L} disappears, whereas the stream S_{L-R} jumping in an opposite direction is now initiated. This stream is pushed by field "F" to the surface of plate P_B. At the same instant (t = $(^2/_4)$T = $(^1/_2)$T) the plates P_F and P_B reach the equilibrium of potentials, so that the stream of sparks S_{F-B} passes into its inertial stage. In the timespan t = $(^2/_4)$T = $(^1/_2)$T to t = $(^3/_4)$T there are again two streams of sparks, i.e. S_{F-B} and S_{L-R}, the first of which - inertial consumes the magnetic field, whereas the other - active produces it. At the instant t = $(^3/_4)$T the sparks S_{F-B} disappear and the sparks S_{B-F} are formed (pushed against plate P_R), whereas the sparks S_{L-R} are passing into their inertial stage. At time t = $(^4/_4)$T = 1T the sparks S_{L-R} also disappear and the sparks S_{R-L} are created (pushed against the plate P_F), whereas the sparks S_{B-F} pass into their inertial stage. With this the whole cycle of the sparks' rotation is closed, and the situation at time t = $(^4/_4)$T = 1T is identical to the one at the initial moment t=0. The process that follows will be a repetition of the cycle just described.

The above analysis of the sequence and paths of the sparks reveals a very desirable regularity. The streams of sparks turn into a kind of electric arc combined from the four separate segments. This arc rotates around the inner perimeter of the Oscillatory Chamber. Such a process, in accordance with the rules of electro-magnetism, must produce a strong, pulsating, bipolar magnetic field. The obtaining of such a field crowns the long and difficult search for the new method of the magnetic field production presented here.

F3.4. <u>Needle-shaped electrodes</u>

The design of the Oscillatory Chamber described above was the first design that I ever published. However, the further research and development on this device revealed that this design is difficult to complete because of the plate-shaped electrodes that the design initially

proposed. As this is explained in item #7 of subsection F2, the plate-shaped electrodes incline electricity to flow along "short cuts", instead of flowing as this electric charges supposed to flow according to the operation of the chamber - see **Figure F2**.

In the result of further experimental research it was possible to establish, that the use of needle-shaped electrodes (instead of plate-shaped ones) eliminates this problem - see part "b" in Figure F2. Therefore, in the further parts of this chapter, by electrodes of the chamber one should understand needles sticking towards interior from walls of the chamber, and fulfilling all the functions that during the explanations of the principles of chamber's operation were imposed onto flat-segments of plate electrodes. (In spite of the introduction of needle electrodes, for the simplification of discussion the flat segments of plate electrodes are maintained in the initial explanations from this chapter. After all, they form in the mind of the reader an illustrative system of understanding, based on the traditional vision of capacitors as two flat plates parallel to each other.)

F4. <u>The future appearance of the Oscillatory Chamber</u>

It is not difficult to satisfy the requirements of the Oscillatory Chamber for construction materials. This device can be made of practically anything, provided that its housing is a good electric insulator and its electrodes made of good electric conductors. Moreover, all parts should be magnetically neutral, as in the case of using for example steel it would be destroyed with the magnetic field produced by this device. So even ancient materials available thousands of years ago, such as wood and gold, can be used. If made out of these ancient materials, the Oscillatory Chamber would look like an ordinary wooden box or cube. Its appearance would not indicate its hidden power.

At our present level of technological development there are available transparent nonconductors, which are also excellent robust construction materials and are magnetically neutral. One of the most frequently used examples of them is an ordinary glass or plexiglass. If the housing of the chamber (i.e. all six walls) were made of glass, it would reveal to the observer the processes occurring in the interior of this device, e.g. the jumps of electric sparks, the density of energy, the operation of control devices, etc. Contemporary electronics has also created a high demand for transparent conductors, which can already be found in some watches and calculators. The quality of these conductors will gradually improve and we may soon expect their properties to be comparable to those of metals. Let us assume that the Oscillatory Chamber will be made wholly of such transparent materials (i.e. both conductors and nonconductors). Therefore the casual observer of the chamber in operation will notice a typical "crystal" lying in front of him/her. It will take the form of a shiny transparent cube nicely cut from a glassy material - see **Figure F3**. Along the inner surfaces of the plain side walls of this crystal cube, bright gold shimmering sparks will flash. Although these sparks will flicker, they will appear to be frozen in the same positions. From time to time they will make rapid movements like tumbleweed of sleeping fiery snakes. Their paths will closely follow the inner surface of the side walls, because of the electromagnetic containment forces pushing the sparks against the sides of the chamber. The inside of the cube will be filled with a dielectric gas and an extremely concentrated magnetic field. This field, when observed from the direction perpendicular to its force lines, will be impenetrable to light, looking like dense black smoke which fills the interior of this transparent crystal.

It is very noticeable in any scientific exhibition or "open day" in a laboratory, that when a demonstrator starts up an apparatus producing sparks, for example a Tesla coil, an Induction coil or a Van de Graaff machine, spectators irresistibly gravitate towards the display. Claps of thunder and lightning flashes have always possessed a kind of mysterious, hypnotic power which acts on everyone and which provides memorable experiences. The power emanating from inside the Oscillatory Chamber will similarly capture the attention and imagination of people witnessing it. Future observers of the operation of this device will have the impression

that they are facing an unknown living creature, absorbed in the fulfilment of its own fascinating and mysterious physiological functions, rather than seeing a piece of machinery engaged in its ordinary process of operation. The wealth of energy, trapped, curbed and waiting within the walls of the chamber will fascinate witnesses, leaving them with a multitude of vivid impressions, indelibly etched on their memories.

Observing this transparent cube, one will find it difficult to imagine that to reach the point of its creation, this device, so simple in structure, required the accumulation of over 2000 years of human knowledge and experience.

F4.1. Three generations of the Oscillatory Chambers

The analysis of the principles of the Oscillatory Chamber reveals that the operation of this device does not require the implementation of a strictly cubical shape. For example, the principle of operation of chambers of the first generation can also be implemented in an elongated square box, which only in the plane of sparks' rotation must have a square cross-section. However, because a cubical shape is the most typical for the first generation of these devices – see subsection F7.1.2, for simplicity of deductions in this publication only the cubical shape is considered. But in a similar way as in a cube, this operation can also be executed in a number of other shapes. Thus approximately at the same time as the **cubical chamber**, a **rectangular chamber** in the shape of a square bar will probably be completed on Earth as well. It will consist of four rectangular side walls of identical dimensions and two square front walls (top and bottom) of identical dimensions. The best example of application of such a chamber is the main chamber (M) in the spider configuration shown in Figure F9. Because the cubical and rectangular chambers will be firstly build on our planet, they will be called here the "**chambers of the first generation**". The main design condition for all chambers of the first generation is that their cross-section in a plane perpendicular to the magnetic axis "m" must be a square. Thus we can call them also the "**square chambers**".

The appearance of all chambers of the first generation will be similar. As this has already been described in the previous subsection, they will all make an impression of transparent crystals, square in the cross-section along the plane of their sparks' rotation. The interior of these crystals is to be filled with gold sparks looking like if they are frozen in their flickering, as well as with dense magnetic field resembling a black smoke.

Oscillatory chambers of the first generation are capable of fulfilling an enormous number of different functions. The brief discussion of these functions is presented in a separate subsection F9. In order to give here some idea about their diversity, for example such chambers are capable to accumulate and store unlimited amounts of energy. Thus, on our planet they will completely eliminate present power-lines and electricity transformers. If they are used for propelling Magnocraft, these chambers will produce lifting, thrusting, and manoeuvring forces. They will lift selected objects to the Magnocraft's deck (i.e. they will act as effective magnetic cranes, or as devices for remote lifting – see also subsection G7.3). They will accumulate Magnocraft's entire energy resources (i.e. work in the Magnocraft as a kind of huge "fuel tanks"). They will emit beams of light, that are to light up selected areas under the flying Magnocraft (like huge torches – see also subsection G1.3). They will maintain required temperatures in Magnocraft's cabins (i.e. act as air-conditioners – see subsection H6.1.3, F6.3 and G1.4). In more advanced versions these chambers will be used for maintaining telepathic communication (see subsection G1.5). Of course, they will also be used for to a huge number of further functions, the explanations of which would require much longer descriptions.

Unfortunately, at a certain level of development of our civilization, the chambers of the first generation will become insufficient to fulfil all the requirements imposed on them. Especially two factors become decisive, namely (1) the need to effectively fill up these chambers with energy, and (2) building of telekinetic vehicles which will impose totally new requirements concerning the much more strict control over the "variation in time" of the field

pulsations produced by them. (By the "variation in time" one should understand the mathematical function "F = f(t)" which expresses the changes of magnetic flux "F" as depending on the elapse of time "t" - e.g. see Figure F7.) In order to satisfy these further requirements the building of a new, second generation of the Oscillatory Chambers must be initiated.

Oscillatory chambers of the second generation are these ones which are capable of generating the Telekinetic Effect inside of themselves. This effect is going to furnish them with attributes that previously were not available in chambers of the first generation, namely with (1) ability to self-initiate their oscillations thus working as effective telekinetic batteries that fill up themselves with magnetic energy – for details see descriptions from subsections K2.4 and L1, and (2) ability to produce telekinetic motion thus working e.g. as telekinetic propulsors in Magnocraft of the second generation – for details see subsections B1, L1, and M6. The first of these attributes can already be introduced into Oscillatory Chambers with a square cross-section – see stage 10 of the developmental procedure described in subsection F8.2. But it can already be foreseen that the formation of telekinetic motion introduces special control requirements, the fulfilment of which is to force that chambers of the second generation must implement their principles of operation in an octagonal shape. Such **octagonal chambers** will consist of eight rectangular side walls of identical dimensions and two identical front walls (top and bottom) shaped into equilateral octagons. Unfortunately the control over these chambers and the technical problems with their construction will be many time more complex than those involved into the development of chambers of the first generation. Therefore their development will be possible only when we reach much higher level of our development, long after the construction and control of ordinary chambers of the first generation is mastered. However, the octagonal chambers will produce the magnetic field the characteristics of which will be much more precise from the field produced by the square chambers. For example, the constant magnetic field produced by the twin chamber capsule formed from two such octagonal chambers will be much more "constant" than the constant field produced by an ordinary capsule formed from two square chambers (for the justification see the impact the increased number of segments in a Fourier equation has on the resultant value from such an equation).

Oscillatory chambers of the second generation will form the Telekinetic Effect, will produce telekinetic tractor beams (see description from subsection H6.2.1), and also will work as telekinetic batteries that fill up themselves with magnetic energy. They will also be capable of generation of another advanced phenomena. Namely, they will be able to work as highly efficient telepathic transmitters and receivers, capable of providing their users with instant telepathic communication to even the most distant corners of the universe. Principles of such their operation can be worked out after analyses of subsections H7.1 and N2 of this monograph.

The Oscillatory Chambers of the second generation will have a similar appearance to chambers of the first generation, only that their geometry will be slightly different. They will look like transparent crystals shaped into octagonal bars, with all eight side walls of equal sizes and dimensions. Their appearance is shown in part (b) of Figure F3. Similarly to the chambers of the first generation they will be filled with golden sparks rotating around their inner peripherals (i.e. around the octagonal frontal walls) and with powerful magnetic field which will look like a black smoke.

After chambers of the second generation the turn in completion will come into **chambers of the third generation**. These will also look similarly to the previous ones. At the moment it is possible to deduce that their operation will be implemented in the **"sixteen-sided chambers**. These chambers will take the shape of bars containing sixteen identical rectangular side walls, plus two identical frontal walls shaped into equilateral "sixteen-sided" figures. Their development should be started when our civilization initiates the building of time vehicles.

Oscillatory chambers of the third generation will be able to form a complete range of phenomena presented in this monograph. Apart from the capability to change the natural elapse of time, they will be able to form the Telekinetic Effect, to work as devices for remote telekinetic "beaming up", to work as telekinetic batteries, and also to provide telepathic communication with any corner of the universe. In addition to all these, they will be capable of formation of all effects generated by Oscillatory Chambers of the first generation (e.g. forces of magnetic repulsion and attraction, lighting up like huge torches, thermal air-conditioning of crew cabins, etc.).

Oscillatory Chambers of the third generation will be slightly similar in appearance to chambers of the first and second generation. But their geometry will be different. Namely they will assume the form of a transparent crystal shaped into a regular sixteen-sided figure, instead – as in case of Oscillatory Chambers of the first and second generation – cubical or octagonal crystals. After not-too-thorough examination they will make an impression of almost a round cylinder, the diameter of which is equal to its height, i.e. D = H (see Figures F3, F8, and F11). Again, because of the design and use conditions described in subsection F7.1.2, the proportions of dimensions D/H in typical such chambers will be strictly defined and equal to D/H = 1 (see part (3s) in Figure F8). Similarly like chambers of the first and second generation, also Oscillatory Chambers of the third generation will be filled up with electric sparks that rotate around magnetic axis of these chambers (i.e. around peripherals of their sixteen-sided frontal walls). Only that electric sparks which rotate around peripherals of chambers of the third generation will be even more uniform, delicate, and equally spaced as sparks in chambers of the second and first generations.

* * *

From the deductions provided above it should be obvious that the external shape a given Oscillatory Chamber takes is the direct indicator of the level of advancement reached by the civilization which has completed it. Thus it is vital for us to know about these shapes, as they allow us to identify the level of technological advancement that a given civilization represents, and also the principles utilized for flights in the vehicles build by this civilization (i.e. if these vehicles operate in the magnetic, telekinetic, or time travel convention - see subsections M6, and T1 to T4).

F5. <u>Mathematical model of the Oscillatory Chamber</u>

Our present knowledge of magnetic and electric phenomena enables us to deduce the equations expressing the values of the resistance, inductance and capacitance of the Oscillatory Chamber. Further combination of these equations will lead to the prediction of the behaviour of this device.

This subsection is just intended to describe the Oscillatory Chamber in such language of mathematics. Therefore it supplies the vital interpretative foundations for all the researchers experimenting with this device. Unfortunately for the readers less oriented towards mathematics, it may spoil the pleasure of familiarizing themselves with the content of this monograph. For this reason, those readers who experience a revival of sleepiness each time they encounter a mathematical equation are recommended to shift from this point directly into the beginning of subsection F6.

F5.1. <u>Resistance of the Oscillatory Chamber</u>

The general form of the equation for the resistance of any resistor of cross-section "A" and length "l" is as follows:

$$R = \Omega*(l/A)$$

In this equation the "Ω" represents the resistivity of a material from which the resistor is made. In our case it will be the maximal resistivity of the dielectric gas that fills the Oscillatory Chamber, determined for the conditions of the initial moment of electric breakdown. In turn **operators "*" and "/" adopted from computer programming, mean "multiply" and "divide"**.

If in the above general equation, we replace the variables by the specific parameters determined for the Oscillatory Chamber, i.e. l=a and A=a² (compare with Figure F1 "b"), this gives:

$$R = \Omega/a \hspace{10cm} (F1)$$

The equation (F1) received here represents the resistance of the Oscillatory Chamber, which is a function of the chamber's side wall dimension "a".

F5.2. Inductance of the Oscillatory Chamber

The determination of the chamber's inductance is an extremely difficult and complex task. Completing it with total accuracy is beyond the author's knowledge of the subject. Also a number of experts consulted in this matter were unable to help. (Perhaps some of the readers know how to resolve this problem - in such a case the author would warmly welcome a review of their deductions and the final equation they derived.) Being unable to find the exact solution, the author decided to apply temporarily a simplified one. To justify this simplification it should be stated that the deducted equation (F2) for the value of inductance will be used only once in the entire monograph, when the meaning of factor "s" (see (F5)) is interpreted. Therefore all the vital equations in this work remain unaffected.

In the simplified deductions of the chamber's inductance an **assumption** is made that a unitary inductance of a stream of sparks (i.e. the inductance related to the unit of a spark's length) will be equal to the inductance of the equivalent strand of wires. This assumption allows for the application of a well-known equation for the inductance of a solenoid (see the book **[1F5.2]** by David Halliday et al, "Fundamentals of Physics", John Willey & Sons, 1966):

$$L = \mu * n^2 * l * A$$

When in this equation we substitute: n=p/a, l=a, and A=a² (where "p" is the number of segments in each of the chamber's plates, whereas "a" is the dimension of the chamber's walls), the simplified equation for the inductance of the Oscillatory Chamber is derived:

$$L = \mu * p^2 * a \hspace{10cm} (F2)$$

It can be theoretically asserted that the unitary electrical inertia of a stream of sparks should be greater than such an inertia in the equivalent strand of wires. The justification for this assertion can be obtained from the analysis of the inertia mechanism. The inertia reveals itself only when the motion involves the reversible phenomena or media which absorb energy in the initial stage of the motion's development, and which release this energy when the motion declines. The greater the number of such phenomena and media involved, and the higher their energy absorption, the larger is the resultant inertia. The stream of sparks jumping through gas in every aspect manifests better potentials for causing an inertia higher than the one of a current flowing through wires. The first reason for this lies in the more efficient energy absorption and releasing by sparks, occurring because:

a) The speed of electrons in a spark can be higher than in a wire,

b) The contiguous sparks can pass closer to each other because they do not require thick insulation layers in between them (as is the case for wires).

The second reason for the higher inertia of sparks in gas results from them involving a variety of reversible phenomena - not appearing at all during flows of currents through wires. These are:

c) The ionization of surrounding gases. This, due to the returning of the absorbed energy, supports the inertia of the process at the moment of the sparks' decline.

d) The motion of heavy ions, whose mass absorbs and then releases the kinetic energy.

e) The initiation of hydrodynamic phenomena (e.g. dynamic pressure, rotation of the gas) which also will be the cause of the charges' dislocation and energy return at the moment of the sparks' decline.

The above theoretical premises should not be difficult to verify by experiments described in subsection F8.2 (e.g. stage 1c).

F5.3. <u>Capacitance of the Oscillatory Chamber</u>

When we use the well-known equation for the capacitance of a parallel-plate capacitor, of the form:

$$C = \varepsilon * A / l$$

(where "ε" is the dielectric constant of this capacitor, "A" is the surface area of electrodes, while "l" is the distance between these electrodes), and when we apply the substitutions: $A = a^2$, $l = a$, this yields the final equation for the capacitance "C" of a cubical Oscillatory Chamber:

$$C = \varepsilon * a \tag{F3}$$

(i.e. the capacitance "C" of a cubical Oscillatory Chamber is equal to the value of the dielectric constant "ε" for the dielectric gas that fills this chamber, multiplied by the side dimension "a" of this chamber).

F5.4. <u>The "sparks' motivity factor" and its interpretation</u>

Each of the equations (F1), (F2) and (F3) describes only one selected parameter of the Oscillatory Chamber. On the other hand, it would be very useful to obtain a single complex factor which would express simultaneously all electromagnetic and design characteristics of this device. Such a factor is now introduced, and will be called a "sparks' motivity factor". Its defining equation is the following:

$$s = p * (R/2) * \sqrt{(C/L)} \tag{F4}$$

Notice, that after expressing this in the notation of computer languages, in which the symbol "*" means multiplication, the symbol "/" means division, the symbol "+" means addition, the symbol "-" means subtraction, while the symbol "sqrt()" means the square roof from the parameter provided in brackets "()", the above equation (F4) takes the following form: s = p*(R/2)*sqrt(C/L).

Notice that, according to the definition, this "s" factor is dimensionless.

Independently from the above defining equation (F4), the "s" factor has also an interpretative description. This is obtained when in (F4) the variables R, L and C are substituted by the values expressed by equations (F1), (F2) and (F3). When this is done, the following interpretative equation for "s" is received:

$$s = (1/(2a))\Omega\sqrt{(\varepsilon/\mu)} \qquad\qquad\qquad (F5)$$

Notice, that after expressing this in the notation of computer languages, in which the symbol "*" means multiplication, the symbol "/" means division, the symbol "+" means addition, the symbol "-" means subtraction, while the symbol "sqrt()" means the square roof from the parameter provided in brackets "()", the above equation (F5) takes the following form: s = (1/(2*a))*Ω*sqrt(ε/μ).

Equation (F5) reveals that the "s" factor perfectly represents the current state of all environmental conditions in which the sparks occur, and which determine their course and effectiveness. It describes the type and consistency of the gas used as a dielectric, and the actual conditions under which this gas is stored. It also describes the size of the chamber. Therefore the "s" factor constitutes a perfect parameter which is able to inform exactly about the working situation existing within the chamber at any particular instant in time.

The value of the "s" factor can be controlled at the design stage and at the exploitation stage. At the design stage it is achieved by changing the size "a" of a cubical chamber. At the exploitation stage it requires the change of the pressure of a gas within the chamber or altering its composition. In both cases this influences the constants Ω, μ and ε, describing the properties of this gas. (Note that constants "Ω", "μ", and "ε", are: Ω = resistivity of a dielectric gas within the chamber determined at the moment of electric breakdown in [Ohm*meter], μ = magnetic permeability of a dielectric in [Henry/metre], ε = dielectric constant for a gas filling the chamber in [Farad/metre].)

F5.5. Condition for the oscillatory response

From the electric point of view the Oscillatory Chamber represents a typical RLC circuit. The research on Electric Networks has determined for such circuits the condition under which, once they are charged, they will maintain the oscillatory response. This condition, presented in the book **[1F5.5]** by Hugh H. Skilling, "Electric Network" (John Willey & Sons, 1974), takes the form:

$$R^2 < 4*L/C$$

If the above relation is transformed and then its variables are substituted by the equation (F4), it takes the final form:

$$p > s \qquad\qquad\qquad\qquad\qquad (F6)$$

The above condition describes the design requirement for the number "p" of segments separated within the plates of the Oscillatory Chamber, in relation to the environmental conditions "s" existing in the area where the sparks appear. If this condition is fulfilled, the sparks produced within the Oscillatory Chamber will acquire an oscillatory character.

To interpret the condition (F6), a possible range of values taken by the factor "s" should be considered (compare with the equation (F5)).

F5.6. The period of pulsation of the chamber's field

From the RLC circuits we know that the period of their oscillations is described by the equation:

$$T = \frac{2 \cdot \Pi}{\sqrt{\frac{1}{L \cdot C} - (\frac{R}{2 \cdot L})^2}} = 2 \cdot \Pi \sqrt{\frac{L \cdot C}{1 - \frac{R^2 C}{4 \cdot L}}} \quad 0$$

Notice, that after expressing this in the notation of computer languages, in which the symbol "*" means multiplication, the symbol "/" means division, the symbol "+" means addition, the symbol "-" means subtraction, the symbol "x**2" means "x" to the power of "2", while the symbol "sqrt()" means the square roof from the parameter provided in brackets "()", the above equation takes the following form:
T = (2*π)/(sqrt(1/(L*C) - (R/(2*L))**2) = 2*π*sqrt(L*C/(1 - ((R**2)*C)/(4*L))).

If the defining equation (F4) on the factor "s" replaces in the above a combination of R, L, and C parameters, whereas equation (F1) and equation (F3) provide the values for R and C, then this period is described as:

$$T = \frac{\Pi \cdot \frac{P}{s} \cdot \Omega \cdot \varepsilon}{\sqrt{1 - (\frac{s}{p})^2}} \quad 0 \tag{F7}$$

Notice, that after expressing this in the notation of computer languages, in which the symbol "*" means multiplication, the symbol "/" means division, the symbol "+" means addition, the symbol "-" means subtraction, division, while the symbol "sqrt()" means the square root from the parameter provided in brackets "()", the equation (F7) takes the following form: T = (π*(p/s)*Ω*ε)/sqrt(1 - (s/p)**2).

The final equation (F7) not only illustrates which parameters determine the value of the period of pulsations "T" in the Oscillatory Chamber, but also shows how the value of "T" can practically be controlled. Thus this equation will be highly useful for the understanding of the amplifying control of the period "T" of field pulsation described in subsection F6.5.

If we know the period "T" of chamber's field pulsations, then we can easily determine the frequency "f" of pulsations of this field. The well known equation linking these two parameters is as follows:

f = 1/T $\qquad\qquad\qquad$ (F8)

Of course, according to the above equation (F8), the control over the frequency "f" of the field's pulsations will be achieved via influencing the value of the period "T" of this field pulsations.

F6. How the Oscillatory Chamber eliminates the drawbacks of electromagnets

The operation of the Oscillatory Chamber is formed in such a way that all drawbacks significant for electromagnets are completely avoided in this device. The descriptions that follow present the principle of elimination for each inherent disadvantage of electromagnets listed and briefly discussed in items #1 to #5 of subsection F1.

F6.1. Mutual neutralization of the two opposite electromagnetic forces

One of the most significant drawbacks of electromagnets is the deflecting force formed in their coils (which was already described in item #1 of subsection F1). In the final effect this force leads to the explosion of electromagnets if they exceed a certain (and not very high) threshold value. In the Oscillatory Chamber this dangerous force is completely neutralized. This is because the unique operation of the Oscillatory Chamber leads to the formation of two reciprocally counter-acting forces: (1) the Coulomb's attraction force, and (2) the electromagnetic deflecting force (i.e. the same one which tended to explode electromagnets).

Both these forces, acting one against the other, mutually neutralize themselves. This subsection is to explain the principles on which this mutual neutralization of forces is achieved.

The Coulomb forces are created in the effect of mutual attraction of opposite electric charges, which are accumulated on the facing walls of the chamber. They cause the formation of electrostatic forces that compress this device inwards, trying to squash it. In turn the electromagnetic containment forces are created by the interaction of the magnetic field and the sparks. They cause the tension of the Oscillatory Chamber outwards. Therefore it is possible to select the design and operational parameters of this device, so that both kinds of forces mentioned above will mutually neutralize each other. As the final result, the physical structure of the chamber is liberated from the obligation to oppose any of these two forces.

