Searl started apprenticeship to become an Electrical engineer: which entail lots of home work, though he was only 14 years old he really worked hard to achieve the skills needed.

In these early newsletters of his he presents, what he was studying in detail so all can see how he learnt as he went on his way.

The reason we are reprinting those newsletters: is in answer to slanderous remarks about his lack of education so he could not had invented the S.E.G. upon websites.

**DC ELECTRONICS:**

**COURSE OBJECTIVES:**

When Searl have completed this course, he will or should be able to do the following:

1. Searl will be able to solve basic electronic problems involving current, voltage, resistance, and power.
2. Searl will be able to explain the relationship between current, voltage, resistance, and power.
3. Searl will be able to discuss the relationship between electricity and magnetism.
4. Using a schematic diagram as a guide, Searl will be able to construct D.C. circuits with components such as resistors, relays, switches, lamps, batteries and capacitors.
5. Given a wiring diagram of a circuit containing components such as resistors, relays, switches, lamps, batteries, and capacitors, Searl will be able to draw an equivalent schematic diagram.
6. Searl will be able to use a multimeter to measure current, voltage and resistance.
Searl will be able to convert from one metric prefix to another and to work with powers of ten.

Searl will be able to explain the construction, operation, and purpose of resistors, potentiometers, switches, fuses, relays, capacitors, inductors, and batteries.

Searl will be able to demonstrate basic safety procedures designed to protect Searl and his test equipment.

Searl will be able to build and experiment with basic D.C. circuits of his own design.

Just to remind you that Searl is 14 years old and in his world you could not go into a shop and buy a light display unit the best you could get was 12 bulb set string up on the window and plug on the power and you thought that was great.

In Searl logic mind that was not good enough, he made up his light system: which most entail around 100 or more bulbs, by taking a kitchen cabinet door off he would mount 25 or more insulating blocks to which he would wire up these blocks to act as a brain.

Using two or more of these 21 stepping relays he produce fantastic light displays they called his window Blackpool illuminations. Yes he has somewhere photos of some of his work.

Today, there is no fun you just select what kind of light pattern you want just plug in and you feel great just one bulb and colour gel slowly rotating, yes it is a different world to that Searl lived in; the real fun to create light effects has gone.

Agree, it was hard work time consuming and you had to think very hard as to where you were wiring, agree when switch on Searl was lucky they always came on and never went out with a bang and puff of smoke.

In any case even as a young boy he was always a dare devil doing things which other boys would not dare do, funny world adults call them normal, and Searl abnormal only because Searl wants to know the absolute truth and determine to find it.

At Christmas time he want to test his skills in creating Christmas light display that no one else had to match, to his mind it was a challenge to see just what he could do to give pleasure and excitement to people living around him.

Even in the military, he was no different, he operated the camp cinema and always had some made up display representing the feature film they would be watching, he got the nickname Butlins holiday camp.

It is only natural that his learning would be put to the test, at the same time it was to give strength to his dream, as he too was toying with that issue; again the homes officials had place him in the right place at the right time that would bring all parts of that jigsaw together.

Step by step both the S.E.G and the I.G.V concept would materialise; but far beyond the point that one would expect it to be, every issue fell into place automatic that gave him hands on experience which so few boys have ever had such luck.

As each document is reprinted and update with photos if possible and colour; you will see how Searl was able to create what so call experts said that he could not had done it.

Maybe Searl is a strange person as they claim, only because he stops and thinks before he acts, so that makes him strange and abnormal; that sure says a lot for education who do not stop and think before they act.

In this document, we see what he stated in his newsletter of that time that deals with CURRENT.
COMPOSITION OF MATTER:

Controlling the behaviour of electrons which is the objective within the Searl Effect Generator (S.E.G) is what electronics is all about; therefore it should appear clear to all intelligent people that Searl needs an understanding of the electron is vitally important to his understanding of electronic fundamentals.