Figure F4 presents the mechanism of reciprocal compensation of these two interactions described above. For simplicity, all the courses of phenomena within the chamber are shown as linear, independently of how they occur in reality. But it should be noticed that these phenomena are symmetrical. It means that, for example, if the current in the sparks changes in a particular way, the potentials on the plates must also change in exactly the same way. Therefore the variation in time of the forces analyzed here will display some kind of an inherent regulation mechanism, in which the course (not the quantity) of the first phenomenon always follows the course of the other phenomenon opposite to this first one. In this way, independently what is the real variation in time of the force interactions described here, the principle of mutual neutralization explained here on the example of linear course will also be valid for all other variations which may occur in reality.

Part (a) of Figure F4 shows the four basic phases forming the full cycle of the chamber's operation. The description of these phases is already provided in subsection F3.3 of this chapter. Significant for each phase is that two streams of sparks co-exist, the first of which (in the Figure F4 (a) indicated by the continuous line) transmits energy from the electric field into the magnetic field (**active** sparks). The second stream (in the diagram indicated by a broken line) in this instant consumes the magnetic field to produce the electric field (**inertial** sparks).

Part (b) of Figure F4 illustrates the relevant changes of electric charges "q" on the R (right), L (left), F (front) and B (back) plates of the chamber, occurring during each phase of the device's operation. These charges create the Coulomb's forces that attract the facing plates inwards. In this part of the diagram it is visible that, when one pair of plates reaches the maximum of its potentials differences - initiating a discharge between them, the other pair is just in its equilibrium of potentials. Then simultaneously with the growth of the discharge current flowing between this first pair of plates, the opposite charges on the other pair of plates also grow. Thus the containment forces that tense the chamber outwards are growing accordingly with the value of the discharge current. On the other hand the Coulomb's force of the reciprocal attraction of these other facing plates is growing as well, together with the quantity of opposite electric charges accumulated on them. So as the result both counter-acting kinds of forces are growing at the same pace.

Part (c) of Figure F4 shows the changes in the electromagnetic containment forces $M=i \cdot a \cdot B$, trying to push out the particular sparks from the field's range. Because these forces are proportional to the product of the sparks' current "i" and the magnetic flux density B, where $B=F/(a \cdot a)$, the maximum of the chamber's tension will occur at the instant of time when the discharging plates reach the equilibrium of their potentials. At this same instant of time the other pair of plates, along which the discharge occurs, reaches the maximum of potentials difference (compare with part (b) of this diagram) as well as the maximum force of their reciprocal compression. Thus in the maximums both kinds of forces also mutually compensate each other.

In part (d) of Figure F4 the mechanism of mutual compensation of the forces described above is shown. The upper side of this diagram presents the changes in the tension forces "T" which try to pull the Oscillatory Chamber apart. These forces are caused by the interaction of the magnetic field and the current from the sparks (compare with part (c) of this Figure). The

lower side of diagram (d) presents the changes in the compression forces "C". This compression is caused by the mutual Coulomb's attraction occurring between the facing plates which accumulate the opposite electric charges "q" (compare with part (b) of Figure F4). Note that whenever a tension force appears (e.g. from the sparks S_{B-F}), there is always also formed a counteracting compression force (e.g. from the Coulomb's attraction of charges q_{R-L}). Both of them act in opposite directions, and follow the same course of changes in time. Therefore both neutralize each other.

It is natural that the compensation of forces, displaying inherence in their course as described above, still requires values to match. Therefore further experimental research will be necessary, to select such design and exploitation parameters of the Oscillatory Chamber that will provide the full equilibrium for the counteracting forces. As a result of this research, a device can be completed in which the production of a magnetic field will not be limited by the action of any kinds of forces. Thus the field produced by this device can be increased to an unlimited value, even many times higher than the value of the "starting flux".

F6.2. Independence of the magnetic field production from the continuity and efficiency of the energy supply

One of the most basic attributes of the oscillating systems is their capability for the discrete absorption of the energy supplied, which is then bound into a continuous process of oscillations. An example of this is a child on a swing, which, once pushed, then swings a long time without any further work. Practically it means that energy once supplied to the Oscillatory Chamber will be tied up within it for a period of time until circumstances occur which will cause its withdrawal. As will be explained in subsection F6.3.1 of this chapter, such withdrawal can appear only when the chamber is involved in performing some kind of external work.

The other attribute of the oscillating systems is their ability to change the level of energy accumulated in them by periodic totalling of further portions of energy to the resources already stored. In the previous example of a swing, to cause the slanting of a child at a particular height, it is not necessary to apply all effort at once. It is sufficient to keep pushing gently over a longer timespan to periodically maintain this addition of energy. The consequence of this attribute will be that the Oscillatory Chamber will not require the supply of its full reserve of energy at once. The energy supply to this device can be gradual, spread over a very long period of time.

Together both of these attributes give us a practical chance to supply any quantity of energy that may be required for the production of a magnetic field, without introducing any requirements or limitations concerning the source and the channel which provide this supply.

To help us realize the advantage of the above method of supplying energy to the Oscillatory Chamber over the one used in electromagnets, we should consider the following example. A child on a swing and an athlete both try to lift a heavy load to a specific height. The child does it almost without effort by accumulating the energy during consecutive oscillations, whereas the athlete needs to use all his/her strength and still may not achieve his/her aim.

F6.3. Elimination of energy loss

Sparks are well-known for their inherent dissipation of energy. There is no doubt that such an intensive circulation of sparks, like the one appearing within the Oscillatory Chamber, must convert an enormous amount of electrical energy into heat. In an ordinary device such a conversion would become a source of significant energy loss. But in the chamber unique conditions appear which make possible the reversed conversion of heat directly into electricity. This conversion allows for recovery back into the opposite electric charges of all the energy previously dissipated into the heat produced by the sparks. So within the chamber two

opposite processes will simultaneously occur: (1) the energy dissipation in (and around) the sparks, manifesting itself as the conversion of electrical energy into heat, and (2) the energy recovery by the direct conversion of heat back into electrical energy. Both these processes will mutually neutralize each other's effects. Therefore no matter how high the energy dissipation by the sparks themselves, the Oscillatory Chamber as a whole will fully eliminate their energy loss. As the result of such an elimination, all energy provided to this device will be preserved within it forever, unless some kind of external work is done which will cause its retrieval.

In the Oscillatory Chamber three elements co-exist, which in the same configuration were not present in any other device. These are: (1) the magnetic field force lines of which are accelerated and decelerated by sparks' motion, (2) electrodes whose charges fluctuate, and (3) a dielectric gas which is highly ionized by the discharges and caused to rotate by the circulating streams of sparks. Furthermore, during the operation of the device these three elements assume states which are required for the "Telekinetic Effect" to occur. For this reason the Oscillatory Chamber provides all the conditions required to employ the Telekinetic Effect for the direct conversion of heat (produced by sparks) into electricity.

Principles involved in the telekinetic method of heat conversion into electricity are explained in chapter K, whereas the description of devices already working which employ such a conversion is provided in a separate monograph [6]. In this method heat is converted directly into electricity through the application of telekinetic motion. Chapter H (and subsection H1) of this monograph describe the Concept of Dipolar Gravity which explains the difference between the physical and telekinetic motion. According to this concept, the telekinetic motion is caused not by the action of a force, but by the action of the so-called "Telekinetic Effect". The action of this effect can be released technologically through the acceleration and deceleration of magnetic fields. As the Telekinetic Effect represents a reversal of friction, i.e. it spontaneously absorbs environmental heat and produces motion (friction spontaneously converts mechanical motion into heat), it is capable of converting the heat induced motion of gas particles into electric potentials difference.

Principles involved in the direct conversion of thermal energy produced in the chamber back into electricity via the Telekinetic Effect are explained in subsection F3. However, for the consistency of presentation they will be briefly summarised also here. The Telekinetic Effect allows for the controlled release of two mutually opposite thermal phenomena which, amongst others, cause the emission of the so-called "extraction glow" and "dispersion glow". During the release of the first of these two phenomena the thermal energy from the environment can be directly transformed into motion, whereas during the second one - motion can be directly transformed into the thermal energy. The direction and intensity of these "heat/motion" transformations depends on the direction and value of the vector of momentary accelerations or decelerations of magnetic field force lines which pass through the volume of the chamber (or more precisely from the mutual proportions and orientation of this vector in relation to the momentary vectors of motion of electric charges in the chamber). Thus by appropriate selection of the curvature of momentary pulsations of the field, the temperature of the chamber can be maintained on a constant, unchangeable, and controllable level - see the descriptions from subsection F3. The principle of this maintenance depends on such a control of the curvature of momentary field changes in the chamber that the individual half-pulses of this field would release the Telekinetic Effect required. In turn this Effect would cause the appropriate acceleration of the electric charges rotating in the chamber, thus consuming the thermal energy. In this manner the entire heat from sparks' energy losses would be converted back into the rotation of electric charges of these sparks. As the final result the Telekinetic Effect would transform the heat produced by the sparks into motion of electric charges of these sparks, thus maintaining the temperature of the chamber on a constant and defined in advance level.

The author is aware that his statements concerning the recovery of heat dissipated by electric sparks may be accepted reluctantly by people so-far unfamiliar with the action of the Telekinetic Effect. For this reason, in the subsection that follows he will present arguments

indicating that even without the knowledge of the Telekinetic Effect, present science in special circumstances recognizes the possibility of the direct conversion of all heat into electricity. In order to support these arguments with some empirical findings, the author would like to also indicate here that according to the content of chapter S the idea of the Oscillatory Chamber is already implemented in a technical manner. The observers of the already operational models of this device never reported that it displays overheating or even a slight warming up. This in turn means that the direct conversion of all heat into electricity discussed here is in fact achievable.

F6.3.1. Premises for the recovery of all heat dissipated by sparks

One of the stereotyped opinions which prevail among scientists is that the conversion of thermal energy into any other form of energy must always obey the Carnot principle of thermodynamical efficiency. The adherents of this view automatically carry it over to the Oscillatory Chamber without considering the unique conditions occurring within it, whereas any mechanical application of the laws of thermodynamics to the Oscillatory Chamber is a gross over-simplification, overlooking the following factors of extreme importance:

1. The so-called "laws" of thermodynamics are in fact not laws, but statistical predictions of the total cause of numerous **chaotic** events.

2. The behaviour of gas particles in the presence of a strong magnetic field displays **order**, not chaos. Therefore the course of the energy conversion within the Oscillatory Chamber can not be described by the laws of thermodynamics.

3. Even without considering the future ways of direct conversion of heat into electricity, such as the application of telekinetic motion, at our present level of knowledge such perfectly efficient methods are already known. For example, the principle of the magneto-hydro-dynamic energy conversion assures perfect efficiency in thermal energy recovery. Therefore, if such conversion is deprived of the thermodynamic (chaotic) factor, as this will be the case in the Oscillatory Chamber, such a perfect recovery can be obtained.

Because these three factors are vital to the Oscillatory Chamber, and they don't seem to be realized by some readers, let me explain their meaning more precisely.

Refer 1.

The statistical character of the laws of thermodynamics has been acknowledged for quite a long time. James Clerk Maxwell (1831-1879), the author of the famous equations of electromagnetism, presented proof based on the action of the so-called "Maxwell's demon", which demonstrated that the validity of these laws may be abolished in some exceptional situations. Quoted below is what B.M. Stableford writes about the second of these laws in his book **[1F6.3.1]** "The Mysteries of Modern Science" (London 1977, ISBN 0-7100-8697-0, page 18):

"The law of thermodynamics was shown to be the result of the statistical aggregation of a large number of events rather than an inviolable principle ruling the world with an iron hand. ... we can begin to see that although the law of thermodynamics always works out in practice, it could, in fact, be subverted by an extremely unlikely combination of chance happenings - it is not a law so much as a statistical prediction."

Refer 2.

It is a well-known phenomenon that a strong magnetic field stops the chaotic behaviour of the particles of a gas (fluid) and arranges them into an ordered pattern. This phenomenon is the basis for operation of some computer memories, and it is also applied to so-called "magnetic cooling" - see the book **[2F6.3.1]** by J.L. Threlkeld, "Thermal Environmental Engineering" (Prentice-Hall, Inc., N.J. 1962, page 152). Therefore a magnetic field itself carries the capability of performing the function of "Maxwell's demon", able to abolish the validity of the laws of thermodynamics. So it is justified to expect that, in the presence of such a field, energy conversion will not obey the Carnot principle.

Refer 3.

The principle of magneto-hydro-dynamic energy conversion contains the potential for perfect energy recovery. This potential is very well expressed in the following quotation taken from the book **[3F6.3.1]** by J.P. Holman "Thermodynamics" (McGraw-Hill, Inc., 1980, ISBN 0-07-029625-1, page 700):

"From an energy point of view, the movement of force through a displacement (mechanical work) is converted to electrical work (current flow against potential difference) by means of the electromagnetic induction principle. This is a work-work energy conversion and is not limited by the Carnot principle."

The unique conditions occurring within the Oscillatory Chamber eliminate the thermodynamical (chaotic) factor which reduces the efficiency of this process in ordinary circumstances, and allows the energy conversion to achieve perfect efficiency.

The deduction presented above shows that there are quite realistic and well-based premises signalling the possibility of a complete recovery of the energy loss within the Oscillatory Chamber. All that is needed now is that we do not close our minds to such a possibility, but implement it practically in this device.

The elimination of loss of energy is not the only advantage of the direct conversion of heat into electricity which may be achieved within the Oscillatory Chamber. This conversion also introduces an easy method for maintaining the energy supply to the device. To increase the energy resources contained within the Oscillatory Chamber the additional heating of its dielectric gas will alone be sufficient. This heating can be obtained, for example, by the circulation of the dielectric gas through a heat exchanger, or by concentrating a beam of sunlight on it.

Combining the lack of energy loss with the independence of the magnetic field production from the continuity of energy supply (compare with subsection F6.2 of this chapter), provides the Oscillatory Chamber with the property at present characteristic only for permanent magnets. The magnetic field, once created in this device, will maintain itself through the centuries, if the external consumption of energy does not occur. Of course, because of the lack of internal energy losses, the operation of this device alone will not be capable of causing any decrease in its energy resources.

F6.4. <u>Releasing the structure of the chamber from the destructive action of electric potentials</u>

The distinctive property of the Oscillatory Chamber is that it accumulates on facing plates electric charges of equal value but opposite sign (i.e. the same number of negatives as positives). Under such circumstances the force lines of an electric field from facing plates will mutually bind themselves together. This causes the charges to display a tendency to jump along the shortest trajectories joining these electrodes. Therefore in the chamber the tendency for a natural flow of electric charges will coincide with the trajectories required for the operation of this device. As a result, the material of the chamber's casing is freed from the action of the electric charges, whereas all the power of the device's energy is directed towards the production of a magnetic field (contrary to electromagnets where the electric potentials are mainly directed at the destruction of insulative materials these devices were made of).

In the channelling of the electric energy flow described above, the Oscillatory Chamber is entirely different from electromagnets. In the chamber this channelling is achieved by employing natural mechanisms of electrostatic attraction. In electromagnets it was forced artificially by the appropriate formation of the insulator's layers, which pushed the current to flow along the coils, whereas the action of the electric field's force lines was trying to push it across the coils and through the insulation. Therefore there is reason to expect that the Oscillatory Chambers will possess a life incomparably longer than that of electromagnets, and that their lifespan will not be limited by an electrical wear-out.

How destructive such an electrical wear-out of insulation is we may learn by analysing the lifespan of coils working under high voltages. A well-known example is the ignition coil in cars, which usually breaks down after about 7 years of usage, while still displaying no sign of mechanical defect. In low voltage electromagnets this process is slower, and therefore may not be noticed by users. But it will appear eventually.

F6.5. Amplifying control of the period of field pulsation

The Oscillatory Chamber will manifest a very high controllability. As in more details this will be explained in subsection F7.1, the key to controlling the entire chamber's operation is the period "T" pulsations of its output. Through changing this period also all other parameters of the chamber's operation can be altered. Practically the whole activity of controlling the Oscillatory Chamber will be reduced to influencing the value of period "T" of the chamber's field pulsations.

The final equation (F7) already discussed in subsection F5.6 shows how easily the value of "T" can be controlled in the Oscillatory Chamber. At the exploitation stage it is sufficient to limit the entire controlling activities to the change of the "s" factor. By changing the pressure of the gas filling the chamber, or by altering its composition, the "s" factor is influenced. The change in "s" factor in turn introduces the changes in period "T" of the field's pulsations.

To illustrate the essence of the above principle of the chamber's output control, we would need to imagine a hypothetical electromagnet in which all configuration parameters, i.e. the resistivity of wire, the number of coils, and also the geometrical make-up of a conductor, could easily be changed during its operation. Only such an imaginary electromagnet would allow for the output control in a manner used by the Oscillatory Chamber, i.e. through the appropriate manipulation of its configuration parameters, and without the necessity of controlling the power of a current supplied to it. Of course, in reality such an electromagnet is impossible to build. This in turn realizes how much better is the principle employed in controlling the Oscillatory Chamber in comparison to that employed in controlling electromagnets.

The above illustration shows that the chamber uses a very different (and much more convenient) control of oscillations than the one used in real electromagnets. In the Oscillatory Chamber the changes of the dielectric gas constants: Ω, μ and ε - causing the change of "s", are not dependent on the necessity to manipulate the amounts of energy contained in the electric and magnetic fields. Therefore in this device all controlling activities no longer involve wrestling with the power contained inside the chamber. As a result, the power of the control devices is independent from the power of the produced field (i.e. weak control devices can effectively alter the parameters of a powerful field). But in electromagnets every change in a magnetic field requires manipulations to be conducted on highly energetic currents. Thus control of electromagnets involves the same powers as that required for the field production.

Of course, every method of control introduces its own disadvantages. This is also the case in the tuning system described above. We already may predict here some limitations in the range of control - caused by critical damping, and the influence on the intensity of heat generation - caused by changes in the resistivity of gas. But these disadvantages can be overcome technically, and they are insignificant when compared with the advantage of making the power of a controlling device independent from the power of the controlled energy flows.

F7. Advantages of the Oscillatory Chamber over electromagnets

The elimination of the inherent drawbacks of electromagnets is not the only achievement of the principle of the Oscillatory Chamber. This device introduces in addition a

number of unique advantages which are not provided by any other device built by man to-date. Let us review the most important of them.

F7.1. Formation of the "twin-chamber capsule" able to control the output without altering the energy involved

Further possibilities of controlling the output from the Oscillatory Chamber are created when two such cubical devices are arranged together to form a configuration called the "twin-chamber capsule" - see **Figure F6**. This capsule consists of one small inner chamber "I" freely suspended (floating) in the centre of the outer chamber "O". To insure the free flotation of the inner chamber without the danger of distending and damaging the outer one, the side

dimension "a_o" of the outer chamber must be $\sqrt{3}$ times larger than the dimension "a_i" of the inner one, i.e.:

$$a_o = a_i \sqrt{3} \tag{F9}$$

(i.e. the side dimension "a_o" is equal to the side dimension "a_i" multiplied by the square root of "3").

The equation (F9) expresses the requirement that the longest diagonal dimension of the inner cube can not exceed the shortest distance between two parallel walls of the outer cube.

Both chambers are arranged so that their central axes coincide with the magnetic axis "m" of the entire capsule. But the magnetic polarities of both chambers are reversed, i.e. the poles of the inner chamber are oriented exactly in opposition towards the poles of its host (i.e. "S" of the inner chamber is directed towards "N" of the outer one, and vice versa). This opposite polarity of both chambers causes their outputs to mutually cancel (subtract) each other. The effect of this cancellation is that most of the force lines of the magnetic field produced by one chamber do not leave the capsule, but are circulated back into the other chamber. Therefore the magnetic field yield out to the environment by such a capsule represents only the difference between the outputs produced by its inner and outer chambers.

In the so-formed twin-chamber capsule the appropriate control of the chambers' periods of pulsation "T" allows the energy content in both chambers to be either maintained unchanged, or to be transferred from one chamber to the other. Therefore both chambers can either produce the same output, or a greater output can be produced by any of the component devices (i.e. by the outer "O" as well as by the inner "I" chamber). Technically, the balance or the transfer of energy between both chambers depends only on a phase shift between the periods "T_o" and "T_i" of their pulsations. (As this was described in subsection F6.5, these periods in turn are controlled, according to the equation F7, solely by changing the "s" factors of the chambers' dielectric gases.) In general, when both chambers pulsate in harmony (i.e. have their mutual phase shift equal to $0°$, $90°$, or multiple of $90°$) they maintain their energy content without any change. But when the phase shift between their pulsations is formed, the magnetic energy begins to flow between both chambers. The more this phase shift differs from $0°$ or $90°$ (and thus the more it nearers to $\pm 45°$), the more energy flows from one chamber to the other. The direction of flow is from the chamber whose pulsations obtain the leading phase shift (i.e. whose period "T" was speeded up in relation to the period "T" of the other chamber) to the chamber whose pulsations are slower.

To illustrate the above principle of energy flow with an example, let us imagine two people on separate swings bound together by an elastic (rubber) rope. Both swings in this example represent two chambers of a given twin-chamber capsule, whereas the elastic rope represents the magnetic field which links these chambers. When they swing with zero phase shift (i.e. when their movements exactly correspond) the energy of their oscillations remains unaffected. But when they form a phase shift in their oscillations, the person whose swing is

ahead will pull the other one through the elastic rope. In this way the energy will flow from the faster swinger to the slower one.

When both chambers of a twin-chamber capsule yield exactly the same output, the force lines of a magnetic field produced by the inner chamber "I" are forming a close loop with the magnetic field produced by the outer chamber "O". This loop is locked inside the capsule. Therefore in such a case both chambers may produce an extremely high magnetic field, but this field will be entirely "circulated" inside of the capsule, and no magnetic flux will appear outside of the capsule. The magnetic flux trapped in such a looping and hermetically locked inside a twin-chamber capsule is called the "circulating flux". In illustrations from this chapter it is labelled (C). The circulating flux performs an important function in the twin-chamber capsules, as it bounds and stores the magnetic field which later may be used as the capsules' energy supply. Therefore the circulating flux in twin-chamber capsules of the future will represent the equivalent to "fuel" from the contemporary propulsion systems. Probably in the future twin-chamber capsules will be built, their main and only function will be to accumulate energy. The entire energy stored within such accumulators of the future will take the form of the circulating flux, so that outside these capsules there will be no noticeable magnetic fields.

When the energy content in both chambers of a capsule is unequal, as illustrated in Figure F6, the magnetic flux produced by this chamber, which has a greater output, is divided into two parts, i.e. (R) the "resultant flux" conducted to the outside of the twin-chamber capsule, and (C) the "circulating flux" involved in internal looping within the chamber having a smaller output. At the same time the magnetic flux produced by the device having a smaller output is entirely involved in the circulating flux and is not conducted outside the capsule. In Figure F6 the greater output is produced by the outer chamber "O", therefore its flux is divided into (C) and (R) parts. But the entire output of the inner chamber "I" in this Figure is involved in the circulating flux (C). Of course in real capsules, depending on the necessity, it is possible to control their chambers in such a manner, that either chamber can produce the higher output, i.e. the outer "O" or the inner "I". Therefore also either of these two chambers can provide the resultant flux.

Because the greater magnetic flux can be produced either by the inner or the outer chamber, the twin-chamber capsules can operate in two **modes** called: (1) the "INNER flux prevalence", and (2) the "OUTER flux prevalence". In the mode of INNER flux prevalence, the resultant flux is produced by the inner chamber, whereas the outer chamber circulates its entire output inside the capsule. In the mode of OUTER flux prevalence, the resultant flux is produced by the outer chamber, whereas the inner chamber bounds its entire output into the circulating flux. The visual appearance of capsules operating in these two modes is shown in **Figure F6**. The differences in their appearance result from the fact that a highly dense magnetic field is transparent only to an observer who looks at it along its force lines. For the observer looking from any other direction such a field is nontransparent, and resembles black smoke. Therefore an outside observer looking at the twin-chamber capsule's outlet should see only the interior of that chamber which produces the resultant flux running into his/her direction, whereas the outlines of the remaining chamber which produces a circulating flux would appear to be black.

The twin-chamber capsule puts into the environment only the resultant flux that represents the difference from the outputs of both chambers. The circulating flux is always locked inside this capsule and never reaches the environment. Therefore, this configuration of chambers allows the fast and efficient control over the resultant magnetic flux conducted to the environment. This control is achieved without a change in the total amount of energy contained in the capsule, and only through shifting this energy from the outer to the inner chamber and vice versa. Practically, this means that the output given by the capsule to the environment can be easily changed, while the energy content of the capsule constantly remains at the same level. In order to realize the enormous capabilities of such control, the most important states of the magnetic field put into the environment by the twin-chamber capsule are described below.

(1) The complete extinguishing of the capsule's output. If the inner and the outer chambers contain the same amount of magnetic energy and produce equal magnetic fluxes, their entire production is looped inside of the twin-chamber capsule and no field is conducted to the environment. Of course, in such a case the enormous magnetic energy of the capsule still remains trapped inside, and can be redirected outside at any time by simple alteration to the capsule's controls.

(2) A smooth change of the capsule's magnetic output within the range from its minimal (i.e. zero) to maximal value. Such a change in the resultant output requires only appropriate transfer of the magnetic energy from one chamber into the other. The maximal output from this capsule is achieved when one of its chambers concentrates almost all of the energy, whereas the output from the remaining chamber is almost zero.

(3) The production of a magnetic field that has any required orientation of the magnetic poles. Depending on which of the two chambers (inner or outer) reaches a dominating (prevailing) output, the polarity of the resultant flux (R) will reflect the polarity of this dominating chamber.

(4) An almost instant reversal of polarity for the capsule's resultant magnetic output (e.g. the exchange of its north pole into the south pole, and vice versa). This reversal can be achieved merely by shifting quickly the magnetic energy between two chambers and without any need for a mechanical rotation of the capsule.

The ability to strictly control the variations in time (curvature) of the resultant flux is another advantage of the twin-chamber capsules. An example of such control, concerning the resultant flux whose variations in time follow a beat-type curve, is shown in **Figure F7**. When the frequencies of pulsations in both chambers are different (e.g. when the inner chamber produces a flux "F_I" whose frequency is two times higher than the frequency of the flux "F_o" produced by the outer chamber), the algebraic subtraction of both these fluxes produces a bit-type variation in time of the resultant flux "F_R". In this way, a wide range of resultant flux variations in time can be obtained, through the simple altering of frequencies of inner and outer fluxes (or more strictly through altering periods of pulsations "T" which are bound with frequencies "f" by equation (F8): f=1/T). It is equally simple to produce a pulsating resultant flux following one of many possible beat-type curves, as well as a number of alternating fields of different courses. In each of these cases the period of the resultant flux variation can be controlled at the required level.

Probably the most significant advantages of the control described here is that it enables twin-chamber capsule to produce a **constant magnetic field**. When the frequencies of oscillations in both chambers are the same, then the two counter-oriented magnetic fluxes mutually suppress their pulsating components. If this coincides with the equal amplitudes of fields from both chambers, the resultant flux "F_R" is then non-oscillating (constant in time), identical in character to the one provided by the permanent magnets. This capability to produce a constant magnetic field will further enlarge the already extensive scope of applications for this configuration of Oscillatory Chambers.

Because of the direct relationship existing between the frequency "f" and the period "T" of the field pulsation (see equation (F8): f=1/T), the entire control over the resultant flux curvature is achieved solely through the alterations of the "s" factor, as has already been described in subsection F6.5.

The above explanations demonstrate how easy and versatile the control capabilities of twin-chamber capsules are. This will have a definite bearing on the future applications of such arrangements of chambers. It is easy to predict that almost all advanced magnetic propulsion systems of the future will utilize twin-chamber capsules instead of just single Oscillatory Chambers. Out of all the propulsion systems described in this monograph, such capsules will be used in the propulsors of the Magnocraft (see descriptions in chapter F) and in Magnetic Personal Propulsion (see descriptions in chapter E).

F7.1.1. Twin-chamber capsules of the second and third generation

As this is explained in subsection F4.1, and highlighted in subsections B1 and M6, the Oscillatory Chambers of the first generation shaped into cubes are going to be build only in the first period of the development of magnetic propulsion systems for flying vehicles. In second and third periods, the design of even more advanced chambers is going to be developed, which are called Oscillatory Chambers of the second and third generations. From these chambers of higher generations, amongst others, also twin-chamber capsules are going to be formed. For an outside observer, such capsules are to look differently from capsules of the first generations. On the present level of our development, we ourselves are unable to build any of these Oscillatory Chambers. But we are exposed to activities of civilisations of evil parasites from UFOs, that already build these chambers and use them on Earth (see subsection A3 and chapters O to W). Therefore it very vital that we learn how to distinguish between these three generations of Oscillatory Chambers, and also distinguish twin-chamber capsules that are formed from them. In this subsection their more complete description is provided, which should allow for such a distinguishing.

Twin-chamber capsules formed from Oscillatory Chambers of the second and third generations are shown in **Figure F8**. Their attribute is, that similarly like twin-chamber capsules of the first generation, these also are composed of a single large outer Oscillatory Chamber (O), and a single small inner Oscillatory Chamber (I). This large outer Oscillatory Chamber (O), on Figure F8 is dimensioned with the diameter "D" of the circle circumscribed over the polygon of its frontal wall. In turn the small inner chamber (I) is dimensioned with the diameter "d" of the circle circumscribed over the polygon of its front wall. (Compare also Figure F5 and Figure F8.) In case of twin-chamber capsules of the second generation, both the outer chamber (O) and the inner chamber (I), are build in the shape of an octagonal rod - see part (2s) in Figure F8. Thus, if someone is going to see them in the frontal view (see parts (2i) and (2o) of Figure F8), then should clearly notice that their frontal walls have the shape of a regular (equilateral) octagon. In turn in case of twin-chamber capsules of the third generation, both the outer chamber (O) and the inner chamber (I) are build in the shape of a sixteen-sided bar - see part (3s) in Figure F8. With such a large number of sides, when they are viewed from a distance, then to an outside observer they resemble a section of a round bar (see parts (3s), (3i), and (3o) of Figure F8).

In the design of twin-chamber capsules of the second and third generations, several design conditions must be fulfilled. These conditions cause, that the appearance of these capsules must be strictly defined. The most important out of them, the significance of which is explained in subsection F7.1.2, is the so-called "ratio of dimensional packing". It states, that proportions of the height H (h) of chambers composed into a given twin-chamber capsule, to the diameter D (d) of the circle circumscribed over their frontal walls, must be strictly defined. These proportions must reassure the highest possible volume of the chamber with possibly smallest consumption of the precious space of the vehicle. From my own research to-date it appears that for capsules of the second and third generations, these proportions are near equal to $D/H=1$, and $d/h=1$. In order to realise the reader their interpretation, these proportions are illustrated in part (3s) of Figure F8 through sparse hatching of the square with the dimensions D and H, and double hatching of the square with dimensions of d and h. In turn dimensions of the outer chamber (O) and inner (I) are so selected that they fulfil the condition of a free floating of the inner chamber (I) inside of the outer chamber (O) without causing a damage to any one of them. Therefore dimensions D and H, and d and h - see parts (2o) and (3o) in Figure F8, must fulfil the following two conditions (notice that the symbol "sqrt" adopted from programming of computers means the "square root from the argument given in brackets"):

$$A > sqrt(h^2 + d^2) \text{ and } H > sqrt(h^2 + d^2) \tag{F10}$$

Similarly as this is the case with twin-chamber capsules of the first generation, also twin-chamber capsules of the second and third generations may operate in the mode of inner flux prevalence (see parts (2i) and (3i) in Figure F8), and also in the mode of outer flux prevalence (see parts (2o) and (3o) in Figure F8). Notice that in the magnetic convention of the capsule's operation, the outlet from the chamber which output is to be locked completely within the circulating flux, takes the form of an optical "black hole". Thus, depending on which one out of two possible modes of prevalence is switched on, the frontal appearance of the capsule is to differ in the characteristic manner - compare parts (2i) and (3i) in Figure F8 with parts (2o) and (3o) of the same Figure.

Of course, Figure F8 shows a theoretical appearance of the outlets from twin-chamber capsules in the magnetic convention of operation. However, this theoretical appearance may show itself only in almost ideal observational conditions. In reality this theoretical appearance is going to be distorted by the fact that the output from the vehicles' propulsors is going to spin, that magnetic lens is going to act, that the air that surrounds the vehicle is going to be ionised, and that also several other distorting factors are to be in action - for more details on these distorting factors see subsections F9 and P2.1.1. Therefore the real appearance of these outlets is going to slightly diverge from the theoretical one. For example in part D of Figure P19, and also on Figure P29, the real appearance of outlets from twin-chamber capsules of the second generation is shown, when these capsules operate in the magnetic convention. From photographs shown on these Figures it is obvious, that one may notice the characteristic features of an octagon in real appearances of these capsules. But subsequent sides of this octagon are slightly deformed.

It is worth to notice, that independently from the magnetic convention of their operation, in which the output from capsules of the second and third generation creates visual effects similar to these formed by outputs from capsules of the first generation, capsules of the second generation may additionally operate in a telekinetic convention. In turn capsules of the third generation may operate in a telekinetic convention, and a convention of time travel (in addition to the magnetic convention). Visual effects induced by them during such different conventions of operation are to differ from effects induced in the magnetic convention. For example in telekinetic convention these capsules are to produce either while "extraction glow" or greenish "dispersion glow" - for their description see subsections H6.1 and H6.1.3. In turn in the time travel convention, a twin-chamber capsule of the third generation is going to generate not only various colour effects, but also effects on motion that are unique to the manipulation on time. For example, an external observer may perceive the operation of such a capsule as if it is shown on a film with a suspended animation (see the description of the suspended animation presented in subsection M1).

F7.1.2. The "ratio of packing" of oscillatory chambers and its influence on the appearance of twin-chamber capsules and spider configurations

The design parameter of a huge importance in all twin-chamber capsules formed from oscillatory chambers, is going to be the so-called **ratio of dimensional packing** "u". It can be defined as: "the ratio of dimensional packing (u) of a twin-chamber capsule, is the ratio of volumes of two models of the same oscillatory chambers proportionally copying each other, out of which the smaller one of the volume (V_i) is completely inscribed onto the inner surface of a sphere, while the outer one of the volume (V_o) is completely circumscribed onto the outer surface of the same sphere", i.e.:

$$u = V_i/V_o \qquad\qquad (F11)$$

In the above definition by "chambers that proportionally copy each other" I understand two chambers of an identical shape and only different dimensional scale; means such chambers

that all surfaces and edges of which are parallel to each other, while all similar linear dimensions relate to each other with the same ratio. It is worth to highlight, that almost all oscillatory chambers build by a given civilisation are going to be such chambers that proportionally copy each other. The reason is, that in order to construct a chamber the dimensional proportions of which are to differ from chambers already build, all research and development procedures must be repeated from the very beginning. Also repeated would need to be all research on control methods, on devices and means of control, and also on all computers and control programs. This in turn is a very costly and time consuming endeavour. For this reason chamber "M" from a standard spider configuration of the first generation shown in Figure F9 must await rather a long time to be build. (Its shape and dimensions are going to diverge from a typical cubical chamber.) Thus, before this unproportional chamber "M" from Figure F9 is build, our civilisation is going to use a spider configuration shown in Figure F10, which contains exclusively cubical chambers (i.e. chambers which proportionally copy each other).

The closer to u=1 is the value of this ratio of dimensional packing, the better are selected geometrical dimensions of a given chamber. It is because of the value of this ratio, that typical oscillatory chambers of the first generation are going to be build in the form of cubes. (For cubes the value of dimensional packing discussed here reaches u=0.19245, or almost 20%.) In case of chambers of the second and third generation, the value of this ratio of dimensional packing depends on the ratio of dimensions "D" to "H", or "A" to "H". This means, that it is going to depend on the ratio of mutual distance "A" of two reciprocal side walls of the chamber, to the height "H" of this chamber (or from the ratio of the diameter "D" of a circle circumscribed on the face wall of the chamber, to height "H" of this chamber). Thus for main (M) propulsors, or for outer (O) oscillatory chambers, it is going to depend on the ratio of "D/H" or the ratio "A/H" of their dimensions. In turn for side (U, V, W, X) propulsors, or for inner (I) oscillatory chambers - from the ratio of their dimensions "d/h" or "a/h" (see the interpretation of these dimensions provided in Figure F8).

Special significance of the ratio of dimensional packing "u" for design of twin-chamber capsules composed of chambers of all generations, depends on the manner in which these capsules are going to be used in the Magnocraft. Outer chambers (O) from twin-chamber capsules must rotate in the spherical casings of Magnocraft's propulsors, without touching these casings (see explanations to Figure F2). In turn inside of these outer chambers (O) smaller inner chambers (I) must rotate without touching walls of these outer chambers. Thus, the bigger volume can be packed within dimensional proportions of both these chambers, the more useful for the Magnocraft they are to be. Simultaneously the diameter of the propulsor's casing, which hosts them, can have the smallest diameter. After all, when this packing is growing, also the power of the propulsor is growing, while it is going to take increasingly less space inside of the structure of the vehicle. Thus the ratio of dimensional packing "u" of an oscillatory chamber is defining the dimensional perfection of the propulsor that is based on a given chamber.

In case of Oscillatory Chambers of the first generation, it is known that their ratio of dimensional packing is the highest when they take the shape of cubes. Thus, a typical Oscillatory Chamber of the first generation is going to have the shape of a cube with a side dimension "A" or "a", and the ratio of A/H=1 (a/h=1). In case of oscillatory chambers of the second generation, the analytical solution of the problem of dimensional packing is not so simple and obvious. Therefore I was satisfied with its approximate solution with the use of graphical methods. This approximate solution indicates, that the oscillatory chamber of the highest ratio of this packing "u", is also going to have the ratio of D/H very close to one, i.e. near D/H=1. Also in case of Oscillatory Chambers of the third generation, the solution of this problem of packing which I found graphically indicates that their ratio of D/H must be close to one, i.e. also near D/H=1. Of course, at this point I encourage readers to verify my findings and to solve this problem in an analytical (strict) manner also for the oscillatory chambers of the second and third generations.

This close to one value of the ratio D/H dimensions of the chamber means, that the geometrical figure obtained after a typical oscillatory chamber of the second and third generation is cut half with a vertical plane that runs along the magnetic axis "m" and through corners that touch the circle of the diameter D, is going to be of a square with sides equal to D and H (in this square D=H). In order to illustrate visually this square, I hatched it in part (3s) of Figure F8 (this hatching is less dense in the interior of the outer chamber, and twice dense inside of the inner chamber). Typical Oscillatory Chambers of the second and third generation must have a rather striking external shape, which is easy to distinguish from cubical chambers of the first generation shown in Figures F5 and F6. In this shape the ratio of the width "A" of these chambers (or the diameter "D" of a circle circumscribed on their frontal wall) to their height "H" is going to take proportions as this is illustrated in Figure F8.

Summarising the above deductions, twin-chamber capsules of the second and third generations, and also all typical oscillatory chambers of the second and third generations, are going to be build in proportions of dimensions as illustrated in Figure F8. For this reason, after Figure F8 is seen by potential observers of such configurations and chambers, these observers should be able to easily determine with which chamber they had to deal. This in turn should have a consequence in their ability to define also the generation of the vehicle in which these chambers were used - for further details see chapters L, M, and T.

F7.2. Formation of the "spider configuration"

The twin-chamber capsule is not the only configuration into which a number of Oscillatory Chambers can be arranged in order to increase the controllability of their resultant flux (R). The other configuration displaying even wider possibilities is the so-called "spider configuration", shown in **Figure F9**. In the spider configurations the chambers are arranged so that one of them, called the main chamber (M), is surrounded by the four side chambers indicated by the letters U, V, W, and X. Each of these five chambers possesses the same cross-section, but the volume (thus also the length) of the main one is equal to the sum of the volumes of all four side ones. The magnetic poles in the main Oscillatory Chamber (M) are directed in opposition to the orientation of the poles in the side chambers (U, V, W, X).

This new configuration of the Oscillatory Chambers is a simplified model of the Magnocraft's propulsion described in the next chapter of this monograph (the Magnocraft contains a single twin-chamber capsule (propulsor) placed in its centre, and a multiple of four of twin-chamber capsules arranged around its peripherals). Also the operation of the spider configuration closely imitates the operation of the Magnocraft's propulsion. Therefore this configuration in fact constitutes a kind of miniature Magnocraft. As well, the magnetic field produced by it displays all the attributes of the Magnocraft's field, for example its force lines may spin around the magnetic axis of the main chamber. The above reasons decide that the spider configuration found its best application in the propulsion of the so-called "four propulsor spacecraft", described in chapter D, the operation of which just requires the spinning magnetic field.

From the technical point of view, the production of spider configurations is much easier to achieve than the production of twin-chamber capsules. This is because in a twin-chamber capsule there are technical difficulties with controlling the inner chamber, to which the controlling signals must pass through powerful sparks and the magnetic field of the outer chamber. These difficulties are absent in the spider configuration, in which the access with the controlling devices is equally easy to all chambers. Therefore, in the first period after the completion of Oscillatory Chambers, most probably our civilization will be able to combine them only into spider configurations. Therefore, even that the propulsion of the Magnocraft is more effective when this vehicle utilizes twin-chamber capsules for the propulsors, the technical difficulties described above may cause, that the first discoidal Magnocraft build on Earth will utilize spider configurations for the propulsors.

The above also applies to all other civilizations which already have operational Magnocraft at their disposal. From which configuration of Oscillatory Chambers they utilize in the propulsors of their discoidal Magnocraft, it is possible to estimate their level of development. In the first period after the completion of Oscillatory Chambers each civilization most probably will just utilize spider configurations, and only later it will shift into the use of twin-chamber capsules. In the course of further development the civilization will transfer into the use of twin-chamber capsules of the second generation which utilize octagonal Oscillatory Chambers (instead of square chambers being much easier to produce and to control), to finally shift into the use of chambers of the third generation - see subsection M6.

The control over the value of a field produced by the spider configuration is almost the same as it is in the twin-chamber capsule. In a similar manner this configuration will produce a circulating flux (C) and a resultant flux (R). Both these fluxes are circulated through the environment and thus the only difference between them depends on the paths their force lines cross, and on the number of chambers they circulate through (a circulating flux "C" loops through two chambers - main and side, whereas a resultant flux "R" through the main chamber only - see Figure F9). Therefore the magnetic field yield from the spider configuration also displays the same control over all its properties and parameters as the field from the twin-chamber capsule. The only additional capability of spider configurations which does not appear in twin-chamber capsules is that spider configurations are able to produce a whirling magnetic field, whose axis of rotation lies on the magnetic axis "m" of the main chamber (M). The production of such a whirling field is explained for the Magnocraft in subsection F7 of this monograph, therefore this explanation will not be repeated here.

The spider configurations, however, display a significant drawback in comparison of the twin-chamber capsules, which will decide their limitations. This drawback is that the magnetic field they produce can not be "extinguished" entirely and must be circulated through the environment. Therefore, even if the entire output of a spider configuration is bound in the circulating flux "C", this flux is still looped through the environment (i.e. can not be locked inside the configuration as is the case with twin-chamber capsules). For this reason spider configuration can not be used in numerous applications in which the presence of the magnetic field is undesirable (e.g. as energy accumulators). Therefore, apart from a short period when our civilization will still not be able to produce twin-chamber capsules, in the majority of cases the utilization of the spider configurations will be limited only to applications where the whirling magnetic field is necessary (e.g. as propulsors for the four-propulsor vehicle described in chapter D).

F7.2.1. The prototype spider configuration of the first generation

The spider configuration has this advantage over a twin-chamber capsule, that the construction of it does not require previous solving of a complicated problem of control over the inner chamber (I). After all, in the twin-chamber capsule this inner chamber (I) is free-floating inside of the outer chamber (O). Thus there is no direct access to it. Also it is impossible to connect to it any control cables. For these reasons, spider configurations will be build long before first twin-chamber capsules are developed. After all, in such spider configurations a cable can access practically each single chamber. But with the standard spider configuration of the first generation shown in Figure F9 still an additional design problem is connected. This problem results from the composition of this configuration from four cubical chambers (U, V, W, and X), and one elongated main chamber (M). Namely, it is that the main chamber is four times longer than side chambers. This problem is also quite a difficult for a technical solving. After all, for ratio of dimensions different from a typical cube, immediately boundary conditions prevailing on electrodes of the chamber start to become complicated. Thus also the course of phenomena inside of such a chamber is different. In turn these conditions and phenomena influence the system of design parameters which define a

stable operation of the chamber, the manner of controlling it, the control programs, the operation of the control computer, etc., etc. Thus practically, if independently from cubical oscillatory chambers (U, V, V, and W), someone decides to build also such elongated main chamber (M), then almost the entire course of research and development must be carried out from the very beginning, and to a much wider extend. Thus, it probably takes several further years before the elongated oscillatory chamber (M) is ready for use. On the other hand, almost immediately after the first operational oscillatory chamber is operational, probably government and society will press that researchers start to complete the Magnocraft. In this situation researchers will be forced to develop some sort of the first controllable configuration of oscillatory chambers, which is going to be suitable for use in propulsors of the Magnocraft, but which simultaneously is going to contain only typical oscillatory chambers shaped into cubes. This first controllable configuration, is the "prototype spider configuration" shown in **Figure F10**. It uses exclusively oscillatory chambers shaped into cubes, means chambers which are to be build most early on our planet.

Figure F10 illustrates this prototype configuration, showing it from two directions. At top of the Figure, i.e. in part (1s) of it, this configuration is shown in a side view. In turn at the bottom of the drawing, in part marked (1t), it is shown in a top view. For a better informativeness, in both parts of the drawing the filling material is blackened which fixes subsequent chambers and keeps them in the required position of mutual distances from each other. The prototype spider configuration is composed out of one cubical main chamber (M) the side dimension of which is marked "A", and out of eight cubical side chambers (U, V, W, X), the side dimension of which is marked "a". After the condition of dimensions is fulfilled that A=2a, the volume of the main chamber (M) is equal to the sum of volume of all eight side chambers (U, V, W, X).

All 8 side chambers of the prototype spider configuration, their cubical shape, and the proportions of dimensions described above, all together cause that this configuration takes a very characteristic appearance of a flat disk of the width G=2A and height in the centre equal to A=A, while on sides equal to h=a=(1/2)A. Thus it is easily distinguishable from a standard spider configuration of oscillatory chambers shown in Figure F9, which is to be build much later.

The prototype spider configuration from Figure F10 is going to be the first fully controllable configuration of oscillatory chambers that initially is going to be used in Magnocraft-type vehicles of every civilisation that is just entering the period of interstellar travel. Its basic operational advantage is, that very similar control programs that are used for the control of an entire Magnocraft of K3 type, are also used for control of this configuration. (After all, the entire Magnocraft of type K3 has the same number and the same location of subsequent propulsors, as this capsule has individual chambers.) This configuration is going to be used for the duration of interim period, i.e. starting from the moment when a given civilisation develops the first Magnocraft, until the moment when this civilisation develops the first twin-chamber capsule. Thus, the noticing of the use of this configuration in propulsors of a discoidal Magnocraft, is a mark that a given civilisation that build such a Magnocraft is just at the very beginning of its path to space travel - see stage (1A) in classification discussed in subsection M6. This prototype spider configuration will be exchanged onto a more effective twin chamber capsule (shown in Figure F5) immediately after a given civilisation manages to develop a first reliable such a capsule.

In Poland a person who with his own eyes observed the prototype spider configuration inside of the main propulsor of a discoidal UFO, is Mr Andrzej Domala - a coauthor of treatise [3B]. Because of the lack of knowledge on theories explained in this monograph, he describes this configuration as a belt formed from eight cubes that was hanging on a spinning column that stood in the centre of that UFO. This spinning columns was simply a column of spinning magnetic field produced by such a configuration and spreading in both directions from the main chamber (M). (It seems that at the moment when it was observed, the main propulsor of that UFO worked with the prevalence of the inner flux yield from the main chamber.) During

observing this configuration in side view, such a column of spinning field must be visible just as a black column - for details see subsection F10.4.

F7.2.2. Spider configurations of the second generation

As this is explained in subsection F4.1, and highlighted in subsections B1, M6, and F7.2.1, oscillatory chambers of the first generation in shape of a cube, are going to be build only in the first period of the development of magnetic propulsion systems of flying vehicles. In periods second and third, a design of even more advanced oscillatory chambers is going to be developed, which are here called chambers of the second and third generations. From these chambers, amongst others, also spider configurations are going to be formed. For an outside observer, such configurations are going to take a different appearance from configurations of the first generation. On a present stage of our development, we ourselves are not able to complete such oscillatory chambers, but we are exposed to actions of civilisations which already completed them and now are using them on Earth (see chapters O to W). Therefore it is very vital that we learn how to distinguish between these three generations by their appearance. To allow such a distinguishing, in this subsection and in the next subsection, the more complete description of these configurations is provided.

Spider configurations of the second generation, composed of octagonal oscillatory chambers of the second generation, are shown in parts (2t) and (2s) of **Figure F11**. Their attribute is, that similarly like spider configuration of the first generation, these also are composed of a single octagonal main Oscillatory Chamber "M", and eight side Oscillatory Chambers similar to the main one and surrounding it around - on Figure F11 these side oscillatory chambers are marked with letters "U, V, W, X".

In the design of spider configurations of the second generation, several design conditions must be fulfilled which are explained in this subsection. The first of these is the design and operational requirement. It states, that the main chamber (M) and side chambers (U, V, W, X) combined together into this configuration must touch each other with their sides, while each two adjusted side chambers must touch each other with their corners. In order to fulfil it, dimensions "A" and "D", also "a" and "d" of subsequent componential chambers must be appropriately selected. According to my calculations, these dimensions must be so selected that D=1.83d, and A=1.82a. This causes that from a top view the same spider configuration takes an exact appearance shown in part (2t) of Figure F11. Thus, if someone is viewing them from the frontal view (see part (2t) on Figure F11), then he/she clearly notices the shape of regular (equilateral) octagons of frontal outlets from all their nine componential chambers. Notice that in order for subsequent chambers are kept in the required mutual locations, free spaces between them must be filled up with appropriate filling substance. On Figure F10 and F11 this substance is marked by blackening.