Electrons are tiny particles, which carry the energy to light our homes, cook our food, and do much of our work; for Searl to understand what an electron is he must investigate the make-up of matter; or otherwise there will be no Searl Effect Generator (S.E.G) to help you with your work.

To Searl understanding, matter is generally described as anything, which has weight and occupies space, which includes idiots who show their lack of education on websites; thus, the Earth and everything on it is classified as matter.

Searl understands that matter exists in three different states, which for the records is precisely what his dream one inform him as a schoolboy who had no formal education, which are SOLID – LIQUID – GAS – representing square three in that game of hopscotch.

For the benefits of these so call experts on websites, Searl will give you examples of solid matter what he means by solid matter: Gold Au 79, sand and wood, and now Searl give them example what he means by liquid such as water, milk, and gasoline.

Now Searl give them his acceptance of gases by examples of Helium He 2, hydrogen H 1, Oxygen O 8, and the demonstration of a man bending letting rip to inject a new supply of gases into the over contaminated atmosphere for all to enjoy; which are all forms of matter.

ELEMENTS AND COMPOUNDS:

Searl understands that the basic building materials from which all matter is constructed, as the Searl Effect generator (S.E.G) included are called ELEMENTS; hence, all matter is composed of elements regardless.

Searl gives some examples what elements to him are, carbon C 6, iron Fe 26, hydrogen H 1, and gold Au 79, and he is aware that just over one hundred elements are presently known; of these, only 92 occur in nature, which are call natural elements.

These 92 elements names will be listed in table 1.1a on the next page. Searl remind you that in addition, there are about a dozen man-made elements, which he will list in table 1.1b on next page 4.

As Searl looked around it becomes obvious that there are many more types of matter than there are elements, Searl look at substances like salt, steel, water and protein which he notice do not appear in the list of elements; why he wonder, there have to be a reason why.

Searl was no fool and his logic mind search for an answer and found that the reasons was elementary that these substances are not elements just one small step that creates a massive step for mankind, so what are they.

Instead, Searl found that they are called compounds and he understood that a compound is a substance, which is composed of two or more elements, like these:
Yes, atoms they are indeed looking for male atoms to please, but I am not included on their list – what a shame?

Searl see them just as the letters of the alphabet that can be arranged in various combinations to form millions of different words as in female Homo sapiens appears, as women the elements can be arranged in various combinations to form millions of different compounds.

For example: water is a compound; which is made up of the elements hydrogen H 1 and oxygen O 8; how is that possible as they are both gases of high flammable nature. In addition, your brain contains a lot of it top that with what your body contains you ought to go with a loud bang if you lay in the sun on a hot day, or go airborne.

Searl points out that in addition, these experts proudly tell you with their insane knowledge that the Searl Effect generator (S.E.G) is impossible to be – really.

Searl also like to point out that on the other hand, sugar is composed of hydrogen H 1 a high flammable gas, carbon C 6, and oxygen O 8 another flammable gas, impossible the evidence says not impossible, so how can one state that the Searl Effect Generator (S.E.G) is impossible; only fools can make such claims.

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<th>Symbol</th>
<th>Atomic Number</th>
<th>Name</th>
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<td>Samarium</td>
<td>Sm</td>
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Figure 1.1a The Natural elements known to Searl.

Sorry the next list will have to appear on the next page, well Searl cannot be right all the time he is only human after all, not one of these super aliens we hear so much about.
Figure 1.1b, The artificial elements as Searl knows – table of the elements to Searl knowledge.

Searl like to quote another issue being salt, which is composed of sodium Na 11 and chlorine Cl 17, in these samples Searl presented what you actually put into your gut.

For Searl logic mind requires a better understanding how the compound is related to its elements; the only options are to investigate the structure of a compound with which we all are familiar – WATER – which we are constructed from a large amount of it.

Yes, Searl is determined to understand about every molecule that creates these impress images on his mind and water is a key compound of them.