As this is explained in subsection F7.2, dimensions of subsequent oscillatory chambers of spider configurations must also be so selected, that they fulfil the basic condition of balance of their outputs (see subsection G4.1). This condition states, that the "volume 'V_M' of the main chamber (M) must be equal to the sum of volumes 'V_S' of all eight side chambers (U, V, W, X)". For spider configuration of the second generation that have eight identical side chambers, this condition can be expressed mathematically as:

$$V_M = 8V_S \hspace{4cm} (F12)$$

Theoretically speaking two manners of fulfilling the condition (F12) should be considered, i.e. (1) when the main chamber (M) takes a typical proportion of dimensions (i.e. when the shape of this chamber is identical to the shape of a proportionally copied chamber - see descriptions in subsection F7.1.2), while side chambers receive proportions of dimensions that result from the condition (F12); or (2) when side chambers (U, V, W, X), have typical proportions of dimensions (i.e. they have the shape of a proportionally copying chamber - see descriptions in subsection F7.1.2), while the main chamber takes untypical dimensions that result from the

necessity of fulfilling the condition (F12). The first (1) of these two manners may, however, be rejected because of the practical reasons. This is because in order to fulfil it, side chambers would need to have such a height "h" that for them h>a. Therefore the boundary conditions that would then appear on electrodes of these chambers, would be highly undesirable. This means that for practical reasons, spider configurations of the second generation will be build on manner (2), i.e. when their side chambers (U, V, W, X) are having typical ratio of dimensions (i.e. their h/d = 1) - as this is described in subsection F7.1.2, while the main chamber (M) is taking an untypical proportion of dimensions (H/D=1.28) that result from the necessity of fulfilling the equation (F12). Such constructing the spider configurations of the second generation causes that in a side view these configurations are going to take a quite characteristic appearance. This appearance is shown in part (2s) of Figure F11. The noticeable attribute of this shape that distinguishes it from e.g. appearance of the configuration shown in Figure F10 or F9, is that in a general shape this configuration of the second generation is going to take a resemblance of almost flattened sphere of the ratio of width "G" to height "H" equal G/H=1.5. Actually, if for the use in the propulsor of four-propulsor vehicle of the second generation this configuration is to be placed in an aerodynamic casing similar to casing shown in Figure D1, such casing most probably will take a shape of flattened sphere or a "pumpkin", and only in special circumstances it may look like a gearwheel superimposed onto a short octagonal rod.

Similarly as this is the case with spider configurations of the first generation, also such configurations of the second generation may operate in the mode of inner flux prevalence, or in the mode of outer flux prevalence. In the magnetic convention of the operation, the outlet from the chamber which output is to be locked completely within the circulating flux, takes the form of an optical "black hole". Thus, depending on which one out of two possible modes of prevalence is switched on, the frontal appearance of the configuration is to differ in a characteristic manner. But it is worth to notice, that during the operation with the inner flux prevalence, not all side chambers are going to have completely blackened outlets at the same time. Two out of them - which output in a given moment of time is close to zero, are to show slightly lighter outlets, which are going to spin around the peripheral of this configuration.

It is also worth to notice, that independently from the magnetic convention of operation, spider configurations of the second generation can also operate in the telekinetic convention. Visual effects that are induced during such a different convention of operation are going to differ from effects induced during magnetic convention. For example, in the telekinetic convention these configurations are to produce either while "extraction glow" or greenish "dispersion glow" - for their description see subsections H6.1 and H6.1.3.

F7.2.3. <u>Spider configurations of the third generation</u>

Also spider configurations of the third generation are going to take a different and very characteristic appearance. This appearance is shown in parts (3t) and (3s) of Figure F11. To allow readers to distinguish their appearance from all other configurations of Oscillatory Chambers, this subsection provides description of these configurations together with explanation of their origin.

Spider configurations of the third generation are composed of sixteen-sided Oscillatory Chambers of the third generation, shown in parts (3s) and (3o) and (3i) of Figure F8 and in parts (3t) and (3s) of Figure F11. Their attribute is, that similarly like spider configuration of the first generation, these also are composed of a single sixteen-sided main Oscillatory Chamber "M", and sixteen side Oscillatory Chambers similar to the main one, which surround the main one around (on part (3t) of Figure F11 these side Oscillatory Chambers are marked with letters "U, V, W, X").

In the design of spider configurations of the third generation, several design and operational conditions must be fulfilled as well, which are explained in this subsection. The first

of these is the design and operational requirement. It states, that the main chamber (M) and side chambers (U, V, W, X) combined together into this configuration must touch each other with their sides, while each two side chambers adjusted to each other must touch each other with their corners. In order to fulfil this condition, dimensions "A" and "D", also "a" and "d" of subsequent componential chambers must be appropriately selected. According to my calculations, these dimensions must be so selected that D=4d and A=4.143a. This causes that from a top view this spider configuration takes an exact appearance shown in part (3t) of Figure F11. Thus, if someone is viewing them from the frontal view (see part (3t) on Figure F11), then he/she clearly notices the shape of regular (equilateral) sixteen-sided figure of frontal outlets from all their seventeen componential chambers. This shape viewed from a distance from which edges of all sides start to blend with each other, must make an impression of looking at circles with smooth and continuous peripherals (e.g. at a kind of round rocket launcher).

As this is explained in subsections F7.2 and F7.2.2, dimensions of subsequent Oscillatory Chambers of every spider configuration must also be so selected, that they fulfil the basic condition of balance of their outputs (see subsection G4.1). To remind again this condition, it states, that for the spider configuration of the third generation the "volume V_M' of the main chamber (M) must be equal to the sum of volumes 'V_S' of all sixteen side chambers (U, V, W, X)". For spider configuration of the third generation that have sixteen identical side chambers, this condition can be expressed mathematically as:

$$V_M = 16V_S \hspace{6cm} \text{(F13)}$$

Theoretically speaking also for the spider configuration of the third generation two manners of fulfilling this condition (F13) should be considered, i.e. (1) when the main chamber (M) takes a typical proportion of dimensions (i.e. resulting from the condition of maximum dimensional packing - see descriptions in subsection F7.1.2), while side chambers receive proportions of dimensions that result from the condition (F13); or (2) when side chambers (U, V, W, X), have typical proportions of dimensions (i.e. they have the shape of proportionally copying chambers - see descriptions in subsection F7.1.2), while the main chamber takes untypical dimensions that result from the necessity of fulfilling the condition (F13). The second (2) of these two manners must, however, be rejected because of the practical reasons. This is because in order to fulfil it, the main chamber would need to have such a height "H" that for it H<A. This in turn, because of the undesirable boundary conditions that would appear then on electrodes of these chambers, would be technically unacceptable. This means that for practical reasons, spider configurations of the third generation must be build on manner (1), i.e. when their main chamber (M) takes a typical ratio of dimensions (i.e. for it H/D=1) - as this is described in subsection F7.1.2, while the side chambers (U, V, W, X) are taking untypical proportions of dimensions (h/d=4) that result from the necessity to fulfil the condition (F13). Such constructing of spider configurations of the third generation causes that in a side view, these configurations are going to take a quite characteristic and striking appearance. This appearance is shown in part (3s) of Figure F11. (For me it roughly resembles a round rocket missile launcher.) The noticeable attribute of this shape, that distinguishes it from e.g. appearance of the configuration of second generation shown in part (2s) of Figure F11, is that in a general shape this configuration of the third generation is going to take a resemblance of a cylinder in which all chambers have the same length. The width "G" of this cylinder is going to be larger from the height "H", i.e. G=1.42H, where H=D. In this cylinder the main chamber (M) can be distinguished, because it has a face of the large diameter D and because it is surrounded by sixteen side chambers (U, V, W, X) that have faces of diameters "d" four times smaller (i.e. D = 4d).

Similarly as this is the case with spider configurations of the first and second generations, also such configurations of the third generation may operate in the mode of inner flux prevalence, or in the mode of outer flux prevalence. In the magnetic convention of the operation, the outlet from the chamber which output is to be locked completely within the circulating flux, takes the form of an optical "black hole". Thus, depending on which one out of

two possible modes of prevalence is switched on, the frontal appearance of this spider configuration is to differ in a characteristic manner. But it is worth to notice, that during the operation with the inner flux prevalence, not all side chambers are going to have completely blackened outlets at the same time. Four out of them - which output in a given moment of time is close to zero, are to show slightly lighter outlets, which are going to spin around the peripheral of this configuration.

It is also worth to notice, that independently from the magnetic convention of operation, spider configurations of the third generation can also operate in the telekinetic convention or in the convention of time travel. Visual effects that are induced during such different conventions of operation are going to differ from effects induced during magnetic convention. For example, in the telekinetic convention these configurations are to produce either while "extraction glow" or greenish "dispersion glow" - for their description see subsections H6.1 and H6.1.3. In turn during the time travel convention, such spider configurations of the third generation are not only to create in their interiors various colourful effects, but also characteristic for manipulation on time motion effects - e.g. the outside observer may perceive their operation as if taking place with a speed slowed down (see the description of the state of suspended animation explained in subsection M1).

F7.3. <u>The non-attraction of ferromagnetic objects</u>

We are accustomed with the fact that every source of magnetic field should attract ferromagnetic objects. Thus, when we realize the power of the field produced by every Oscillatory Chamber, immediately comes to mind the picture of our kitchen appliances, shavers and coins flying to our neighbour because he/she decided to switch on a powerful chamber just purchased. At this point it is the right time to expel our fears: one of the most unusual properties of twin-chamber capsules and spider configurations is that they produce a magnetic field which does not attract ferromagnetic objects, even if their output reaches the full power required. This property causes the field produced by such configurations of Oscillatory Chambers to behave rather like a kind of "antigravity" described by authors of science fiction books, not like a magnetic one. The following descriptions explain how it is possible to achieve this unusual property.

The framed part in **Figure F12** shows approximately the curve of variation in time for the typical field produced by the twin-chamber capsule. It takes the course of a beat-type curve, containing the constant component "F_o" and the varying component "ΔF". It is widely known that the source of a constant magnetic field attracts the ferromagnetic object in its vicinity. Therefore it is obvious that the constant "F_o" component of the chamber's output will also cause such an attraction. However, not many people are familiar enough with magnetodynamics to know that a field varying in time with sufficient frequency "f" induces in conductors the so-called eddy currents. These currents produce their own magnetic fields which, according to the "contradiction rule" applicable to electro-magnetism, are repelled from the original field which induced them. As a result, fields of sufficiently high variation in time will repel metallic ferromagnetics. Therefore the varying component "ΔF" of the chamber's output will cause repulsion of all ferromagnetic objects in the vicinity. This repelling force grows with the increase of amplitude "ΔF" and also with the increase of frequency "f" of the field variations. Therefore, if the control of the twin-chamber capsule or spider configuration changes the ratio "$\Delta F/F_o$" of the output, holding constant the frequency "f" of pulsations, then three different kinds of force interaction with ferromagnetic objects can be achieved - see diagram in Figure F12. (1) When the varying component "ΔF" dominates over the constant "F_o" one, then the total interaction with such objects is **repulsive**. (2) When the constant component "F_o" is the dominating one, then the resultant interaction is an **attraction**. (3) However, if balance between both these components is reached, then the attraction and repulsion come into

equilibrium and neutralize each other. In this case **no action** of any magnetic force is affecting ferromagnetic objects from the environment of a given configuration.

The curve of equilibrium between the attraction and repulsion, shown in Figure F12, will frame the parameters of work of the twin-chamber capsule and spider configuration. It is expected that in the majority of cases the field produced by the advanced magnetic propulsion systems will lie on this curve. Such a field will not influence in any noticeable way the ferromagnetic objects within its range, but will still be able to perform all work imposed on it. When used in flying vehicles, such a field will cause their flight, but will prevent any force interactions between these vehicles and nearby ferromagnetic objects. Because of this property, outside observers of such vehicles, who have no knowledge of this equilibrium of their magnetic interactions, will probably be convinced that the propulsion of these vehicles utilizes some kind of "antigravitational" field instead of a magnetic one.

In special circumstances, however, the field produced by a configuration of chambers can be redirected into a chosen interaction. For example, if a militarily oriented magnetic vehicle is chasing a missile or aeroplane, to intercept it, it will change its neutral field into an attracting one. Thus its attraction force will disable and overpower the object pursued, working as a "magnetic device for remote lifting" (see subsection M6). Similarly, when a magnetically propelled flying vehicle intends to abduct a motor car and its occupants, it could simply pick it up from the road by changing its own magnetic interaction from that of equilibrium into an attraction. Of course, there will also be situations when a repulsive magnetic interaction will be used. For example, in free space the production of a repelling force should be dominant. Then all dangerous objects, such as meteorites (in most cases containing iron), cosmic dust, missiles or satellites, will be repelled from the path of magnetic vehicles. Also, while flying above a hostile planet where inhabitants are known to shoot and launch missiles at any foreign vehicle, the crew of a magnetically propelled vehicle could switch on the repulsive action of its field. Then all bullets and missiles would be repelled from the vehicle without having a chance of reaching and damaging it.

F7.4. Multidimensional transformation of energy

The energy within the Oscillatory Chamber co-exists in three different forms as: (1) an electric field, (2) a magnetic field, and (3) heat (i.e. a hot dielectrical gas filling the inside of the chamber). These three forms are in a state of continuous transformation from one into the other. Furthermore, the Oscillatory Chamber is able to: (4) produce and absorb light, and (5) produce or consume motion (i.e. mechanical energy). Finally the chamber can also (6) accumulate and store huge amounts of energy for any length of time (i.e. work as an enormously capacious accumulator of energy). Such a situation creates a unique opportunity for the chamber to be utilized in many different ways (not just only as a source of magnetic field), while one type of energy is supplied to it, another type is obtained from it. The following kinds of energy can be supplied to, or obtained from, the Oscillatory Chamber: (a) electricity transferred in the form of an alternating electric current, (b) heat accumulated in a hot gas, (c) magnetic energy transferred through the pulsations (changes in density) of a magnetic field, and (d) mechanical energy transferred in the form of the motion of the chamber in relation to another chamber or in relation to the environmental magnetic field, and (e) light which either can be absorbed by the circulating flux of the chamber (see the description of astronomical "black holes" provided in subsection JB6) or produced after turning the Oscillatory Chamber into a kind of a fluorescent bulb (see descriptions in subsection F1.3). Depending on which one of these forms of energy is supplied to the chamber, and which one is drawn from it, the Oscillatory Chamber can act as almost any energy producing (or converting) device built to date, e.g. as a transformer, generator, electric motor, combustion engine, heater, photo-cell, searchlight supplied with its own battery lasting for thousands of years, etc. **Table F1**

combines the most utilitarian applications of the Oscillatory Chamber, exploiting its capacity for multidimensional transformations of energy.

F7.5. Continuous oscillating - a unique electromagnetic phenomenon allowing the Oscillatory Chamber to absorb unlimited amounts of energy

Let us return to the example of a swing, and consider what happens when we increase the kinetic energy supplied to this device. The amplitude of oscillations increases proportionally to the energy supplied. We may intensify this process to the point when the top horizontal bar will prevent any further increase of amplitude. If we still keep providing energy beyond this point, the conventional swing will be destroyed, as its arm will hit the top horizontal bar and one of these two parts must break.

The above design limitation in the amount of kinetic energy that a conventional swing can absorb has already found a technical solution. Someone has already dropped into the idea of building a swing without a horizontal bar. Thus if we use a modified swing of appropriate design (without a top horizontal bar, but having a rotary horizontal axle instead), a further increase of energy will lead to a unique phenomenon of "continuous oscillating" (which, because of its uniqueness, in this monograph will be called "**perpetual oscillating**"). Swings built especially for high performance usually achieve this. In the "perpetual manner of oscillating" the modified swing's arm follows a circular course, instead of slanting back and forth like in a conventional swing. The energy transformations still exist in it, but the whole oscillating phenomenon obeys different kinds of laws. Thus, the most important attribute of systems capable of perpetual oscillations is that their capacitance for potential energy does not limit the amount of kinetic energy absorbed by them.

If we now analyze the work of a conventional oscillatory circuit with a spark gap, we notice that it behaves in a way identical to the conventional swing described above. Thus such a conventional circuit is the equivalent of the swing with a top horizontal bar. If we start adding magnetic energy to its inductor, then the growing amplitude of oscillations will lead to breakdown within the capacitor and to the destruction of the circuit. The Oscillatory Chamber, however, is the equivalent of the modified swing allowing for perpetual oscillations. If we add further magnetic energy to the energy contained in a stream of sparks (jumping let us say from plate P_R to P_L) then this stream will not terminate at the moment when the opposite plates reach the breakdown difference of potentials "U". This is because the inertia of the stream will still keep "pumping" electrons from plate P_R to P_L, until all the magnetic energy transforms itself into the electric field. However in this instant both plates also start a discharge in the opposite direction, i.e. from P_L to P_R. Therefore there will be a period of time when two sparks jumping in opposite directions will appear simultaneously between the same pair of segments. The first of them - inertial - will jump from plate P_R to P_L, whereas the other one - active - will jump from plate P_L to P_R. This simultaneous appearance of two sparks jumping between the same pair of electrodes will be the electromagnetic equivalent to perpetual oscillating. Because the completion of this unique phenomenon is only possible if various rigorous design conditions are met, the Oscillatory Chamber is the first and so-far the only circuit which allows for the appearance of such phenomenon.

In general we can assert the definition that "**the perpetual type of oscillations are attributed only to those oscillating systems whose ability to absorb the kinetic form of energy significantly overcomes their capacitance for potential energy**". Such an ability is purely an attribute of design. It is conditioned by the selected parameters and the appropriate structuring of the system. In the case of the Oscillatory Chamber it will be determined by the number of sparks which the device is capable of creating. This number in turn depends on the number of segments "p" separated within the plates. Let us determine the minimal value of "p" required for the perpetual type of oscillations.

The condition required for causing perpetual oscillating is that the kinetic energy contained in the magnetic field must be greater than the potential one contained in the electric field. Knowing the equations deduced for the oscillatory circuits, this can be written as:

$$(^1/_2)L*(U^2/R^2) > (^1/_2)C*U^2$$

If we transform the above relation and substitute the received combination of variables by the one extracted from the equation (F4), we will obtain:

$$p > 2s \tag{F14}$$

Condition (F14) expresses the number of segments "p" separated within the plates of the Oscillatory Chamber, sufficient to cause perpetual oscillating.

If we are capable of building and using the chamber in such a way that this condition is always met, then the capacitance of the Oscillatory Chamber will not be able to introduce any limitations on the amount of energy absorbed by this device. This property, combined with independence from the continuity and efficiency of the energy supply, will allow the Oscillatory Chamber to increase the amount of energy contained in it to a theoretically unlimited level.

F7.6. Function as an enormously capacious accumulator of energy

The perpetual oscillating described above introduces the ability of the chamber to absorb unlimited theoretically amounts of energy. This property, combined with the capability of the twin-chamber capsule to extinguish completely the produced field (i.e. to turn its entire magnetic energy into the circulating flux - see subsection F7.1), enables Oscillatory Chambers to be enormously capacious accumulators of energy. The appropriate calculations completed for the Magnocraft can be useful for illustrating what level of capacitance this device provides. For example the author has determined the amount of energy contained in the field of the Magnocraft type K3 (compare subsection F5.5). The result, obtained on the assumption that this vehicle produces only the starting flux, was 1.5 TWh (Tera-Watt-hours) - i.e. the present equivalent of two months' energy consumption for a whole country such as New Zealand. Because in the K3 type of Magnocraft the total volume of its Oscillatory Chambers is about 1m^3, this enormous energy will be stored in a device approximately one cubic meter in size. If such a capsule measuring one cubic metre explode by accident, then the destruction caused by the release of magnetic energy it stores would be en equivalent to the exploding of one megaton of TNT.

The magnetic field is already recognized as a perfect means of collecting and storing a large amount of electrical energy. By using cryogenically cooled conductors, even contemporary inductors can store huge amounts of energy for a relatively long period of time. There are a number of research projects investigating this possibility (e.g. Australia National University in Canberra, The University of Texas at Austin, USA). One of the commercial applications seriously considered was to build a heavy cryogenic electromagnet near Paris, which would accumulate electric power in no-load hours and release it to the city at peak-consumption hours.

The ability of the Oscillatory Chamber to store energy completely resolves the problem of energy supply during its operation. For the majority of applications it will be sufficient to charge it fully at the moment of production, and then simply use the device until this energy is fully withdrawn. The amounts of energy able to be stored in such devices allow them to be continuously operative for hundreds of years without the need for recharging.

F7.7. Simplicity of production

The Oscillatory Chamber will probably represent one of the most sophisticated devices human technology will ever complete. However, its sophistication will concern the amount of knowledge involved in its proper design and the amount of research required to appropriately shape its operation. Since its technology is once worked out, this device will not be difficult to produce. From the manufacturing point of view it will consist mainly of six plain walls, which will need to be precisely dimensioned, finished and assembled. The chamber has no moving parts, no complicated shapes and no intricate circuits. Practically, if the knowledge of its production was there, we should have been able to produce this device not only now, but thousands of years ago with the tools, materials, and technology of our ancestors.

F8. Advancements in the practical completion of the Oscillatory Chamber

The author invented the Oscillatory Chamber in the first hours of the 3rd January 1984. Soon afterwards, its description was distributed to a number of publications written in three languages and available in four different countries, i.e. New Zealand, Poland, USA, and West Germany (see publications number [2F] (a), [1F] (c), [2F] (b), and [2F] (c) in the list provided at the end of this chapter). The wide availability of the chamber's description prompted significant interest in this device. A number of individual amateurs in the scientific field and small companies initiated the developmental work with the aim of completing a working model of the Oscillatory Chamber. Of course, as is usually the case with new developments, the list of interested parties has included not even one single representative from institutions that are supposed to be most concerned about the progress in magnetic field producing devices, i.e. any magnet laboratory or science laboratory (in spite of strong encouragement and literature provided by the author to a number of these institutions). The majority of the amateurs interested in the chamber were from West Germany, Poland, Switzerland and Austria.

As can be predicted from the description of the Oscillatory Chamber, the building of the operational model of this device is a difficult task. Therefore, one after another, individual developers has given up. The only person who finally overcame various difficulties in achieving his goal was a Polish hobbyist, who after an initial taste of becoming "famous" due to my earlier publications, expressed the wish to stay anonymous. In May 1987 he supplied the author with a photograph of his first working model of the Oscillatory Chamber, which captured a stream of sparks that rotated around the peripherals of a square. A photograph of his model is shown in **Figure F13**. Looking now from the prospect of time at the achievements of various chamber's developers, the contribution of this particular hobbyist exceeded the input of other experimenters, and it paved the way for more advanced projects. If someone ever prepares a list of people especially meritorious for the development of the Oscillatory Chamber, he deserves an honorary position.

The problem which from very beginning discouraged the majority of initial developers of the chamber is illustrated in **Figure F2** (a). Following the descriptions available to them, in the first models they tried to use plate-shaped electrodes, as shown in Figure F1 (b). But when such electrodes are used, instead of jumping along the trajectory in Figure F2 (c) marked by S', sparks prefer to follow the line of least resistance and to jump along the trajectory S". Various developers tried to resolve this problem in a number of ways, starting from placing the electrodes inside "honey-comb" cells, and finishing with covering their surface with an insulating layer. It was this Polish hobbyist who finally found the solution. Through following clues contained in chapter S of this monograph, he studied ancient descriptions of the Ark of the Covenant. The conclusion he derived from these studies was that the Ark did not contain inside any plate-shaped electrodes. Only tips of gold nails driven through its wooden walls protruded inside. He decided to experiment with needle-shaped electrodes in his chamber. It worked. Such needles repel sparks passing by, therefore these sparks are unable to take short cuts. In this way, the model of the Oscillatory Chamber which used the needle-shaped

electrodes instead of plates - as shown in Figure F2 (b), was the first one which successfully produced orderly streams of sparks. Thus this model provided experimental proof that the principles of the Oscillatory Chamber are correct and that they can be implemented technologically in a working device, concluding in this way the stage #0 from the procedure of the chamber's development - see subsection F8.2.

F8.1. Experimental devices

The experience gained by the Polish hobbyist and other researchers during the completion of their devices, paves the way for more advanced research on the development of the Oscillatory Chamber. For example, this research determines the main components of a laboratory station that should be set up to conduct experiments on the chamber. Such a station must include a minimum of four devices, i.e. (1) a chamber, (2) a power supply, (3) an electromagnet or permanent magnets used to deflect path of sparks in the direction of chamber's left walls, and (4) a measuring equipment. The most important details on each of these are summarized below.

(1) A **chamber**. Experience accumulated so-far shows that the optimal shape for the experimental chamber is a completely closed cube. The selection of dimensions is a task rather difficult and responsible, as from one hand the larger the chamber is, the simpler is to manufacture and also the easier it is to observe all phenomena that occur. But on the other hand a larger chamber requires unproportionally a higher voltage of power supply, more electrodes, expensive materials, workmanship, etc. Therefore, practically the size should not exceed the cube with a side dimension of around 100 mm, whereas probably the most optimal is a chamber with the side dimension of only around 30 mm. According to the present findings, in the first phase of experiments the best material for the six walls of the chamber is an ordinary plexiglass (i.e. organic glass), because it allows for easy machining. In advanced models some more robust materials need to be used, e.g. quartz glass, or even pure quartz plates. Gas used in the models of the Oscillatory Chamber built so far is just ordinary air under ambient pressure (the type of gas used will be important only at the more advanced, fine-tuning stage of the Chamber's development - see stage number #4 in next subsection).

The most important elements of the Oscillatory Chamber are **electrodes**. They need to be made from material that is magnetically neutral, stiff, robust, and resistant to the destructive action of active ozone and electric sparks. They should be "needle-shaped" (not plate-shaped), as already explained before. The thinner they are the better, as the thick needles support the induction of eddy currents. The electrodes should be packed densely as it is only possible without mutually contacting each other. Upon their density depends on one hand the majority of the chamber's attributes and work parameters, such as the inductance of the streams of sparks or the capacitance of the chamber, and on the other hand, of course, also the majority of undesirable effects, for example the value of Hall currents. The mutual positioning of needles is also important - all of them should be placed the same distance from each other. To comply with the last condition they should be placed in a hexagonal configuration, i.e. when each electrode is placed in the centre of an equilateral hexagon, the corners of which are formed from the surrounding electrodes. The most important part of electrodes are their tips which emit electric sparks. From the shape of these tips will depend the success of the first experiments. The tips should be rounded in almost perfect hemispheres, as the sharp edges would cause the escape of charges which would make impossible the production of sparks, whereas the flat parts would cause the undesirable edge phenomena. The assembly of needles in walls of the chamber should be so designed that during the first phase of experiments it would allow for an easy exchange of electrodes and for the regulation of their height, length, shape, etc.

(2) A **power supply**. In the first two stages of the chamber's development, the power supply should yield the current capable to produce a spark of the length at least equal to the

width of the chamber. From correspondence with the Polish hobbyist it seems that the power source he used in his experiments was a high voltage DC impulse generator, similar to that used in electronic car ignition systems. It produces DC impulses, the variation in time of whose approximately follows a square curve. A diagram of his generator can be supplied on request. The voltage of his impulses was about 300 kV. However, it should be stressed that after passing the second stage of the chamber's development (as this is described in the next subsection), the manner of energy supply to the chamber will be drastically changed. This in turn will reevaluate the requirements imposed on the energy supply. For example, instead of the value of voltage and the shape of impulses it may produce, the accuracy of the synchronization of energy pulses with the frequency of the chamber's own oscillations begins to be important.

At this point it should be added that in the first two stages of the chamber's development the power supply may constitute a difficult and rather expensive part of the experimental station's set up. From correspondence with the Polish hobbyist it appears that before building the successful DC impulse generator described above, he built four different AC power systems, including a Tesla Coil, and various high voltage AC generators. But each of these AC systems proved to be unsuitable. For example, sparks produced by Tesla Coil seem to jump in uncontrollable directions and resist being put into any order. On the other hand, sparks from high voltage AC generators seem to keep open their ionic channels long after they diminish, so that the voltage can not build up on the electrodes.

The author's opinion, however, is that after appropriate designing and correct completion of the developmental procedure (e.g. as this is explained in subsection F8.2) the power supply can be simplified. He believes that in the first two stages of experiments on the Oscillatory Chamber even a Wimshurst electrostatic machine, Van de Graaff machine, or just an ordinary combining of an induction coil from a car with a battery should suffice. After all, when in 1845 Joseph Henry conducted experiments on his oscillatory circuit, the only known means of charging objects with electricity was their rubbing together (the Wimshurst electrostatic machine was invented over 30 years later in 1878) - but it did not stop him from completing his revolutionary invention. Of course, the use of more sophisticated high voltage generators will increase the convenience of research. But it will not get us nearer to the goal of our research which is to develop an effectively operating solution for the Oscillatory Chamber, not for an energy supply.

(3) An **electromagnet** (or a system of permanent magnets) used to deflect sparks. During experiments the chamber must be placed between N and S poles of a strong electromagnet. The magnetic field produced by this electromagnet would run along the chamber's (m) axis and thus push all sparks towards the surface of the left side walls. This push would cause them to rotate orderly in a clockwise (or counter-clockwise) direction. Without this initial magnetic field extended along the (m) axis, the sparks would not rotate orderly around the chamber's peripherals, but would rather jump chaotically in all possible directions. As the effectiveness of the chamber's operation will increase (see the end of stage #3 from the next subsection), this deflective function of the external magnetic field will gradually be taken over by a field produced by the chamber itself. In order to produce a sufficiently strong external field, the best solution would probably be to use a powerful DC electromagnet. However, perhaps it could also be effective to use a magnetic circuit formed from a number of permanent magnets assembled onto a curved ferromagnetic core the both sharp ends of which would point at the chamber's magnetic axis.

(4) **Measuring equipment**. The sparks jumping through the Oscillatory Chamber are an extremely fast phenomenon which is almost impossible to be observed with the naked eye, and resist the traditional measuring methodologies (starting from stage #3 of the developmental procedure described in the next subsection these measurements begin to gain special importance). For this reason the experimental station must include some measuring equipment suitable for fast processes, for example an oscilloscope, a built-in camera with an electronic trigger, magnetometers, thermometers, etc.

At the conclusion of this description of experimental devices, it is worth reminding about general rule of the inventive activities that "simplicity is the key to success". This applies not only to the devices, but also to the manner of conducting experiments. These experiments should depend on a gradual introduction of subsequent improvements to the chamber, which should obey the principle "divide large goals into a series of small steps". After all the paths of even the greatest travellers are always made up of individual steps taken one after the other. Thus the most optimal completion of the Oscillatory Chamber should resemble the building of a house from small bricks, which always starts with laying foundations, then is followed with systematically placing subsequent layers of bricks on top of previous layers. Looking backward into the current course of research on the development of the Oscillatory Chamber it appears that the first builders of this device got bogged down just because of the complexity of solutions they tried to implement in one go, and the tendency to jump through initial experiments which in their opinion were unnecessary (e.g. directly to stage #2 "b" or even #3 "b" below).

F8.2. Stages, goals, and ways of achieving success in the experimental building of the Oscillatory Chamber

Because no research on this device has been done before, the major difficulty with the completion of the Oscillatory Chamber is that almost all details need to be discovered and worked out. The consequence of this is that the development of the chamber must be gradual, and according to a thoroughly designed master plan. The basic element of this plan is a stage which is designed so as to solve a given, but always only one, problem. In turn each stage can be subdivided into a series of steps, the first of which usually use a simple model to find a solution searched for (i.e. the first step is always completed on the simplest possible simulator/model of a given problem), whereas all following steps are to check and to implement this solution into the chamber. Finally, depending on the equipment used, problems encountered, and results obtained, each step should be subdivided into a number of phases, each one of which has an individual and well defined goal and the manner of achieving it.

After a thorough analysis of the mutual relationships between the subsequent attributes of the Oscillatory Chamber, it can be envisaged that the completion of a fully developed prototype of this device must involve not less than eight simple developmental stages numbered #1 to #8, plus one additional confirmation stage (i.e. non-developmental) numbered #0. In the case of such a subdivision, each stage has a different and strictly defined goal and its own way of achieving this goal, as it serves superimposing on the final construction only a single new attribute. Therefore the fulfilment of the goal of each stage can be achieved by a simple means and with the use of a transparent research methodology. The eight stages of the developmental master plan are as follows:

#0. The **confirmation** of the chamber's principles. This stage does not serve the building of the Oscillatory Chamber, but rather reassures the builder and other people who provide finance for this project that they invested into the right device. The major goal of this stage is to prove (or re-prove) that general principles of the chamber's operation do not run against any law of electromagnetism and can be implemented in a technical manner. The fulfilment of this goal can be achieved in a number of ways. At the present stage of the chamber's development, with the first confimative experiments already successfully completed, probably the most rational approach is to undertake the completion programme (i.e. to follow the developmental stages described below as #1 to #3) and then to use for additional confirmation purposes all devices and models producing the orderly streams of sparks obtained during the completion of this programme. The componental goals in such a case would include the confirmation that for example the streams of sparks: (a) are deflected always towards the same wall - e.g. left (i.e. that in the presence of a magnetic field they display a natural tendency to form orderly streams that rotate around the walls of a chamber),

(b) produce their own magnetic field during this rotation, which is added/totalled (not subtracted) to the field already prevailing in the chamber, (c) withstand as independent sparks during the jumps (i.e. subsequent sparks do not join each other before reaching the opposite electrodes), (d) contribute an additional magnetic inertia (inductance) to the circuit, etc.

It should be indicated that experiments of the Polish hobbyist with his prototype shown in Figure F13 have already achieved the main goal of this stage, although they were deprived the rigours, systematics, and precision of completion characteristic for scientific research. Of course, all further experiments which could widen, reconfirm, verify, formalize, or just simply repeat the main goal and the componental goals of this stage would be warmly welcomed (e.g. it would be especially desirable if someone completed a spectacular "model of the chamber" with rotary sparks, as described in step (a) of stage #2).

#1. The **finding of a basic configuration** of the chamber, capable of producing a stream of self-sustained sparks. The main goal of this stage is to find such a configuration of the chamber's elements, which would be capable of producing oscillatory electrical discharges similar to these formed by a conventional Henry's circuit. In order to expedite the achievement of this main goal, the completion of this stage should be done on a maximally simplified model of the chamber having one set of electrodes only. This model would contain only two independent plates of plexiglass which imitate the chamber's two opposite walls. Both plates would be temporally positioned towards each other by the means of inserting between them a cubical separatory box with an easy to regulate thickness, and then holding them in a steady mutual orientation by some kind of a simple handling device (e.g. an ordinary vice or clamp). The model would contain only a single oscillatory circuit (i.e. it would have only two sets of needle-shaped electrodes fitted in these two plates and being permanently held one in opposition to the other). In order to accomplish a gradual, progressive, and thoroughly structured development of the chamber's basic configuration, the fulfilment of the main goal of this stage should occur in at least four separate steps. The author's proposal for these steps is as follows:

(a) Building the circuit that initiates the experiments. The goal of this step is the formal initiation of the research, combined with the practical familiarization of an experimenter with the behaviour and properties of oscillatory circuits with a spark gap. For the first circuit, a conventional oscillatory circuit with a spark gap (i.e. Henry's circuit illustrated in part "a" of Figure F1) should be build, only that instead of the pair of Henry's conventional electrodes it should utilize the simplified model of the chamber as described above. In this model all needles on each of its two opposite walls should be connected together and linked to one branch of the circuit (e.g. to an inductor and one of the (two) plates of a capacitor). Therefore in this (a) step the electricity will be supplied to all electrodes simultaneously. After the circuit is built, its various parameters/elements need to be manipulated, so that when being charged it starts to produce a few alternating streams of sparks. These sparks should oscillate between electrodes of the chamber's model for a longest time possible. The longer the sparks oscillate, the easier it will later be to observe the course of experiments with this chamber. It should be stressed that success in this step, amongst others, will also depend on the shape and properties of tips of needle-shaped electrodes. Therefore working out the most proper form and the best technology of preparation for these tips will be the contribution of this initial experiment into the next stages of research.

(b) Finding the configuration of electrodes which produce self-replenishing sparks. In the previous step (a) the impulses of electrical energy were simultaneously supplied to all electrodes of the chamber. However, the solution used for this purpose is not usable in further research as it requires connecting together all electrodes of a given wall. Thus the correctly constructed chamber must exchange electrical energy between subsequent electrodes on a different principle. It must display a capability to self-distribute the energy of oscillations amongst electrodes and thus to self-replenish the number of sparks. This property means that even if impulses of power will be supplied to a couple of needle-shaped electrodes only (i.e. to a single electrode located at each of two opposite walls), then because of the mutual induction

between subsequent electrodes of the same wall the electrical energy will self-distribute from these two electrodes to all electrodes of the chamber. This step is to provide the construction of the chamber with this particular property. Therefore its goal is to find geometrical and configuration parameters of the electrodes, such that they will provide the Oscillatory Chamber with the ability to self-distribute its sparks. In order to achieve this goal, in the electrodes of the chamber worked out during the completion of step (a) further geometrical and configuration modifications are now necessary. The key to success will be the active length of the electrodes (it should be noted that the total length of electrodes can be increased not only within the chamber, but also outside it - through lengthening the parts of the electrodes which protrude on the other side of the walls). Thus for example parameters increased should be: the ratio of the length of electrodes to the gap between their tips, the ratio of the length of electrodes to their mutual distance, etc. After the attribute of self-distribution of sparks is obtained, the goal of this step is achieved. However, the resultant oscillatory circuit should be saved for later, as it will be useful in further stages of the research (see step (a) in stage #2 and step (a) in stage #3).

(c) The replacement of an inductor from Henry's circuit with the inductance of sparks. The goal of this step is to find the design and geometrical parameters of electrodes, such that the inductance of a given oscillatory circuit will be produced solely by the streams of sparks and without the need for any inductor. Achieving this goal depends on manipulations on the shape and properties of the electrodes used in a simplified model of the chamber (e.g. through adding insulative spheres of glass at the ends of each needle-shaped electrode), on their active length, diameter, mutual distances, and manner of distribution, that the needed increase in the inductance of the sparks will be obtained. The final inductance required for the completion of this step must allow the resultant circuit to produce the self-oscillating sparks even if the inductor is disconnected from it completely. After the goal of this step is reached, the inductor should be permanently eliminated from further prototypes of the chamber. Thus for all following experiments electrodes only just worked out should be used, for which sparks instead of the inductor provide the circuit with the inductance needed for the operation.

(d) The replacement of a capacitor from Henry's circuit with the own capacitance of the chamber. The goal of this step is the increase of the chamber's capacitance to the required value through a change in configuration parameters. In order to achieve this goal the model of the chamber obtained in the effect of step (c) should be further transformed by altering all the parameters that may have influence on its capacitance. The goal will be achieved if after the elimination of the external capacitor, the model of the chamber will still produce self-oscillatory sparks. For example the parameters which should be altered to achieve the goal are: the ratio of the gap between electrodes (i.e. the mutual distance between tips of electrodes placed in two opposite walls) to the mutual distance of electrodes from each other, the ratio of the height of electrodes to their mutual distance, the ratio of uncovered to the insulated parts of electrodes, the total number of electrodes, the shape of electrodes, etc. After the parameters which allow for the self-oscillatory sparks to be produced even after an external capacitor is completely disconnected, the basic configuration of the Oscillatory Chamber is found. This configuration, after its two single electrodes on both opposite walls are charged with electricity, will produce streams of oscillatory sparks (i.e. give the "oscillatory response") without containing either an external inductor nor external capacitor. This basic configuration is now to be used for the completion of stage two in this developmental master plan.

#2. A **self-regulation of the phase shift** between two streams of sparks. The next stage of the chamber's development is to combine together two basic configurations obtained as the result of stage #1. Unfortunately, these two circuits after being joined together into a single chamber, instead of orderly oscillations with the required phase shift of 90° they will tend to produce a chaos of sparks jumping in all directions. Therefore the goal of this stage (#2) is to alter the chamber's configuration (shape) and internal electrical interactions of its elements in such a way that both circuits will self-regulate and self-maintain a 90° phase shift between the two streams of sparks they produce. This means that both these streams of

sparks must jump orderly between both sets of opposite walls (i.e. both oscillatory circuits constituting the chamber) and their mutual phase shift must be self-maintained at a 90° level all the time. The way of achieving this goal is through introducing to the chamber's structure some additional features or elements, for example: insulated plates connected to each column of electrodes, which would overlap with the electrodes of the next walls, thus forming a capacitance between them (see Figure L7); cavities inside electrodes similar to those forming stationary waves in microwave ovens; coils similar to starter coils in electric motors; etc. For simplicity, similarly like in the previous stage, the accomplishment of this goal should occur in at least two following steps:

(a) Working-out an effective system for self-regulation of the 90° phase shift in two independent oscillatory circuits, achieved through research on models. The goal of this step would be to find an effective system which would provide such self-regulation using two Henry's circuits which are very simple to design and to operate.

In order to achieve this goal, two conventional Henry's circuits, prepared previously in the result of step #1 (b) or even #1 (a), should be combined together in such a manner that they would produce a "model of the chamber". In this model two sets of electrodes assembled at two pairs of opposite side walls of a cubical chamber would be used as electrodes of conventional Henry's circuits. These circuits would need to oscillate with the mutual phase shift equal to 90°. Therefore in the presence of the external magnetic field they would form streams of sparks that would rotate around the peripherals of a square. A simple system which would be capable effectively maintain the required 90° phase shift between the oscillations of both these circuits, most probably would also provide a principle for the self-regulation of sparks' phase shift, which is searched for. Thus, after this principle is adopted to the Oscillatory Chamber, it should provide an orderly rotation of the sparks there. It should be added here that the above "model of the chamber" should already produce a small magnetic field, therefore just on its own it would be a significant scientific and technical achievement suitable for publishing and popularization.

(b) The practical implementation of the principle of self-regulation just being worked-out. The goal of this step would be to adopt the system developed in step (a) so that it would perform the same effectively when included into the actual configuration of the Oscillatory Chamber. Correctly adopted such a system still should produce two oscillatory streams of sparks alternatively jumping with the 90° phase-shift as required, even if the power supply would be directed to just one of these two circuits (i.e. the second of these circuits should self-absorb the required electrical energy from the first circuit).

#3. Making the chamber absorb and store the amount of energy sufficient for the **production of a useful magnetic field**. The goal of this stage is to find a technique and to develop a device for passing to the chamber any required amount of energy by supplying it directly via magnetic impulses (i.e. not via electrical impulses as in previous stages). This increase in the level of chamber's energy would in turn have the following consequences. (a) It would introduce the possibility of unlimited extending of the time-span of the sparks' rotation (i.e. it would allow to achieve streams of sparks which are self-oscillating for any required period of time). (b) It would enable the chamber to produce a useful magnetic field which this device would output to the environment. (c) It would also allow for the elimination of the external source of a deflecting magnetic field which during short impulses of the chamber's operation was necessary to maintain the orderly rotation of the chamber's sparks (thus now the deflecting magnetic field would not be needed any more and sparks would still rotate orderly because of their own field). The principle on which the goal of this stage could be accomplished is to reverse the direction of the energy transformation occurring in the chamber. Previously the chamber transformed the electrical current being supplied to it into its own magnetic field, now it is going to transform the magnetic field being supplied to it into its own electrical current (sparks), and then transform again this electrical current into a magnetic field.

To achieve the goal of this stage would need to include the following actions. (1) To determine the conditions for a most effective energy supply to the chamber (e.g. finding a

point in the chamber's own oscillations which is the most suitable for supplying an energy impulse, determining exactly the value of a phase shift between the frequency of the external power supply and the chamber's own (resonance) frequency so that this phase shift would make the chamber to absorb energy from an external power supply and store it, establishing the most effective difference of amplitudes, etc. - see the relevant part of subsection F7.1). (2) To find principles for automatic (electronic) detection of the required point in the oscillatory cycle of the chamber's operation (i.e. the point that we have chosen for the supply of energy impulses). (3) To find a technique for the synchronized release of energy impulses being supplied from an external source (this release must occur exactly at that point of the chamber's own oscillations cycle that we have chosen for the energy supply). (4) To build a controlling device which would effectively implement this technique for the combination of our chamber and the energy source.

If the goal of this stage is achieved, the chamber will be able to absorb any required amount of energy and transform it into a magnetic field. In turn this energy will enable the chamber to produce a magnetic field of the required density and will also allow this device to work for a required period of time. In effect it will make possible the practical utilization of the magnetic field that the chamber will produce. Thus after the completion of this stage the prototype of the Oscillatory Chamber will have the capability of being used for the first commercial applications.

The most important steps in the realization of this stage are as follows:

(a) The determination of the conditions for an effective transfer of energy to the chamber, completed on models. The aim of this step would be to determine for example: (1) the value of the difference between the frequency of the external power supply and the resonance frequency of the chamber, which would cause the chamber to absorb the required amount of energy and store it; (2) the optimal phase shift between pulsations of these two elements (i.e. the chamber and the power source); (3) technical manner of "tuning" of the power supply to the required frequency and phase shift, etc.

In order to simplify the task, the completion of this step should be achieved on a model. This model would be obtained if two conventional oscillatory circuits are magnetically linked with each other. This magnetic linking would occur via their inductors, which because of the character of the future applications would need to not have an iron core but air clearance instead (i.e. both inductors would have an empty space running through their centres). Two solutions are possible for these models, i.e. (1) a model imitating a twin-chamber capsule, or (2) a model imitating a transformer. In the first solution of a model imitating a "twin-chamber capsule", the magnetic linking would be obtained through inserting a smaller, active air inductor into the centre of a larger passive inductor (during the implementation of this model, the active inductor which would supply the chamber with energy would be inserted inside of this chamber). In the second solution both inductors of approximately the same length and size would be placed next to each other, similar to the primary and secondary coils of a transformer (during the implementation of this model the active inductor used as a power supply would be placed at the extension of the chamber's magnetic axis). After such a magnetic linking, one of these two circuits (i.e. the active one) would provide the energy to another circuit (i.e. to the passive one). The passive circuit for this step could simply be any conventional Henry's circuit, for example the one built from step (b) or step (a) of stage #1. In that manner the conditions for the most effective transfer of energy from the active circuit to a passive one could be defined. The advantages of using such simplified models is that as an active circuit practically any circuit allowing for the regulation of frequency within the range of the chamber's own frequency could be used. Thus, it may not be necessary to build an active circuit, but for example to use a ready-made tuning circuit from an old radio or TV set. Furthermore, after the completion of this step, the research station and the active circuit could later be reused with only minor adaptions for supplying energy to a prototype of the Oscillatory Chamber that we are currently working on.

(b) Testing the system just being developed. The goal of this step would be to test on a current prototype of the Oscillatory Chamber the energy supply system we have just developed. For the completion of this step, a simplest possible automatic controller would need to be build, which would control the transfer of energy from an external source (e.g. our active oscillatory circuit) to a prototype of the Oscillatory Chamber we actually are working on. The methodology of developing this controller would be similar to that applied in step (a) of this stage, only that instead of determining the optimal conditions and manners of energy supply, we would now try to develop devices that would effectively implement these conditions in practice.

(c) The practical implementation in a prototype of the Oscillatory Chamber the optimal conditions of energy supply and newly developed devices which make effective use of these conditions (i.e. a controller and the active supply circuit). In order to achieve such a successful implementation of the results, three corresponding devices must be built and combined together into an effectively cooperating system. These are: (1) a chamber whose components (e.g. sensors, coils) and longevity must allow for the continuous operation and supply of energy in a manner just developed, (2) an external source of pulsating magnetic energy (i.e. a power-supply device), which is to cooperate with this chamber in a manner required by our technique, and (3) an effective control device which will coordinate the recharging of the chamber by this power-supply device, allowing in this way the continuous operation of the whole system for a desired period of time.

It should stressed at this point that after this stage of the developmental master plan is completed, a further energy supply to our prototypes of the Oscillatory Chamber will be achieved via this system of magnetic impulses, and previous devices for electrical energy supply will not be needed any more. In this new method of supply, the prototype of the Oscillatory Chamber will represent a kind of secondary coil of a transformer, the primary coil of which will be the inductor of the supplying (active) oscillatory circuit which provides to the chamber the appropriately synchronized pulses of magnetic energy.

#4. **Controlling the chamber's period of pulsations**. The goal of this stage is to learn how to control the chamber's period of pulsation (thus also its frequency - see equations F7 and F8) through appropriate selection of pressure and composition of the dielectric gas contained in the chamber. To achieve this goal, a controlling device must be built, which, when added to the chamber's main structure, will allow for effective control of its pulsations.

#5. Releasing the phenomena to **recover the heat dissipated** by sparks (thus terminating the chamber's energy loses occurring during its operation). The goal of this stage is to alter the phenomena within the operational chamber in such a way that they will cause a conversion of energy contained in hot dielectric gas into the chamber's electric charge. To achieve this goal a complete understanding of the complex phenomena occurring in the chamber must be achieved, and then the alteration of this phenomena into a desired direction must be made so that the Oscillatory Chamber will make the best use of the Telekinetic Effect (see the description of this effect provided in chapter F).

#6. **Neutralization of electromagnetic forces** that act on the chamber's physical structure. The goal of this stage is to find such mutual relationships between the design parameters of the chamber (i.e. its shape and dimensions) and the parameters of its work that the structure of the chamber will be released from the action of forces produced during its operation. The way of achieving this goal is to change parameters of the chamber's design and operation, and subsequently to monitor the influence these parameters have on the forces acting on the chamber's structure. Then the optimal parameters must be chosen, which will neutralize completely the action of these forces.

#7. **Building a spider configuration** (at a later stage also a twin-chamber capsule). The goal of this stage is to combine effectively individual Oscillatory Chambers, so that they cooperate as a spider configuration or a twin-chamber capsule. Achieving this goal involves various alterations to the control of both chambers, and also to the phenomena occurring within them, so that the final configuration can work effectively and remain fully controllable.

#8. **Unlimited increase of the chamber's energy** reserves. The goal of this stage is to experimentally detect and eliminate all possible obstacles that could limit the amount of energy stored within spider configurations or twin-chamber capsules previously completed. The level which should be achieved at this stage is to store the amount of energy that allows for exceeding about 10 times the value of the starting flux. The achievement of this goal will be quite a difficult task, as research must involve various safety precautions and be completed with extreme care, because Oscillatory Chambers which are heavily loaded with energy also represent powerful bombs whose accidental explosion would cause enormous destruction (see subsections G12 and V5.2).

Analysing the above developmental master plan, one probably will notice that until the end of stage #3 it is purposely segmented into a series of small steps, in the assumption of the author sufficiently simple to be completable tasks for an individual researcher. Therefore this plan can gradually be completed either by individual hobbyists or by small developmental teams. Especially it suits the realization as a series of diploma projects for students in their final year of University or Technical Institute/College with an electrical or electronic interests profile. For example steps #1(a), #1(b), #1(c), #2(a), #3(a) are ready-made topics for such diploma projects, sufficiently simple and straight-forward to be completed in a laboratory at a University or a school with an average supply of research equipment. (It is a pity that the didactic specialization of the author is not electrical engineering because then he could try to complete this master plan on his own. Unfortunately, at the present stage of his career such a drastic change in specialization is not possible.)

At the end of this subsection it is worth stressing that after the completion of stage #3, the prototypes of the chamber become commercially useful and can successfully compete in various applications with heavy and clumsy electromagnets. Therefore, beginning with the stage #4, the chamber becomes capable of earning money, thus it will pay itself for the further development. Also starting from stage #4, this device will quickly spread around the world and gradually take over numerous functions that presently are performed by various other devices (see subsection F9).

F8.3. An invitation to take part in the development of the Oscillatory Chamber

As this can be realized from the content of subsection F8.2, the first three stages of the chambers development can be completed even by a single researcher. In turn after completion the Oscillatory Chamber will start to bring in the first income, thus it will begin to finance further development by itself. Therefore with a bit of good luck and inventive talent, the person who currently decides to invest in this new device, perhaps in the not-too-distant future may hold the technological key to almost all the energy of our planet. This is an enormous stake to win, and the type of initial contribution to join the game is practically affordable by everyone. This is because almost everyone can get access to a few plates of plexiglass, a box of bronze needles or a copper wire, some capacitors and inductors, an old Wimshurst machine or a car ignition coil with an accumulator. What at this stage is needed the most is a will, a lot of common sense, an inventive talent, and a bit of good luck. So why not try.