Suppose that Searl actually divide a drop of water into two parts, unfortunate his logic mind is still not happy so he divide each part again and after a few dozen divisions, he has a drop so small that he can only see it with a microscope.

If Searl could divide it even further into smaller and smaller particles, he would eventually get a particle so small that it could not be divided further and still be water; and this particle of water which still retains the characteristics of water is called a molecule.

Therefore, who are stupid enough still to say that the Searl Effect Generator (S.E.G) is impossible, if you are possible: being far more complex and therefore more likely to be impossible, then the S.E.G is also possible?
ATOMS:

Searl understands that the smallest particle to which an element can be reduced is called an atom; where molecules are made up of atoms, which are bound together; the water molecule was shown on page 5 as having three atoms; the two smaller atoms representing hydrogen \( \text{H} \) while the large one represents oxygen \( \text{O} \).

Therefore, a molecule of water consists of two atoms of hydrogen \( \text{H} \) and one atom of oxygen \( \text{O} \); and Searl is pleased to state that this is the reason that the chemical formula for water is \( \text{H}_2\text{O} \).

ELECTRONS, PROTONS AND NEUTRONS:

September 1946 Searl understood no matter how small as the atom is, it can be broken up into even smaller particles; as Searl investigated the structure of the atom, he found that it is composed of three elementary particles; more precise his dream one has instructed him upon these facts.

By that month, Searl became aware that these particles are called electrons, protons, and neutrons, which were the missing information of his dream one: as to what they were known by in the scientific community; which due to his employment understood these are the three basic building blocks, which make up all atoms and, therefore, all matter.

It should be clear that Searl must have understood that electrons, protons, and neutrons have very different characteristics; however, as far as Searl understands, all electrons are exactly alike; by the same token, Searl understands that all protons are exactly alike; and finally, all neutrons are exactly alike.

BOHR MODEL OF ATOM:

Figure 1.3 shows how electrons, protons, and neutrons are combining to form an atom that is how Searl was taught; this particular one is helium \( \text{He} \) atom.

Two protons and two neutrons are bunch together near the centre of the atom; the centre part of the atom, which is composed of protons and neutrons, is calling the nucleus.

A young boy was learning and at the same time found so many points, which agree with the law of the squares in the process of his studies.

Figure 1.3  Bohr model of the helium \( \text{He} \) atom.

Searl understands that depending on the type of atom, the nucleus will contain from one to about 100 protons; also, in all atoms except hydrogen \( \text{H} \), the nucleus contains neutrons and protons have approximately the same weight and size.

Searl understands that the overall weight of the atom is determined primarily: by the number of protons and neutrons in the nucleus, Searl just stated this to educate those so call experts on website who think everyone is unintelligent as they are.

It is sad when a boy of 14 years has to educate men over twice his age about the world of reality, which they show that they are not with it, lack understanding or too lazy to learn whichever is the case.

Searl was always knocked down instead of being encouraged, he had problems to handle but he won.
Searl fully understands that the scientific views of his time was that rotating around the nucleus are the electrons; as you have notice that the helium He 2 atom has two electrons and Searl accepts that the electrons are extremely light and they travel at fantastic speeds.

To Searl logic, mind the atom he has compared it to the solar systems with the nucleus representing the Sun and the electrons representing the planets; Searl argument is if everything constructed of atoms; then the whole universe and everything in it must also be structure in the same concepts.

To Searl logic mind he understand that the scientific world claims that electrons orbit the nucleus in much the same way that the planets orbit the Sun, which is precisely Searl acceptance of the atom based upon what he observes around him which appears to be the correct order of nature.

Searl dream one only inform him that atoms oscillate and can switched from one state to another instant, being a mass or being energy it has no problem to switch states; and what interest Searl which he noted that no one has ever seen an atom because of its small size.

To Searl logic mind it means that it can either be a particle or a wave, interesting issue, more so, when Searl talks about the Searl Effect generator (S.E.G) and its functions; thus Searl accepts that any picture of the atom must be base on assumptions rather than actual observations – that is a FACT.

Searl Figure 1-3 shown on page 6 represents a very simple picture of the atom based on these assumptions in 1946, Searl is very pleases to confirm that today, much more complex models of the atom have been proposed.

Yet Searl confirm that they all assume that the basic structure is that of electrons orbiting about a nucleus, which is composed largely of protons and neutrons; Searl has no problems with that assumption as the Searl Effect Generator (S.E.G) supports such assumptions as FACT.

Searl agrees that all these models have several things in common; as they, all assume that the basic structure is that of electrons orbiting about a nucleus, which is composed largely of protons and neutrons; similar to that of the roller sets orbiting the plate as witness in the Searl Effect Generator (S.E.G).

As Searl states that the model shown in Figure 1-3 is adequate for the purposes of this document even though it may be somewhat simplified, Searl understand that this model of the atom is called the Bohr model after the man who proposed it.

![Figure 1-3: Simple picture of the atom](image)

<table>
<thead>
<tr>
<th>Atom</th>
<th>Number of Electrons</th>
<th>Number of Protons</th>
<th>Number of Neutrons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen H 1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Carbon C 6</td>
<td>6</td>
<td>6</td>
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</tr>
<tr>
<td>Copper Cu 29</td>
<td>29</td>
<td>29</td>
<td>35</td>
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</tbody>
</table>

Figure 1-4 the difference between atoms is the number of electrons, protons and neutrons that they have.
DIFFERENCE BETWEEN ELEMENTS:

Searl that shows in Figure 1-4 shows the Bohr model: as Searl understood it of three different atoms, the first is hydrogen H 1 Searl agree that it is the simplest atom of all because it consists of a single electron orbiting a nucleus, which is composed of a single proton.

Searl understood: that this is the only atom, which does not contain a neutron: as to why this is Searl can only accept that his dream one says that the first square is not used as all others are; in plain language Hydrogen H 1, is the first square of the hopscotch pattern of his dream; which was never occupied by him.

Clearly, Searl needs to forget Hydrogen H 1, as a component of the Searl Effect Generator (S.E.G); Searl understood that it was the lightest of all atoms, which is unsuitable for the Searl Effect Generator (S.E.G) as it requires weight in its construction.

Searl also shows in Figure 1-4 is the Bohr model of the carbon C 6 atom that it contains 6 electrons orbiting a nucleus of 6 protons and 6 neutrons; if carbon C 6 can actually exist then who can say that the Searl Effect Generator (S.E.G) can also exists.

Finally, Searl shows the copper Cu 29; as seen it contains 29 electrons and a nucleus composed of 29 protons and 35 neutrons; naturally Searl is going wonder why it is different, and if there is some effects that makes it useful for the Searl Effect Generator (S.E.G); it interested him to experiment with it.

Although Searl have not shown in Figure 1-4, the most complex atom found in nature to his knowledge is the uranium U 92; Searl understand that it contains 92 electrons, 92 protons and 146 neutrons; this interest Searl logic mind why so many neutrons.

Base upon the evidence that Searl found with copper Cu 29, which is vital for the design of the Searl Effect generator (S.E.G), he wonder: if it was these extra neutrons, which create that effect which he employs within the Searl Effect Generator (S.E.G).

As Searl can guessed, the difference between the various elements is that each is made up of atoms which contain a unique number of electrons, protons and neutrons; since Searl knows that there are only 92 natural elements, there are only 92 different types of atoms normally found in nature.

Searl knowing that the simplest atom is hydrogen H 1 with a single proton and the most complex is uranium U 92 protons that somewhere between these ends there have to be the Searl Effect Generator (S.E.G), concept.

THE BALANCED ATOM:

In the examples Searl shown, you may have noticed that the number of electrons is always equal to the number of protons and Searl understands that this normally true of any atom; and Searl understands when this is the case, the atom is said to be in its normal, balanced, or neutral state.