Even when someone does not hit the jackpot, the contribution into this research may be an excellent investment into one's own future. This is because the completion of the Oscillatory Chamber must be initiated sooner or later, as it is too attractive device to be ignored forever. In turn the advanced stages of the chamber's development (i.e. starting from stage #3 upwards) must be completed with a team effort and the intellectual contribution from many minds. This in turn means that the last stages of the chamber's development would need to take the form of a quite large technological project. The project of course will require a number of research staff who must be well trained in solving the chamber's problems, and who should prove their capabilities in advance. It is well known that investigators who are completely new in a given field always require a significant period of studies (sometime even a

few years) to become familiar with the subject. During this time they remain intellectually nonproductive. Thus in the case of beginning a project to build the Oscillatory Chamber, people who have already done some experiments with the chamber will be in high demand. Therefore, every person who at present is working on the chamber should keep in touch with the author, and should systematically exchange information on their most recent achievements. Such contact and exchange of information with the author has also some additional advantages, the most important of which are as follow:

1. The duplication of errors is avoided. Developmental research on the Oscillatory Chamber which is not coordinated, will more likely lead to the duplication of the same errors by those individual investigators who do not know about each other's achievements.

2. A number of various solutions and aspects of the Oscillatory Chamber can be investigated simultaneously. This in turn speeds up significantly the process of finding and implementing the correct technical solutions.

3. The contribution of fresh ideas is increased proportionally to the number of investigators simultaneously working on the Oscillatory Chamber. Subsequent investigators verify their ideas and contribute towards the common goal. As a result, the time-span in which this urgently needed invention is built (and used for the benefit of our civilization) is decreased.

It should be added here that such team work decreases also the secrecy about the advancement of the chamber's completion and thus gives everyone an equal opportunity to develop this device. This should prevent the history of the nuclear bomb from being repeated again. The military capabilities of the Oscillatory Chamber are so enormous (see subsections F9 and G14) that a totalitarian country or organization which secretly develops this device before anyone else could use it to conquer the world and to take complete control over our planet.

F9. Future applications of the Oscillatory Chamber

Because the Oscillatory Chamber is so advanced and so universal energy storage, it is going to have countless applications after it is completed. Some most significant amongst these applications are explained in the next chapter FB.

F10. Monographs describing the Oscillatory Chamber

Since the Oscillatory Chamber was invented, the author has prepared, formally published, and disseminated a number of scientific monographs devoted to the presentation of this device. These were published in three different languages (English, German, and Polish) and available in a few countries (New Zealand, USA, Germany, Poland). The most important of these monographs are listed below.

[1F] "Theory of the Magnocraft". It contained the first comprehensive presentation of the Magnocraft, including the first description (one chapter) of the Oscillatory Chamber ever published. One chapter was also dedicated to the description of Magnetic Personal Propulsion. The monograph [1F] was published in the following editions:

(a) First New Zealand edition, January 1984, ISBN 0-9597698-0-3;

(b) First USA edition - co-published in USA by: Energy Unlimited, PO Box 35637 Sta. D, Albuquerque, NM 78176, June 1985.

(c) First Polish edition (written in the Polish language) entitled, "Teoria Magnokraftu", March 1986, ISBN 0-9597698-5-4.

(d) Second New Zealand edition - extended, Invercargill, August 1984, ISBN 0-9597698-1-1, 110 pages and 53 illustrations.

[2F] "The Oscillatory Chamber - a breakthrough in the principles of magnetic field production". It was intended to provide the first complete disclosure of the Oscillatory Chamber,

prepared as a proposal to be discussed and evaluated by other scientists. One chapter was dedicated to the Magnocraft. The monograph [2F] was published in the following editions:

(a) First New Zealand Edition, December 1984, ISBN 0-9597698-2-X.

(b) First USA edition, published in the "Energy Unlimited" magazine, Issue 19/1985, pages 15 to 43. This special edition of the magazine (published by "Energy Unlimited", PO Box 35637, Station D, Albuquerque, NM 87176, USA) reprinted the whole monograph on the Oscillatory Chamber.

(c) First West German edition (written in the German language) entitled, "Die 'Schwingkammer' Energie & Antrieb fur das Weltraumzeitalter", published by: Raum & Zeit Verlag, Dammtor 6, D-3007 Gehrden, West Germany; June 1985, ISBN 3-89005-006-9, 64 pages (including 7 illustrations).

(d) Second New Zealand edition, augmented, Invercargill, October 1985, ISBN 0-9597698-4-6, 115 pages and 15 illustrations. This second edition included the first presentation of the Concept of Dipolar Gravity.

[2F/2] "Komora Oscylacyjna czyli magnes jaki wzniesie nas do gwiazd" (i.e. "The Oscillatory Chamber: a magnet that will carry us to stars"), Dunedin, New Zealand, 1994, ISBN 0-9597946-2-X, 178 pages (including 4 tables, 38 illustrations, and 1 enclosure).

The latest monograph [2F/2] (written in the Polish language) was intended to provide the most comprehensive and up-to-date description of the Oscillatory Chamber, supplemented with the summary of to-date research on the completion of this device. It provided the blueprint for formulating this monograph.

[3F] "The Magnocraft: a saucer-shaped space vehicle propelled by a pulsating magnetic field". Monograph, Invercargill, New Zealand, September 1986, ISBN 0-9597698-3-8, 300 pages.

[4F] "Advanced Magnetic Propulsion Systems". Monograph, Dunedin, New Zealand, October 1990, ISBN 0-9597698-9-7, 460 pages (including 7 tables and 163 illustrations).

This monograph [4F] represents an updated and extended version of the monograph [1F]. It is composed of three parts: (1) the philosophical foundations, including the Concept of Dipolar Gravity, (2) Theory of the Magnocraft (including chapter F devoted to the Oscillatory Chamber), and (3) the theoretical validation of theories and devices proposed in parts 1 & 2.

[5F] "The New Zealand explosion of 1178 A.D. which tilted the earth". Dunedin, New Zealand, 1994, ISBN 0-9597946-6-2, a private edition by the author, 156 pages (including 36 illustrations). It presents the author's findings about a crater formed when a stack of seven Magnocraft-like vehicles exploded near Tapanui, New Zealand.

[6F] "The magnetic extraction of energy from the environment". Dunedin, New Zealand, 1990, ISBN 0-9597946-1-1, 38 pages (including 14 illustrations), a private edition by the author. It describes energy producing devices that utilize the "Telekinetic Effect" released through acceleration or deceleration of magnetic fields.

Monographs [5F] and [6F] summarize briefly the use of Oscillatory Chamber but do not provide any extensive description of the operation or design of this device.

F11. Symbols, notation, and units used in this chapter

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symbols - explanation   [units]

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a - side dimension of a cube   [metre]
A - area   [square metre]
c - compression force   [Newton]
C - capacitance   [Farad]
E - name of an electrode   [-]
f - frequency of pulsations   [1/second]
F - magnetic flux   [Weber]
Fo- constant component of a magnetic flux   [Weber]
i - electric current   [Ampere]
l - spacing or length   [meter]
L - inductance   [Henry]
m - magnetic axis   [-]
M - magnetic force acting on a current   [Newton]
n - number of turns of a coil per unit of length   [-]
p - number of segments in an electrode   [-]
P - plate (electrode)   [-]
q - electric charge   [Coulomb]
R - resistance   [Ohm]
s - sparks' motivity factor   [-]
S - general name for a spark   [-]
t - time   [second]
T - period of pulsation   [second]
T - tension force   [Newton]
U - breakdown difference of potential in the chamber [Volt]
ΔF- amplitude of magnetic flux pulsations   [Weber]
ε - dielectric constant for a gas filling the chamber [Farad/metre]
μ - magnetic permeability of a dielectric   [Henry/metre]
Ω - resistivity of a dielectric gas within the chamber
     determined at the moment of electric breakdown [Ohm*metre]

Suffixes assigned to electrodes and other symbols:

B - Refers to a back electrode
F - Refers to a front electrode
L - Refers to a left electrode
R - Refers to a right electrode
N - Refers to a north magnetic pole
S - Refers to a south magnetic pole
I - Refers to an inner Oscillatory Chamber
O - Refers to an outer Oscillatory Chamber
C - Refers to a circulating flux of a twin-chamber capsule
R - Refers to a resultant flux of a twin-chamber capsule

Applications of the Oscillatory Chamber

　　To-date there does not exist any other technical invention which has altered the state of our technical environment to the same extent as the completion of the Oscillatory Chamber will. The impact this device will have on the materialistic aspects of human life can be compared only to the effect of the introduction of computers in the intellectual sphere. It is a high chance that by the year 2084 (i.e. in one hundred years after the chamber's discovery) almost every active device used by people will consist of some form of the Oscillatory Chamber. Many structures which at present are passive, such as furniture, buildings, monuments, etc., will be transformed by the Oscillatory Chamber into active ones, i.e. moving, altering orientation and adjusting their location to the changing requirements of their users. Let us briefly review the main applications of the Oscillatory Chamber, trying to forecast what impact they will have on particular fields of human activity.

　　The area where the introduction of the Oscillatory Chamber will have the most significant impact, is our use of **energy.** This device will completely transform all present methods of energy production, storage, distribution, transformation, and consumption. After the Oscillatory Chamber if fully developed, the vast range of different devices which are presently used for these purposes will be replaced by a single type of twin-chamber capsule which, after appropriate change in control, will be capable of performing numerous different functions. In order to realize the total transformation that the landscape of our planet will undergo after the introduction of these devices, it is sufficient to realize that for example all current powerlines (both, high and low voltage) will disappear completely, and the energy will be distributed directly to the consuming appliances after being packed into "tins", i.e. small, light, handy, and re-chargeable twin-chamber capsules.

　　Totally new horizons in the **energy production** will be opened due to the potential of the Oscillatory Chambers for multidimensional transformation of energy. It can be predicted that systems of Oscillatory Chambers will replace all other present devices which serve the production or transformation of energy. So the present combustion engines, generators, photo- and thermo-cells, transformers, motors, etc. - all these will be replaced by systems of Oscillatory Chambers (see Table F1). Because of the high efficiency of these new devices (i.e. the operation almost without losses of energy), they will provide our civilization with the required energy in a manner much less destructive to the natural environment and much more efficient than currently.

　　The Oscillatory Chamber will also make possible and economically viable the development and the introduction to common use numerous new, **"clean" methods** of energy production. Such devices as telekinetic generators of free energy (described in the separate monograph [6]) and generators of clean energy (making the use of solar radiation, wind, ocean waves, sea tides) can become extremely efficient and independent from the weather caprices if they employ Oscillatory Chambers as their energy gathering components. In effect the clean energy production most probably will be so effective that combustion engines and combustible fuels will be totally eliminated from use as damaging unnecessarily the natural environment.

　　Future numerous applications of the chamber can be predicted in the area of **energy accumulation**. These are connected with the ability of twin-chamber capsules to store huge amounts of energy. To get an idea of what kind of potentials are involved here, it is enough to realize that the energy needs for today's factories, towns, big ships or aeroplanes can be satisfied by a twin-chamber capsule of a pin-head size - if, of course, this device could only be built in such small dimensions. All present batteries, accumulators and electricity transmission

lines (powerlines) will be replaced with light, much more efficient, and rechargeable Oscillatory Chambers. Built as twin-chamber capsules, they will not yield any magnetic field when used for energy storage.

Because of the enormous potential to accumulate energy, Oscillatory Chambers will entirely change our system of **energy distribution**. Instead of the centralized energy distribution, as is used presently, the Oscillatory Chamber will make possible an individualized distribution. In this futuristic type of distribution twin-chamber capsules will be assembled directly inside of energy consuming appliances, thus saving on inconvenience (e.g. juggling with cords, using extensions), preparation time (e.g. plugging in, switching off), materials (e.g. cords, plugs, home wiring, powerlines), costs, maintenance, workmanship, etc. As this already was mentioned before, the final effect will be that all our present means and types of energy supply will completely disappear, and only small, rechargeable Oscillatory Chambers will be used for this purpose.

The multidimensional energy transformation capabilities of Oscillatory Chambers will have a significant bearing on the methods of **energy transformation** utilized in the future. Almost all forms of energy transformation will then involve Oscillatory Chambers. This not only includes the replacement of present electrical transformers with two sets of independent twin-chamber capsules which exchange their stored energy directly from one to other, but also various other transformations, for example: magnetic field into heat (Oscillatory Chambers will be employed as ordinary heaters or air conditioners), magnetic field into light (Oscillatory Chambers will operate as fluorescent bulbs), magnetic field into motion (Oscillatory Chambers will operate as electric motors), and much more - see Table F1.

Due to the Oscillatory Chamber the transformation of energy in the future will also replace today's **transformation of motion**. Future mechanisms will be much simpler and lighter, because they will be released from all the devices which presently produce and transform motion. The motion will be created in the location where the work is to be done and in the exact form that is required. For example if a future hobbyist were to build a copy of our present car, he/she would produce the motion right inside the wheels, therefore the whole engine, gears, and transmission would be eliminated.

The unique advantages of the Oscillatory Chamber will result in this device completely taking over the present functions of **electromagnets**. Research laboratories, capable of using magnetic fields of strengths unattainable today, will be able to wrest a number of secrets from nature, introducing a significant step forward in our science and technology. Industry, utilizing technologies that are based on the application of super-strong magnetic fields, will provide us with a number of products of as yet unattainable quality. For example, we could produce indestructible rubber and clothes, objects made completely of monocrystalls, concrete stronger than steel, etc. Also a new type of magnetoreflective material, suiting the magnetic requirements of the Oscillatory Chamber, will supersede those in use at present.

The Oscillatory Chamber will eliminate not only the electromagnets used as separate devices, but also all those which make up parts of other devices, e.g. from electric motors, electricity generators, etc. Advantages of the chamber, such as: high power-to-dimensions ratio, ability to introduce long gaps between the time of energy supply and the time of energy consumption, controllability; will result in the wide application of this device for building light vehicles, pumps and generators working far from an energy supply and civilization centres, ship and aeroplane engines, medical instruments, etc.

The twin-chamber capsule providing a constant magnetic field will replace some present-day **permanent magnets**. Therefore future models of our speakers, bearings, clutches, grapples, rails, etc., will all employ Oscillatory Chambers.

The Oscillatory Chamber will also introduce a completely new **fashion**, which at present has no appropriate technical back-up. It will be the fashion to suspend objects in space. It should be expected that future furniture, household devices, machines, and even buildings or elements of architecture will hang in space, supported by the invisible force lines of a magnetic field. For example such a piece of furniture as a couch or a sofa in future will be

floating in the air. A computer built into it for control will analyse the spoken commands given by a person who sits on it, shifting this person into the required place, changing his/her orientation, height and slanting, and adjusting the couch shape to the type of resting position that this person wishes to experience at a given moment. One of the consequences of this fashion will be the complete disappearance of the wheel, as all present rolling movements will be replaced by soaring in space.

Of course, enormous potential is involved in the **military applications** of the chamber. This device can either enhance and multiply the capabilities of already existing weapons, as well as make new and yet unknown kinds of weapons. In order to illustrate the chamber's possible contribution to the already existing kinds of weapons it is sufficient to realize that the amount of energy accumulated in a twin-chamber capsule of a dice's size is sufficient to keep a bomber in the air for a number of years without the need for it to land and to refuel, to encircle our globe in a submarine a few hundred times without the need to emerge onto the surface, or to drive without stopping a military tank at a distance greater than the distance from Earth to Sun. In order to illustrate potentials of the Oscillatory Chamber to make a new types of weapons, it is sufficient to mention that a system of these devices producing whirling magnetic fields will be able to form barriers and mine fields which in seconds may explosively vaporize every object entering into their range made of a good electric conductor. Missiles containing systems of chambers may cause instant evaporation of huge constructions made of steel, such as bridges, factories, ships, aeroplanes, rockets, satellites, etc. The rapid release of the energy stored within a chamber (e.g. through its detonation - for details see a separate monograph [5F]) will cause an explosion comparable in effect to the use of a thermonuclear super-bomb. The only difference will be that the chamber will not pollute the environment by any radioactivity. Because of the capability of Oscillatory Chambers to pack huge amounts of energy in small spaces, the potentials for forming the devastation equal to that given by a huge thermonuclear bomb will be provided by a miniature chamber able to fit inside a rifle bullet. Of course, Oscillatory Chambers are not only capable to destroy, but also allow us to protect ourselves from being destroyed. The simplest of such protections would depend on providing our security objects or military vehicles with chambers the fields of which will form repulsive or attractive interactions with ferromagnetic objects in their vicinity (see Figure F12). In this way our objects and vehicles will be able to repel (or - in the appropriate situations, also to attract, demobilize, and intercept) vehicles or missiles of the opposite side. Even the more unusual potentials of Oscillatory Chambers results from their ability to form a configuration of the magnetic field called the "magnetic lens" (see the description of this lens provided in subsection G10.4). Our soldiers, vehicles, aeroplanes, ships, and other objects which are wrapped with this lens become completely invisible to the opposite side.

The most promising prospects, however, are connected with using the Oscillatory Chamber for the purpose for which its principle was originally invented - i.e. for the magnetic **propulsion of flying vehicles**. Next chapters of this monograph are devoted to the description of such applications of the chamber.

At the conclusion of this review of future applications of the Oscillatory Chamber it is worth stressing that all these different applications and functions can be fulfilled by the same twin-chamber capsule which depending on circumstances is only provided with a slightly different controlling system/program. Therefore in the sense of universality of applications the Oscillatory Chambers will resemble present computers in which a simple change to the program is able to transform them for example from a typewriter into a musical instrument, automatic pilot, road map, casino of games, or a measuring instrument.

Independently from the applicational significance of the Oscillatory Chamber which is outlined above, the completion of this device will also have enormous **exploratory meaning** and learning consequences. This is because the Oscillatory Chamber is going to be the first "magnetic resonator" build on our planet. This resonator will be capable of producing its own magnetic oscillations (vibrations) as well as reacting to oscillations (vibrations) produced by other sources. Although the Earth's science is just at the beginning of learning about the

capabilities and significance of magnetic oscillations, the author's theory called the Concept of Dipolar Gravity (described in chapters H and I) already realizes that they provide a key for enormously rich variety of phenomena still unknown for us. In order to list here some of these phenomena, they include the telekinesis and time travel described in chapters H, L and M, telepathy postulated by the Concept of Dipolar Gravity, control of people and animals' behaviour at a distance (e.g. instant paralysing someone's movements, instant hypnotizing with a device, erasing someone's memory, etc.), transformation of some elements into others, extraction of environmental energy described in monograph [6], and much more. Therefore, in the exploratory and learning sense, the Oscillatory Chamber will be the founder and a prototype for a whole series of incoming devices which are to produce, detect, process, and measure the magnetic oscillations. In this way in the future it will contribute to the formation of the whole new scientific disciplines and directions of technology. For the next generations of scientists and engineers on Earth the exploratory and learning significance of the Oscillatory Chamber will probably be equally important as the significance of Henry's oscillatory circuit was for today's electronics, cybernetics, and communication.

FB1. <u>Future applications of the Oscillatory Chamber as a battery for eco-cars</u>

The Oscillatory Chamber is able to accumulate in relatively small space theoretically unlimited amounts of energy. So in practice in a size similar to present car batteries, such an Oscillatory Chamber is able to store the amount of energy that would suffice for several thousands of years of use of present cars. As such these "Oscillatory Chambers" can effectively replace batteries from present electric cars.

FB2. <u>Senator McCain promised to award 300 millions dollars to the inventor of the energy accumulator that displays attributes of the Oscillatory Chamber</u>

The presidential candidate of 2008 in the USA, Senator John McCain, on Tuesday 24 June 2008 publicly promised that he is to award a prize of 300 millions USA dollars to this inventor who invents the beneficial for the natural environment accumulator of energy of a new generation, applicable for propelling cars. His promise was immediately announced throughout the world. Already the next day it was repeated by almost all television news in the world, and by a number of newspapers. For example, in New Zealand it was published in the article "McCain offers $394m for greener car battery", from page B1 of New Zealand newspaper "The Dominion Post", issue dated on Wednesday, June 25, 2008. In the next week this promise was commented in the article "Bravo to those extending the knowledge frontiers" from page B5 of the New Zealand newspaper "The Dominion Post", issue dated on Tuesday, July 1, 2008.

The Oscillatory Chamber described in this monograph displays all the attributes of the "car battery" at the development of which the grand of Senator McCain would be aimed.

Of course, at the time of announcement, this promise of Senator McCain has the value mainly as a moral (i.e. not financial) support for research and development on the Oscillatory Chamber. After all, as for now it is still just a promise, not the actual reward. On the other hand, even just being a promise only, still it has a huge value as an emphasis of the weight and urgency of the technical implementation of the Oscillatory Chamber's idea. This is because it realises to everyone that the development of situation with crude oil deposits on the Earth unavoidably leads to the situation that one day the "Oscillatory Chamber" becomes an absolute necessity for the humanity. This day is nearer everyday that passes. In turn during this critical time it becomes valuable like gold the expertise of researchers who have already some experience in research and development of the "Oscillatory Chamber". Therefore I personally would recommend to everyone who has access to appropriate prototyping

capabilities and to ability to carry out laboratory research, to join these researchers who already work on the development of the "Oscillatory Chamber". An investment of the interests in this extraordinary accumulator of energy surely one day must turn to be hugely beneficial.

Table F1. **The utilization of Oscillatory Chamber**. Listed are examples of present devices for conversion of energy which in the not-too-distant future will be replaced by twin-chamber capsules due to the multidimensional energy-transformation capabilities of the Oscillatory Chamber.

| No	The device utilizing the Oscillatory Chamber	Kind of energy		Principles of operation
		Supplied	Obtained	
1.	Electro-magnet	Electric current	Magnetic field	Electric energy supplied to the chamber will be transformed into a magnetic field.
2.	Heater	Electric current	Heat	Hot gas from the chamber will be circulated through a radiator.
3.	Electric motor	Electric current	Mechanical motion	Waves of controlled magnetic fields produced by a set of chambers will cause a mechanical motion of conductive elements.
4.	Transformer	Electric current	Electric current of different parameters	Two chambers of different working parameters exchange energy through their magnetic fields (utilizing a phase shift in their pulsations).
5.	Combustion engine	Heat	Mechanical motion	Heating of the gas in the chamber provides energy which is then consumed in the process of producing a mechanical motion.
6.	Electricity generator	Heat	Electricity	Gas filling the chamber circulates through a heat exchanger. Energy supplied in the form of heat is converted into an electrical charge and then withdrawn as an electric current.
7.	Generator	Mechanical motion	Electricity	Moving one chamber towards another changes the interactions of their magnetic fields, providing them with energy which can then be withdrawn.
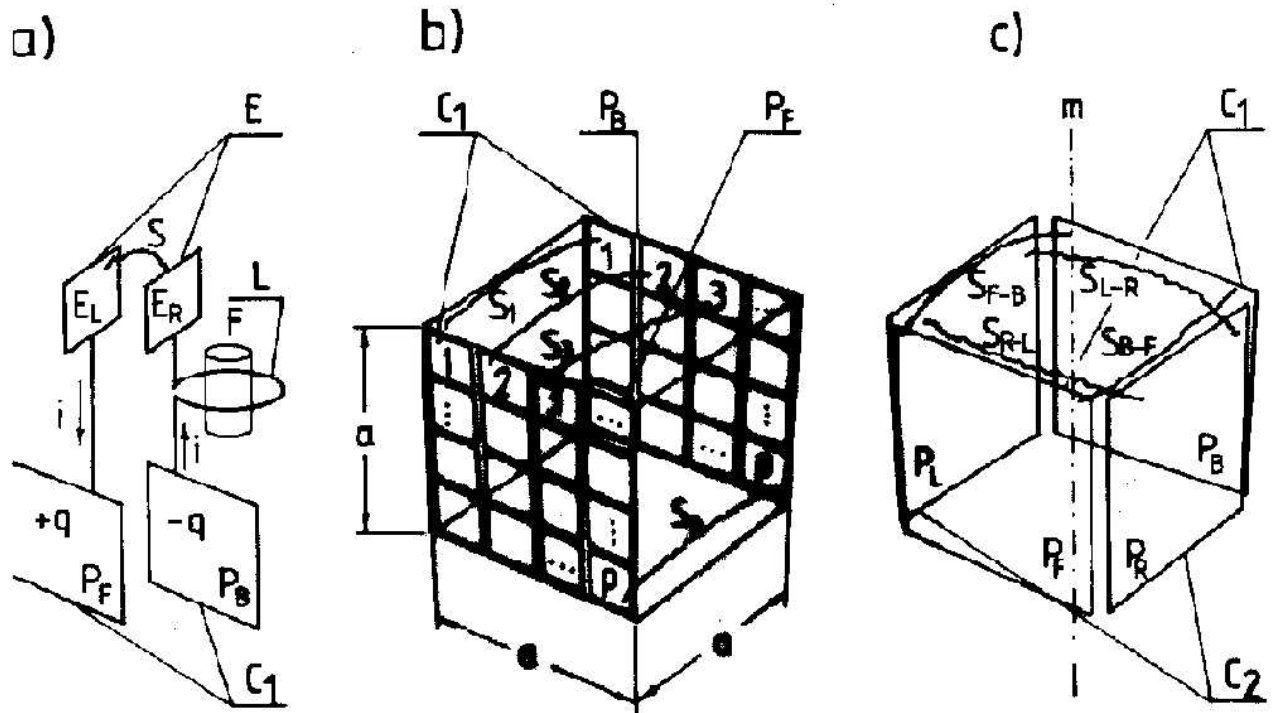
Fig. F1. **The evolution of the Oscillatory Chamber**. Three parts of this diagram show the gradual transformation of a Henry's oscillatory circuit with a spark gap into an Oscillatory Chamber.