Searl will show later that this state; can be upset; by an external force: however, Searl normally think of the atom as containing equal numbers of electrons and protons

PROGRAMMED REVIEW:

This review: is presented in the hope that it will enhance your understanding on Searl education; by the materials, which have been presented in this document: the questions, which is presented on the next page; are not in any particular order.

In addition, Searl had to fill in the missing words; at the age of 14 years would you have been able to do similar.

Page 1.8
Questions and Answers:

1. The smallest particle of a compound is called a molecule; a molecule is composed of atoms of two or more different elements; for example, a molecule of water consists of two atoms of hydrogen H1 and one of oxygen O8.

   Thus, the smallest particle of water which is still water is a ------------------

SEARL ANSWER WAS:

   Molecule.

2. All the compounds found in nature consist of different combinations of only 92 different elements; these basic elements can be combined in millions of different combinations to form all the ------------------ known to men.

SEARL ANSWER WAS:

   Compounds,

3. Other examples of compounds are salt, steel, and sugar; all these substances are compounds because they are composed of two or more ------------------.

SEARL ANSWER WAS:

   Elements.

4. A substance which is composed of two or more elements is called a compound; since water is composed of the elements hydrogen H1 and oxygen O8, water is a ------------------.

SEARL ANSWER WAS:

   Compound.

5. Matter may exist as a gas, liquid, or solid; all matter is composed of one or more elements; for example, water is composed of two ------------------ called hydrogen H1 and oxygen O8.

SEARL ANSWER WAS:

   Elements.

6. Matter is anything, which has weight and occupies space; thus, air, metal, and water are examples of ------------------.

SEARL ANSWER WAS:

   Matter.

7. A molecule consists of two or more atoms bound together; thus, while the molecule is the smallest particle of a compound, the atom is the smallest particle of an ------------------.

SEARL ANSWER WAS:

   Element.

Searl was 14 years 5 months old when he took this test in 1946; a boy with no formal education based on expert’s claims on websites, Searl wonders how many of them at that age would have got those answers correct.
It is interesting to note that atoms normally have the same number of electrons and protons; thus, a hydrogen H 1 atom has one proton and one electron; on the other hand, a uranium U 92 atom has 92 protons and 92 electrons.

SEARL ANSWER WAS:

92.

The nucleus of the hydrogen H 1 atom consists of a single proton; however, all other atoms have both protons and neutrons in their nucleus.

SEARL ANSWER WAS:

Neutrons.

The protons and neutrons form the centre or nucleus of the atom; the electrons rotate around the nucleus in much the same way that the planets rotate around the Sun; thus, if we compare the atom to our solar system, the Sun is equivalent to the nucleus of the atom.

SEARL ANSWER WAS:

Nucleus.

One type of atom differs from another type by the number of protons, electrons, and neutrons which it contains; these are the three basic building blocks from which all atoms are made; that is, all atoms are made up of different combinations of protons, electrons, and neutrons.

SEARL ANSWER WAS:

Protons, electrons, neutrons.

The atom is the smallest particle into which an element can be divided; since there are only 92 natural elements there are only 92 different types of atoms found in nature.

SEARL ANSWER WAS:

Atoms.

That is, just as a compound is made up of molecules, an element is made up of atoms.

SEARL ANSWER WAS:

Atoms.

This completes Searl test at the age of 14 years who had no formal education to the likes of these experts on websites had, which to Searl impressed image appears rather lacking in knowledge and understanding; clearly gives a bad image to education as a whole.
ELECTROSTATICS:

Electrostatics is the branch of physics dealing with electrical charges at rest dear son Friedrich, we call static electricity. On the other hand, electronics deals largely with moving electrical charges. However, before I can fully understand the action of electrical charges in motion, I must first have some basic knowledge of their behaviour at rest.

THE ELECTRICAL CHARGE:

I have examined the structure of the atom and discussed some of the characteristics of the ELECTRON, PROTON, and NEUTRON. However, I have not yet discussed the most important characteristic of these particles. Do you know what that is Friedrich Bauer?