   (a) The conventional form of an oscillatory circuit with a spark gap, as it was discovered by J. Henry in 1845. Its three vital elements (i.e. capacitance "C1", inductance "L" and spark gap "E") are provided by three separate devices, i.e.: a capacitor, a coil, and a pair of electrodes.

   (b) The modified version of the oscillatory circuit with a spark gap. All three vital elements are concentrated in one device, i.e. a couple of conductive electrodes "P_F" and "P_B" joined to the inner surfaces of the two opposite walls of a cubical chamber made of an electric insulator. Both electrodes "P_F" and "P_B" in turn are subdivided into several separate segments "1, 2, ..., p". In the real chambers these segments will be reduced to thin conductive needles insulated from each other. The side dimension of the cube is marked by "a".

   (c) The Oscillatory Chamber formed by combining together two modified oscillatory circuits "C1" and "C2" identical to that presented in part (b) of this diagram. The consecutive appearance of sparks labelled as "S_{R-L}", "S_{F-B}", "S_{L-R}", "S_{B-F}" oscillating along the surface of the left-side walls creates a kind of electric arc circulating around the inner perimeter of this chamber and producing a strong magnetic field.
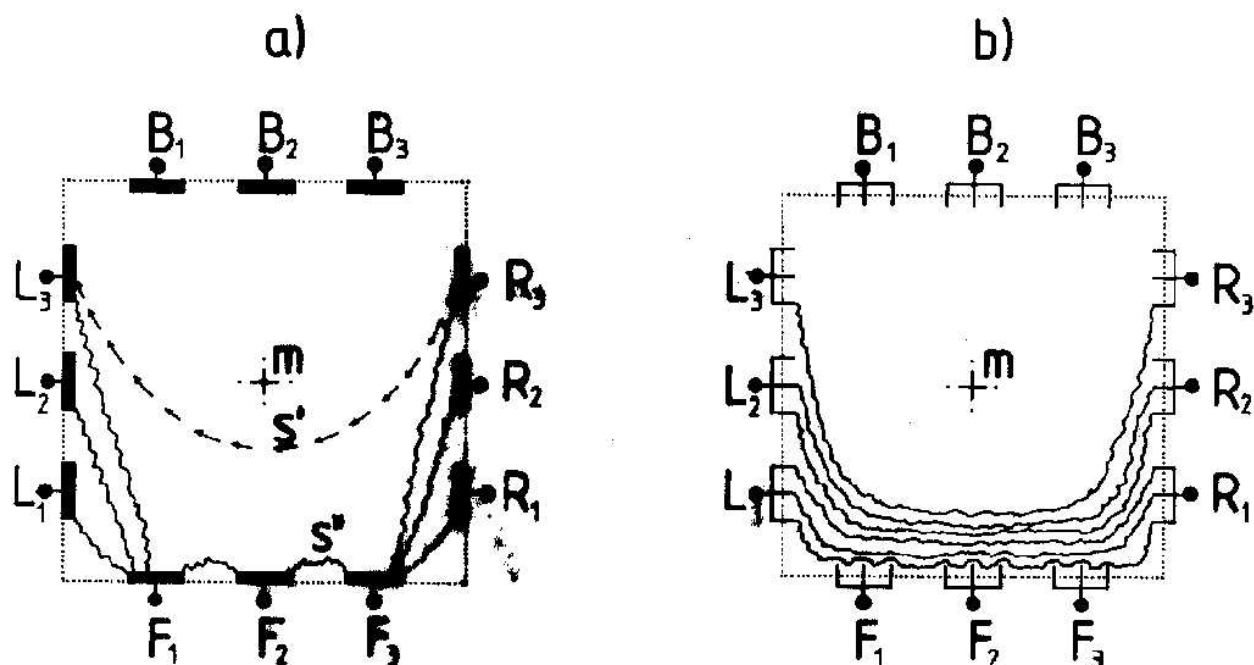
Fig. F2. **The illustration that justifies the use of needle-shaped electrodes** in the construction of Oscillatory Chambers. The diagram shows an overhead view at two versions of the Oscillatory Chambers during their operation. In both chambers streams of sparks are in the process of jumping along the indicated paths from electrodes marked as "R" (right) to electrodes marked as "L" (left). Because of the strong magnetic field prevailing along the vertical axis "m", the jumping sparks are pushed towards the wall with electrodes marked as "F" (front). This pushing causes that in the chambers utilizing the plate-shaped electrodes (see the chamber "a") instead of desired path (s') sparks take the line of least resistance (s") passing through the front plates "F". But these "short-cuts" are impossible in the chambers with needle-shaped electrodes (see the chamber "b") where the sharp tips of needles repel the sparks making impossible their entering the electrodes "F" and passing through them.
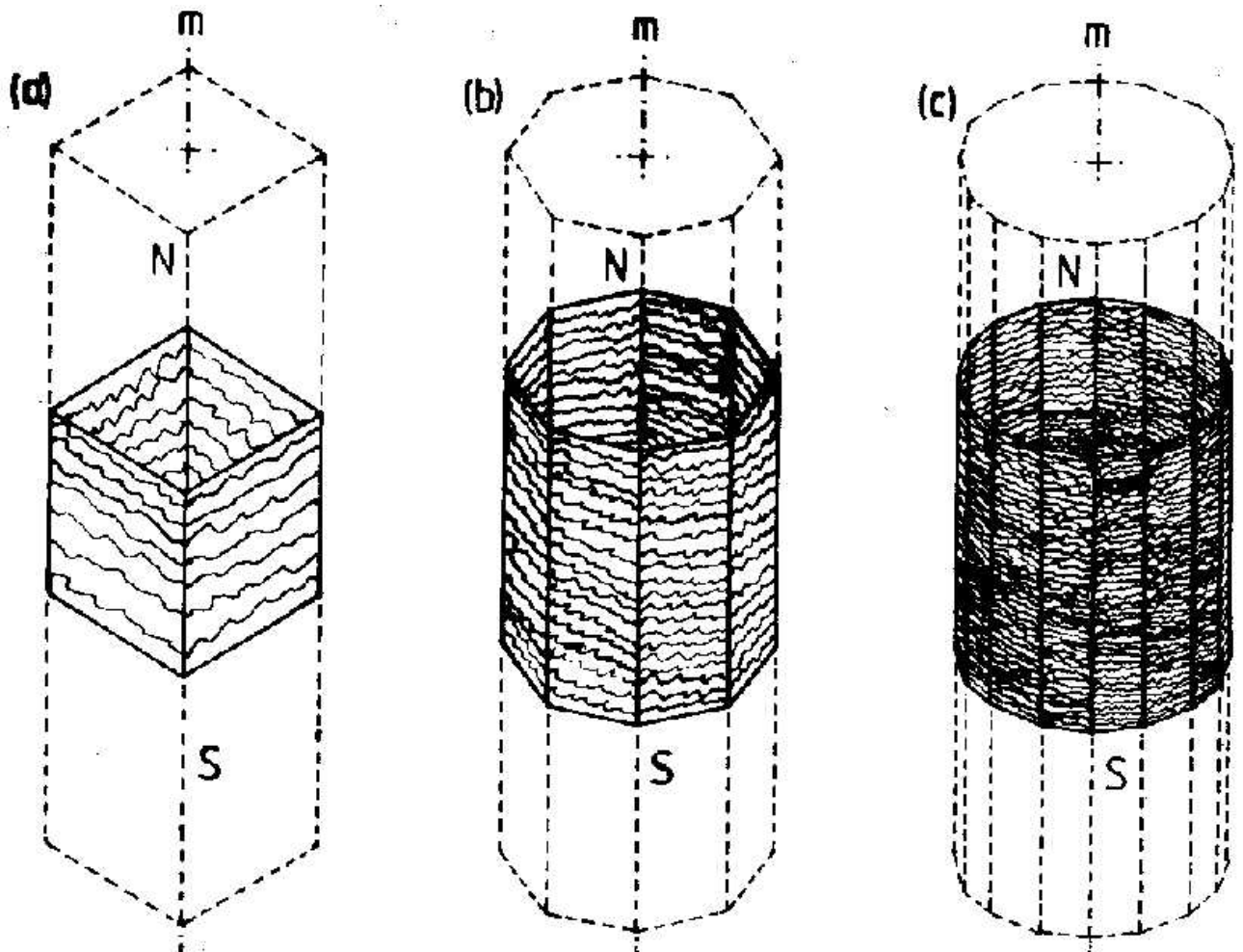
Fig. F3. **The assumed appearance of the Oscillatory Chambers** of the first (a), second (b), and the third generation (c) - see also Figure S6. It will look like a plain glass cube or a regular crystal. Streaks of bright shimmering sparks of golden colour will run horizontally around the inner surfaces of it's side walls. These sparks will look as if frozen in their positions, although from time to time they will rapidly move their plots like a knot of snakes writhing around their prey. Therefore the operational chamber will give an impression of a living creature preoccupied with some mysterious activity. The broken lines indicate the column of produced magnetic field distributed along the "m" axis. When viewed from the direction perpendicular to the magnetic field force lines (i.e. exactly as it is illustrated in the above diagram) this column will trap the light and thus it should be seen by the naked eye as a black bar extending in both directions from the chamber - see the description of such bars presented in subsection F10.4. Also this field should cause the inside of the chamber to be non-transparent. Therefore the chamber should look as if it is filled with black smoke. If viewed along the magnetic field force lines, the passage through the chamber should be transparent, except for the cases presented in Figure F6.
     (a) The cubical Oscillatory Chamber of the first generation.
     (b) The octagonal Oscillatory Chamber of the second generation.
     (c) The sixteen-sided Oscillatory Chamber of the third generation.
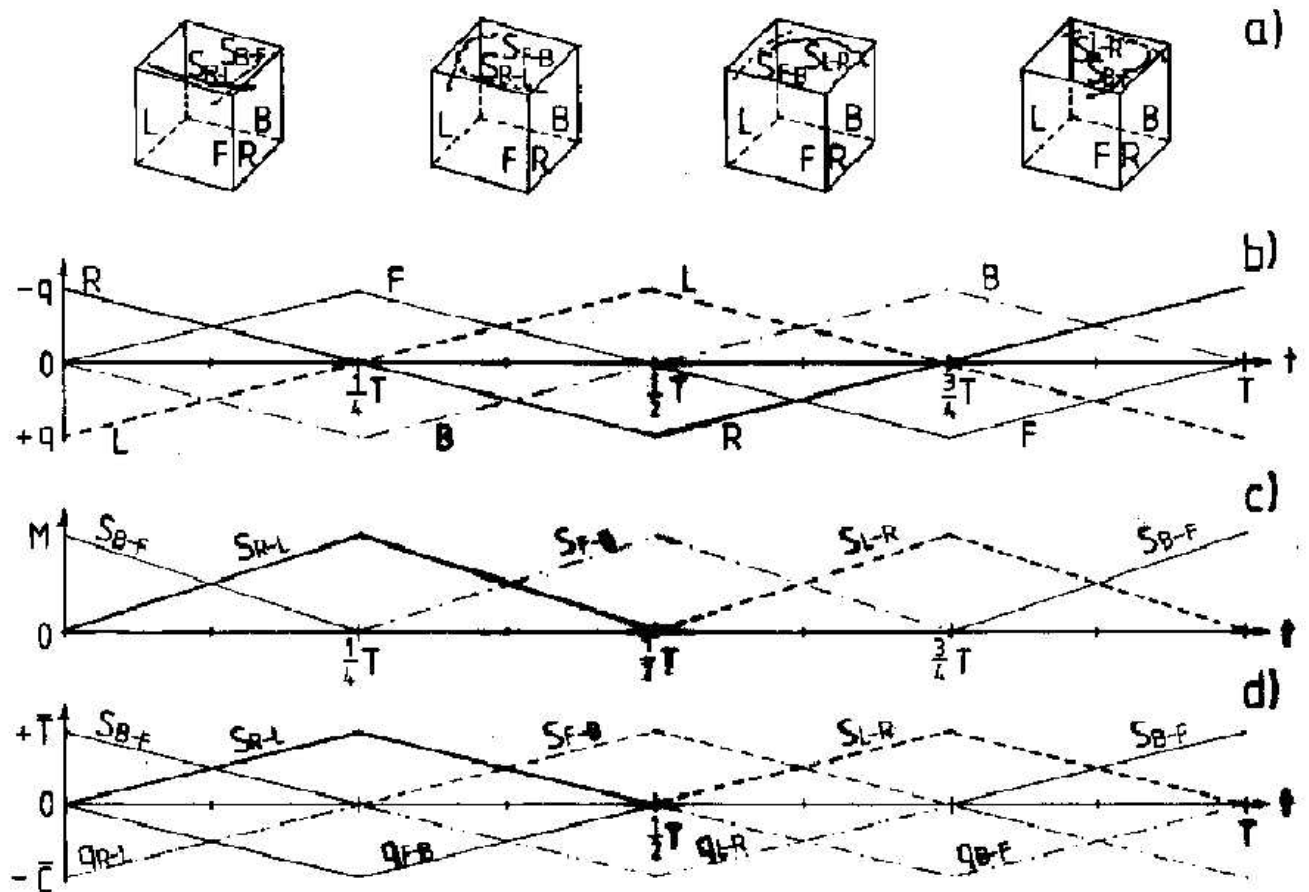
Fig. F4. The **mutual neutralization of the electro-magnetic forces** acting in the Oscillatory Chamber. The mechanism of this neutralization utilizes Coulomb's electrostatic forces and the deflecting electromagnetic forces simultaneously tensing and compressing the chamber in two opposite directions, thus cancelling each other's action.

(a) The four basic phases of operation of the Oscillatory Chamber. Symbols: R, L, F, B - the right, left, front and back electrodes of the chamber that together form two cooperating oscillatory circuits; S_{R-L}, S_{F-B}, S_{L-R}, S_{B-F} - the four streams of electric sparks that appear in succession during a single cycle of oscillations, thus forming one complete rotation of the square arc (the active sparks are marked with a continuous line, whereas the inertial sparks with a broken line).

(b) The changes in the potential of the electrodes during a full cycle of the chamber's operation. Symbols: T - period of pulsation; t - time; +q, -q - positive and negative electric charges accumulated on electrodes. Note that the Coulomb's mutual attraction of opposite charges accumulated on the facing walls will produce forces which will tense the chamber into the inward direction.

(c) The changes in the electro-magnetic deflecting forces (M) acting on particular electric sparks. These forces try to stretch the chamber into the outward direction.

(d) The changes in the tensing forces (T) and the compressing forces (C) that mutually neutralize each other. The tensing forces (T) are produced by the electro-magnetic containment interactions occurring between the sparks and the magnetic field that fills the chamber. The compressing forces (C) are caused by the reciprocal Coulombs attraction of the opposite electric charges accumulated on the facing plates.

Note that both groups of these forces have a symmetrical course but opposite value. This is why they cancel each other's action.
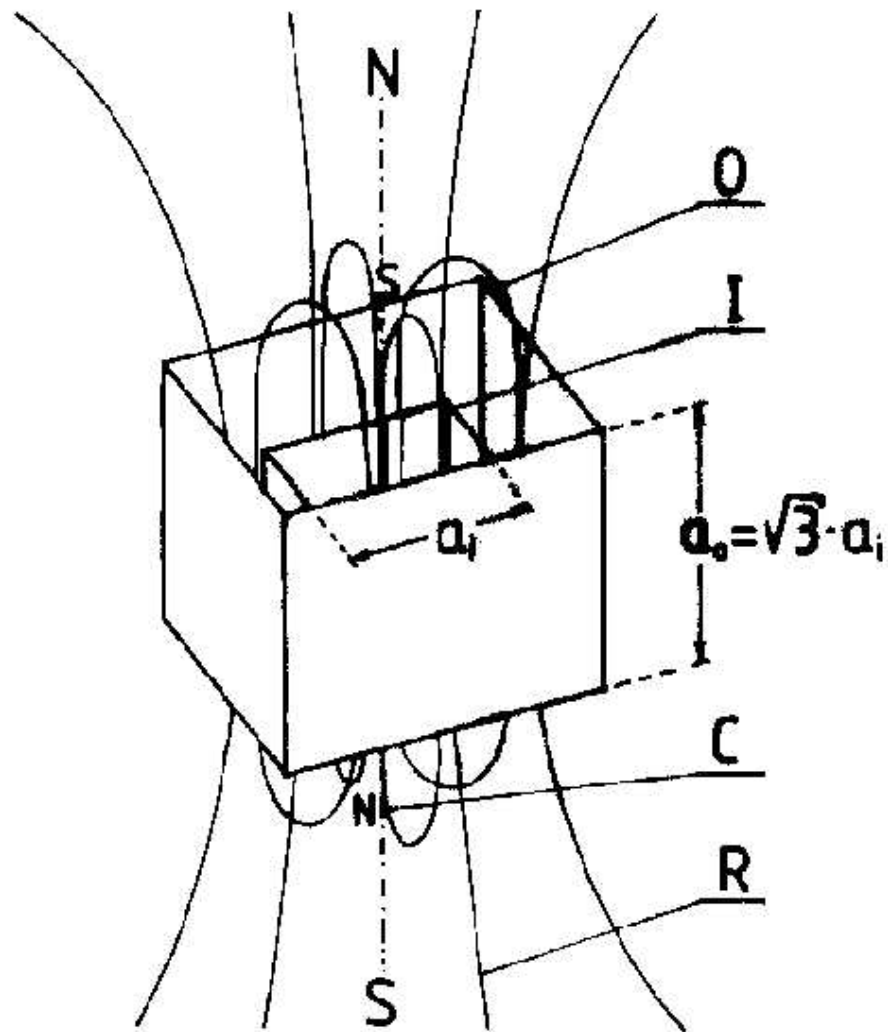
Fig. F5. **The "twin-chamber capsule"**. This is the basic arrangement of two Oscillatory Chambers, formed to increase their controllability. The twin-chamber capsule is formed from two oppositely oriented chambers placed one inside the other. Because of the need for free floating of the inner (I) chamber suspended inside of the outer (O) one, the side edges "a" of

both Oscillatory Chambers must meet the equation: $a_o = a_i \sqrt{3}$ (see equation F9). The resultant magnetic flux (R) yield to the environment from these arrangements is obtained as a difference between outputs from chambers having opposite orientation of poles. The principles of forming this resultant flux are illustrated in Figure F7. The twin-chamber capsule allows full control over all the attributes of the produced magnetic field. The subjects of control are the following properties of the resultant flux (R): (1) strength of the field (fluently controlled from zero to maximum), (2) Period (T) or frequency (f) of pulsations, (3) ratio of the amplitude of the field's pulsations to its constant component ($\Delta F/Fo$ - see Figure F12), (4) character of the field (i.e. constant, pulsating, alternating), (5) variation in time (i.e. linear, sinusoidal, beat-type curves), (6) polarity (i.e. from whichever side of the arrangement the N and S poles prevail). Symbols: O - outer chamber, I - inner chamber, C - circulating flux trapped inside the capsule, R - resultant flux yield from the capsule to the environment.
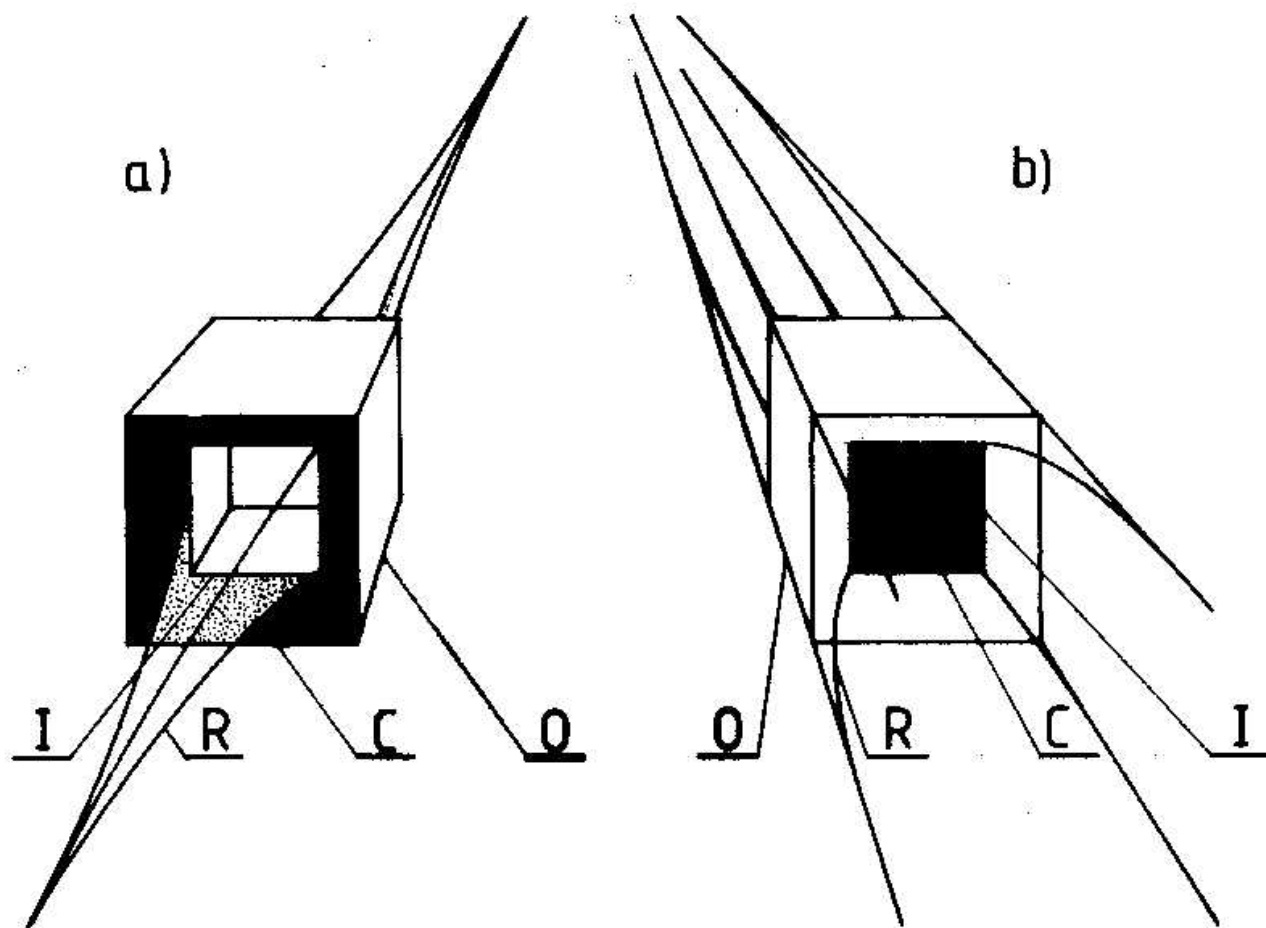
Fig. F6. **Differences in visual appearance of twin-chamber capsules**. Illustrated are capsules that operate in two opposite modes called: (a) the INNER flux prevalence, and (b) the OUTER flux prevalence. Because a strong magnetic field produced in both capsules is translucent only when observed along the field force lines, the curved force lines of circulating flux (C) are nontransparent to the outside observer and thus must be seen as black bars (compare the description from subsection G10.4 with Figure F6).

(a) The capsule with the **inner** flux prevalence. The resultant flux (R) is produced here by the inner chamber (I), whereas the entire output of the outer chamber (O) is turned into the circulating flux (C). Therefore in this capsule the space between the inner and outer chamber is impenetrable to light and appears as a totally blackened area.

(b) The capsule with the **outer** flux prevalence. The resultant flux (R) is produced here by the outer chamber (O). The inner chamber (I) supplies only the circulating flux (C) that entirely curves itself back into the outer chamber. Therefore in this capsule the cross area of the inner chamber is totally blackened.
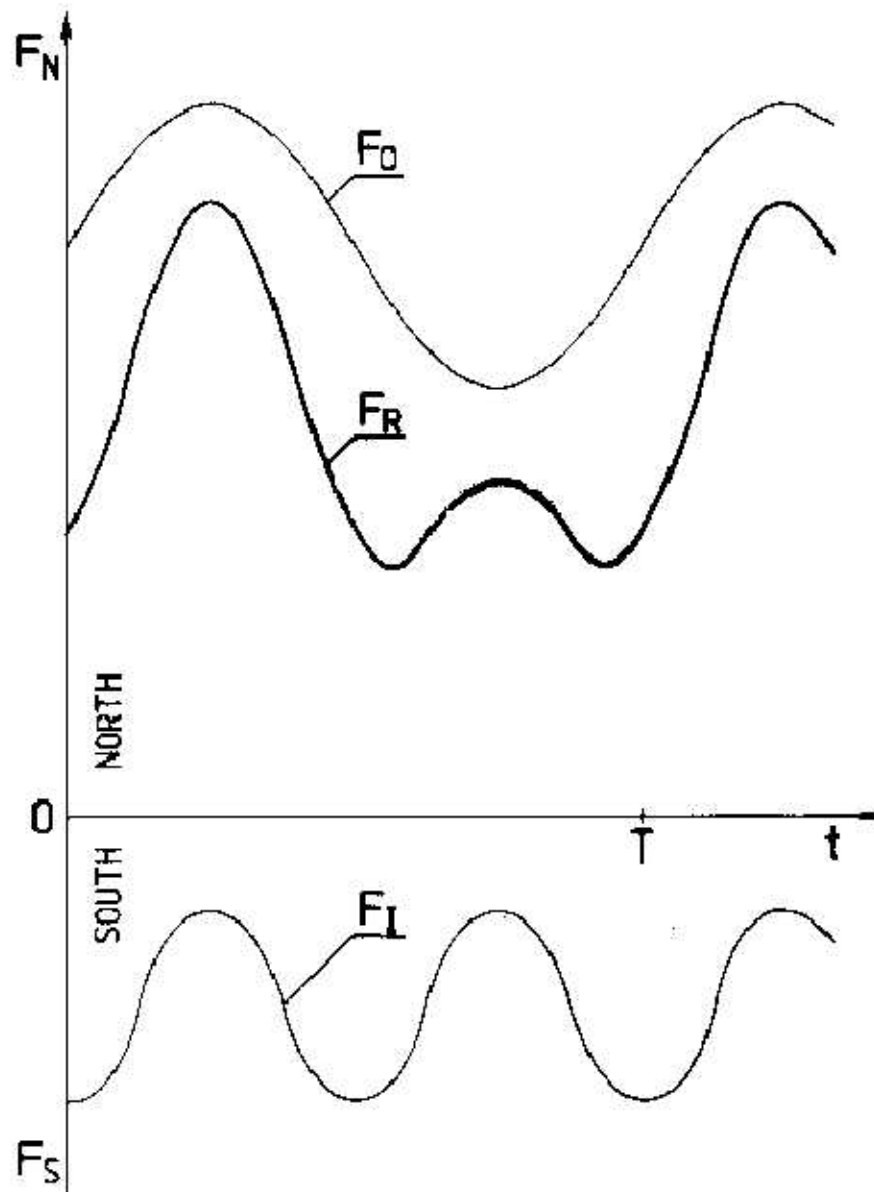
Fig. F7. **Principle of combining together the outputs from both chambers of the twin-chamber capsule into the resultant flux** "F_R". The case of producing the resultant flux whose variation in time reflects a beat-type curve is considered. The outer chamber produces the greater flux "F_N" whose variation in time (determined at its north, "N" pole) is represented by the curve "Fo". The inner chamber has the opposite polar orientation - see Figures F5 and F6 (b). Therefore in the direction where the north, "N" pole of the outer chamber "O" prevails, the inner one "I" extends its south, "S" pole. The variation in time of the output "F_S" from this inner chamber "I" is represented by the curve "F_I". If two fluxes "Fo" and "F_I" of the opposite polarity are combined together, the resultant flux "F_R" represents the difference in their values: F_R = Fo - F_I. This difference of fluxes is yield outside the twin-chamber capsule forming resultant flux "F_R". The entire output "F_I" of the inner chamber remains trapped inside of the capsule as the circulating flux "C" that circulates internally between the inner and outer chambers. Note that in further deductions the shape of the resultant beat-type curve "F_R" is roughly represented by pulsing curves containing the constant component "F_O" and the pulsating component "ΔF" - see also Figures F12 and G29.

     The "spider configurations" (see Figure F9) produce their resultant flux in an almost identical manner to the one described above.

(2i)

(2s)

(2o)

(3i)

(3s)

(3o)
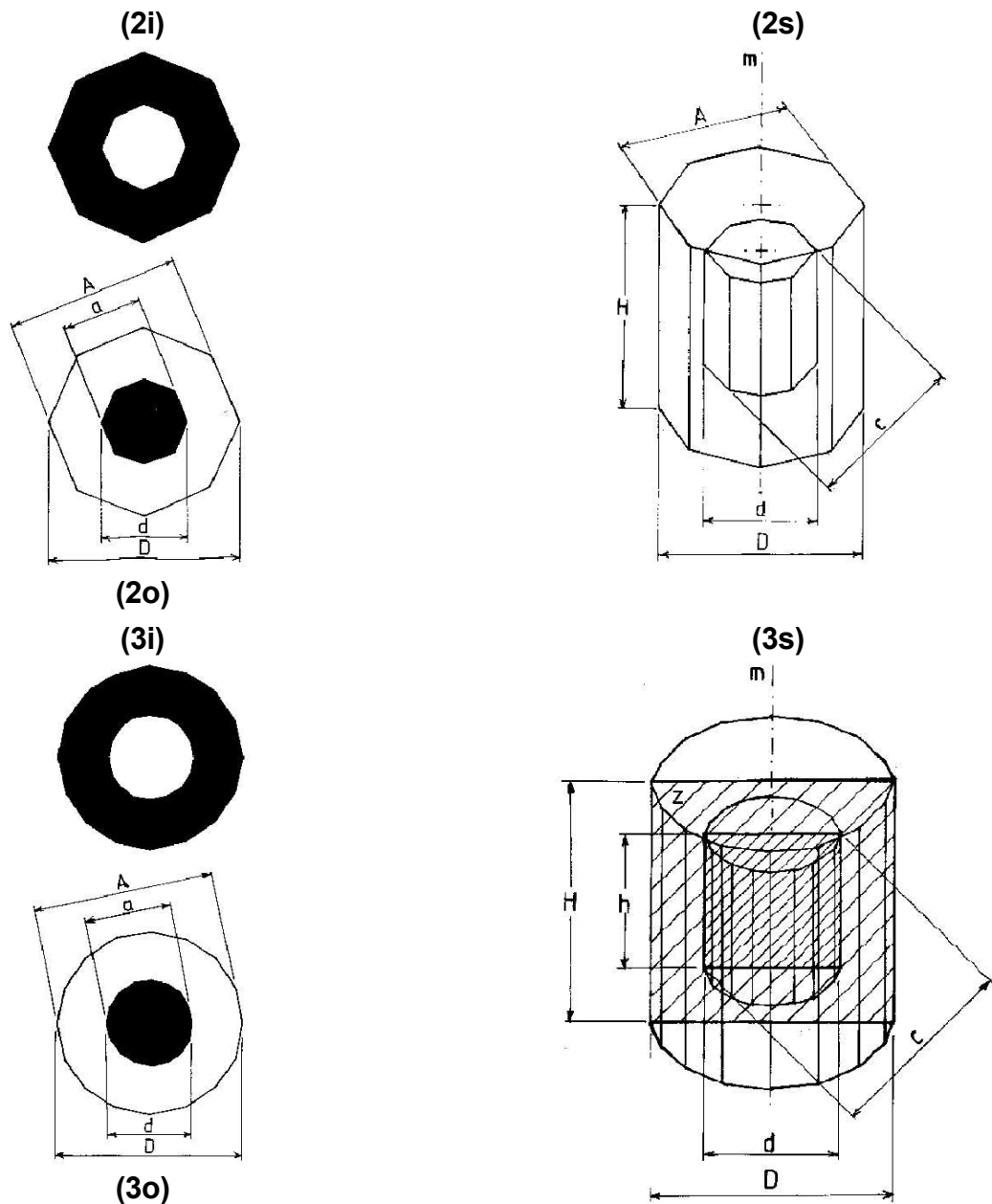
Fig. F8. **Twin-chamber capsules of the second and third generations**. Their most important application are propulsors of the discoidal Magnocraft and personal propulsion systems of the second and third generations. Illustrated are:

(2s) A side view of a twin-chamber capsule of the second generation. It is composed of 2 oscillatory chambers having octagonal cross-section, i.e. a smaller inner chamber (I) and a larger outer chamber (O). Compare this Figure with Figures F5 and F6.

(2i) A top view of a twin-chamber capsule of the second generation operating in the mode of inner flux prevalence.

(2o) A top view of a twin-chamber capsule of the second generation that operate in the mode of outer flux prevalence.

(3s) A side view of a twin-chamber capsule of the third generation. It is composed of 2 oscillatory chambers with 16-sided cross section, i.e. inner (I) and outer (O).

(3i) A top view of a twin-chamber capsule of the third generation operating in the mode of inner flux prevalence.

(3o) A top view of the twin-chamber capsule of the third generation operating in the mode of outer flux prevalence.
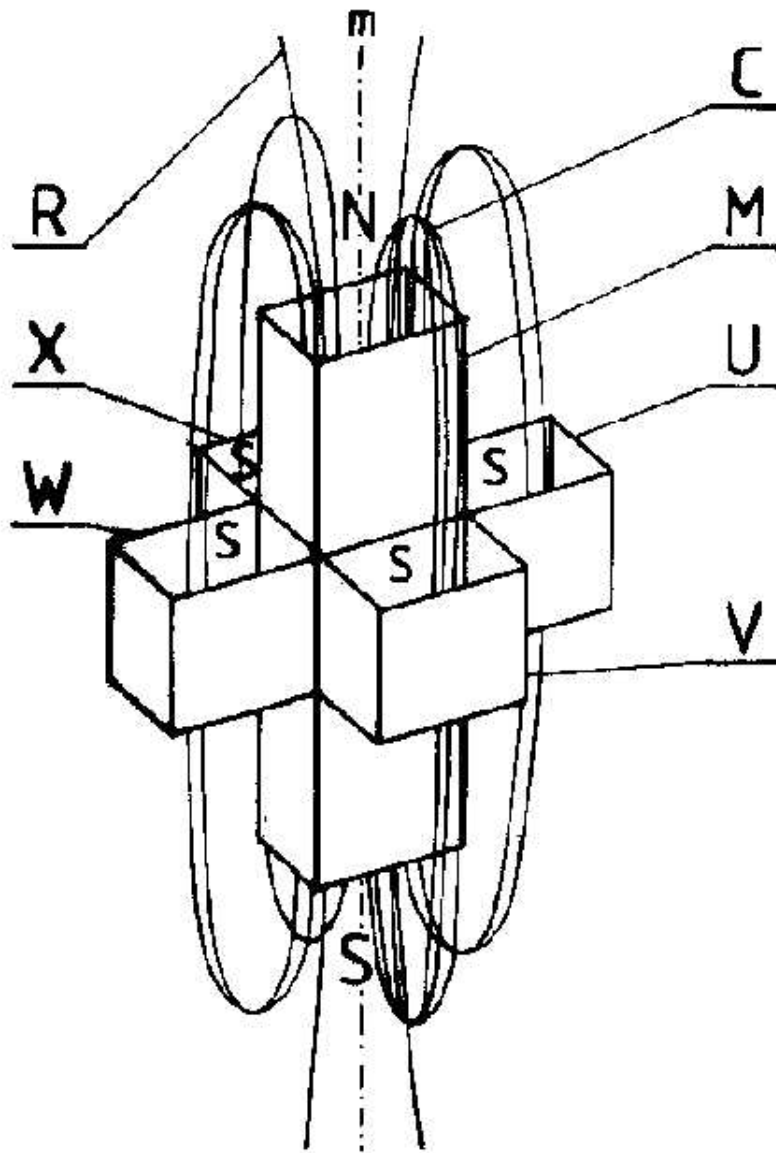
Fig. F9. A standard arrangement of five Oscillatory Chambers, called **the "spider configuration" of the first generation**. This configuration is mainly used as a propulsor for the four-propulsor spacecraft - see Figure D1. It is formed from five Oscillatory Chambers having the same cross area. The four cubical side chambers (marked U, V, W and X) surround the oppositely oriented main chamber (marked M) which is four times longer. The total volume of all four side chambers must be equal to the volume of the main one. This arrangement is the simplified model of the Magnocraft's propulsion system. The resultant magnetic flux (R) yield to the environment from the spider configuration is obtained as a difference between outputs from the main chamber and the oppositely oriented side chambers. The principles of forming this resultant flux are similar to those illustrated in Figure F7. The spider configuration, similar to the twin-chamber capsule, also allows full control over all the attributes of the produced magnetic field. But in addition, the spider configuration can spin the produced field around its magnetic axis "m" thus producing its own magnetic whirl. Its main drawback in comparison to the twin-chamber capsule is the lack of ability to complete "extinguish" the magnetic field yield to the environment (even if the entire output of this configuration is bound into the circulating flux (C), still this flux will circulate via the environment).

(1s)   **(1t)**
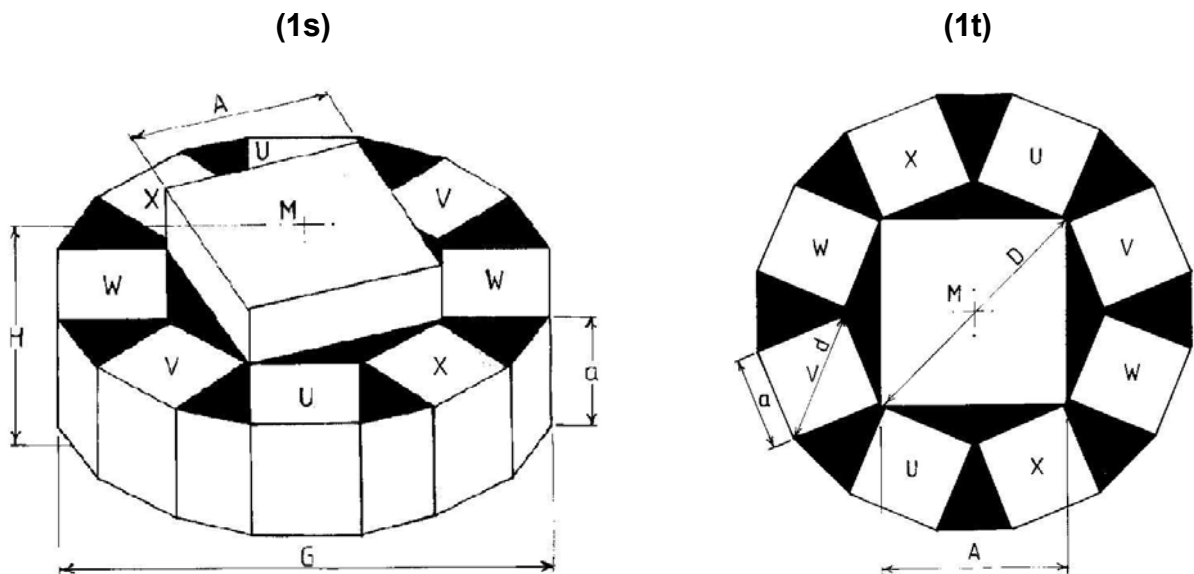
Fig. F10. **The prototype spider configuration of the first generation**. It is composed solely out of oscillatory chambers of the cubical shape. Therefore, it is going to be build as our first configuration of oscillatory chambers that can be effectively controlled. This prototype configuration is to be used a long time before the first twin-chamber capsule shown in Figure F5 can be developed. It is also to be used a long time before the first standard spider configuration shown in Figure F9 is going to be pieced together. (The reason is that the completion of the first twin-chamber capsule is going to require a priory finding a technical solution for a complex problem of controlling the free-floating inner chamber. In turn the completion of the first standard spider configuration from Figure F9, is going to require the developing of main chamber (M), the height of which is four times longer than the width of its sides.) In the initial stage of building our vehicles with magnetic propulsion, the prototype spider configuration shown above is going to be assembled even in propulsors of a discoidal Magnocraft - see stage (1A) in the classification from subsection M6. The principle of operation of this prototype configuration is identical to the principle of standard configuration from Figure F9. The only difference depends on the formation of two magnetic waves instead of a single one. This prototype configuration is easy to recognise by its discoidal shape, in which the width G = 2A is twice of the height H=A. The dimensions illustrated include: A = 2a - the length of side walls in the main oscillatory chamber (M), a = ($^1/_2$)A - the length of side walls in side oscillatory chambers (U, V, W, Z), H = A - the height of the entire configuration, D and d - diameters of circles circumscribed over face walls of the main and side oscillatory chambers.

     (1s) A side view of the entire configuration. The filler substance is blackened.

     (1t) A top view of the entire configuration.

(2s)

(3s)

(2t)

(3t)
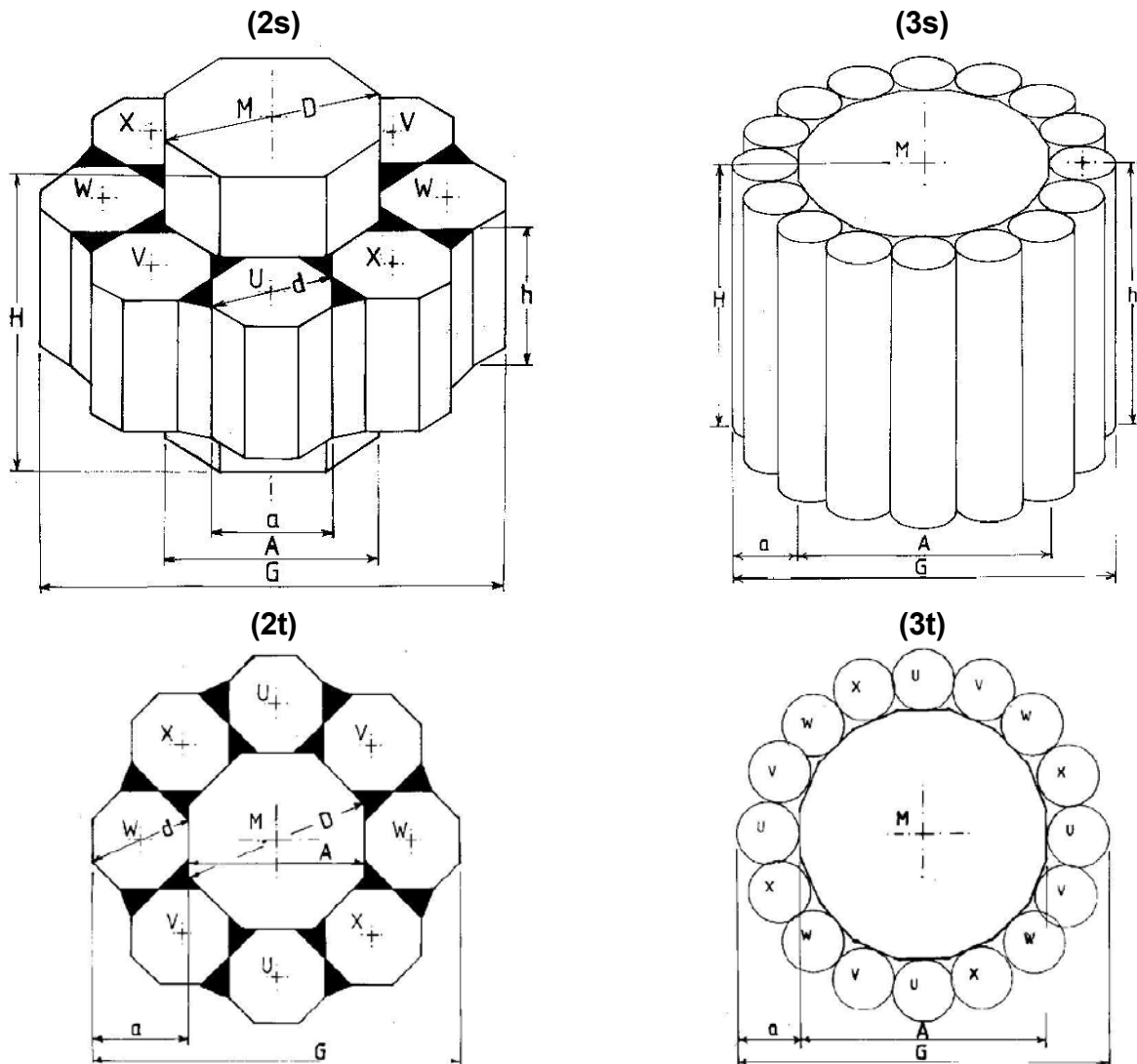
<u>Fig. F11</u>. **Spider configurations of the second and third generations**. Their major application is the propulsor in four-propulsor Magnocraft of the second and third generations (see Figure D1). (At the initial stage, just after they are completed, they can also be applied in propulsors of discoidal Magnocraft.) The following dimensions are interpreted: A, a, D, d, H, h, G. This Figure illustrates:

(2t) An overhead view of spider configuration of the second generation. This configuration is composed of 9 oscillatory chambers with octagonal cross-section, namely composed of one main (M) oscillatory chamber and eight (U, V, W, X) side oscillatory chambers that form two magnetic waves. The unused space (filling) is blackened.

(2s) A side view of spider configuration of the second generation. (Compare this Figure with Figure F10.)

(3t) An overhead view of spider configuration of the third generation. This configuration is composed of 17 oscillatory chambers with 16-sides cross section, namely composed of one main chamber (M) and 16 side chambers (U, V, W, X) that form four magnetic waves. Notice that for this configuration A = 4a.

(3s) A side view of spider configuration of the third generation. Notice that for this configuration H = h.
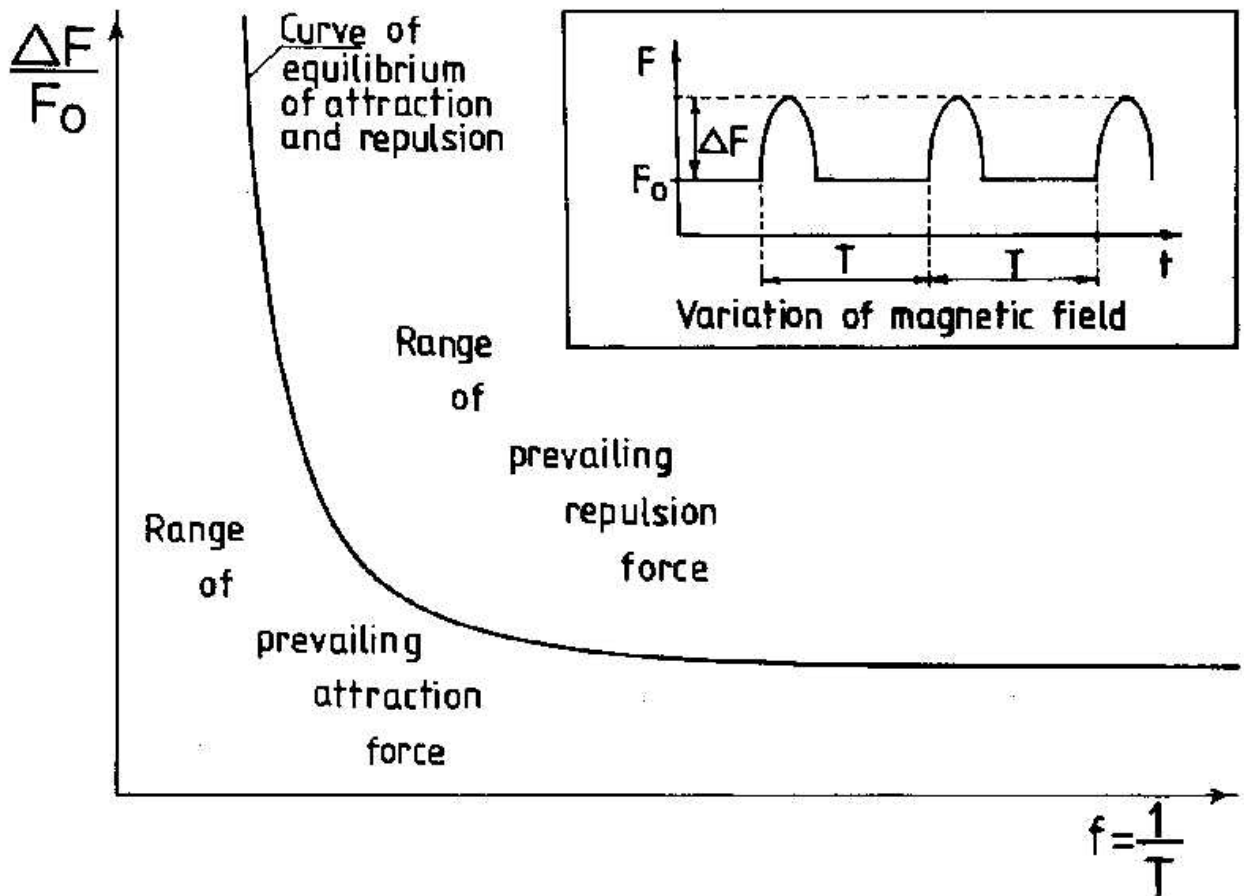
Fig. F12. **The curve of the "interactions in equilibrium"** between the magnetic field produced by a twin-chamber capsule or a spider configuration and all the ferromagnetic objects found in the range of this field. As it is known, the constant magnetic fields attract ferromagnetic objects. Therefore all fields in which the constant (Fo) component dominates over their pulsating (ΔF) component must attract ferromagnetic objects. The parameters of fields whose constant component dominates lie under the curve from this diagram. It is also known that pulsating magnetic fields repel all conductive (ferromagnetic) objects found in their range. So the fields which the pulsating component (ΔF) dominates over the constant one (Fo) will cause the repulsion of all ferromagnetic objects. The fields with the dominating pulsating component (ΔF) lie above the curve from this Figure. For the parameters of fields lying exactly at the curve, the attraction and repulsion components mutually neutralize each other. Thus such fields neither attract nor repel any ferromagnetic objects in their vicinity. These fields behave more like an "antigravity field" than a magnetic one.

The frame contains the interpretation of all the involved parameters of the pulsating magnetic fields.

Fig. F13. **Photographs of the experimental Oscillatory Chamber and related devices constructed by a Polish hobbyist**. The prototype of his chamber still requires further perfecting to become a powerful magnetic field producing device, and it may take many years before the first chambers will be deployed. But his undisputable achievement is to demonstrate that the principles of the Oscillatory Chamber are valid and completable in a technical manner, and to pave the way for further more advanced research. The secret of success with building the above chamber lies in the introduction of needle-shaped electrodes that replaced the square plates shown in Figure F1 "b" (these needle-shaped electrodes are shown in Figure F2), and in the appropriate shaping of electric impulses that produce the sparks. He acquired the idea of such needle-shaped electrodes from ancient descriptions of gold nails driven through the wooden walls of the Ark of the Covenant.

(**Upper**) His model photographed in darkness. It reveals the fascinating appearance of streams of rotating electric sparks. This photograph was taken in May 1987.

(**Lower**) The hobbyist and his experimental station. The station is composed of: (a) one of his prototypes of the chamber, (b) an impulse generator (of his own construction) that supplies electric power, (c) a deflecting electromagnet, and (d) the measuring equipment. Photographed in August 1989.