To educate Friedrich Bauer what it is – this characteristic is their electrical charge. An electrical charge is a property associated with the ELECTRON and the PROTON. It is the electrical charge which makes the ELECTRON useful in electrical and electronic work.

The electrical charge is difficult to visualise because it is not a thing, like a molecule or an atom. Rather, it is a property which ELECTRONS and PROTONS have that causes these particles to behave in certain predictable ways and that is why the SEARL EFFECT GENERATOR (S.E.G) works.

There are as the LAW OF THE SQUARES states two distinct types of electrical charges. And again because these two types of charges have opposite characteristics, they have been given the names POSITIVE and NEGATIVE, as Sir Isaac Newton, between 1643 – 1727 must had known that issue and others made more use of it since. Ancient China I feel they also knew this and used it but at a low voltage level.

The electrical charge associated with the ELECTRON has been arbitrarily given the name NEGATIVE. On the other hand, the electrical charge associated with the PROTON is considered POSITIVE. The NEUTRON has no electrical charge at all. Therefore, it is electrically neutral and, therefore, plays no known role in electricity.

The electron revolves around the nucleus of the atom in much the same way that the Earth orbits the Sun. Let me compare this action to that of a ball which is attached to the end of a string and twirled in a circle. If the string breaks, the ball will fly off in a straight line; which is precisely what happens in the Searl Effect Generator (S.E.G); at the top of the roller sets the electrons are forced to break away from the copper Cu 29 and continue in a straight line to the collector Nd 60 to be absorbed into the material in a uniform way.

Thus, it is the restraining action of the string which holds the path of the ball to a circle. Agree, that in the case of the Earth rotating around the Sun, it is the gravitational attraction of the Sun which prevents the Earth from flying off into space; likewise it is the gravitational force of the plates which prevents the roller sets from flying off into space. The gravitational attraction of the Sun exactly balances the centrifugal force of each planet, likewise, the plates exactly balances the centrifugal forces of each roller set. Thus, the planets travel in more or less circular paths around the Sun, which is precisely what the roller sets do around the plate.

The electron orbits around the nucleus at a fantastic speed. What force keeps the electrons from flying off into space; do you know Friedrich Bauer? It is not gravity because the gravitational force exerted by the nucleus is much too weak. Well Friedrich Bauer I guess you do not have the brain capacity to answer that question as its loaded with faeces; as you are bent on displaying that matter to everyone. While everyone else keep their faeces in their colon for release via the rectum and not on YouTube like you do Friedrich. I will explain to Friedrich that in this case, instead, the force at work here is caused by the charge on the electron in orbit and the charge on the proton in the nucleus.
I shall now let Friedrich Bauer to enjoy living in his cesspit; clearly is where he belongs and carry on with my early days of learning.

The negative charge of the electron is attracted by the positive charge of the proton. I call this force of attraction an **electrostatic force**, to explain this force; science has adopted the concept of an **electrostatic field**. Searl agrees that is better than nothing in trying to understand that which the eye cannot see. Every charged particle is assumed to be surrounded by an **electrostatic field** which extends for a distance outside the particle itself. It is the interaction of these fields which causes the electron and proton to attract each other.

**SEARL STATES:**

*Well what can I say; here the experts have been stating this long before my grandma was born and she has been dead for a long time now. Surly that is what I have been stating all these years; surely when I stated that the Searl Effect Generator (S.E.G) collects its output from all forms of energy within the surrounding fabric, which includes electrostatic fields.*

*Just stop and think all those billions of electrons being transform from a random motion in to a uniform motion which increases that force of action.*

---

**Figure 1-5a**

A PROTON

**Figure 1-5b**

B ELECTRON

*fields associated with protons and electrons.*

*Searl states: let us assume that the plates are protons and the roller sets are electrons that there are within a powerful electrostatic fields simply generated by the function of the roller sets rotation and spinning around those plates. After all, the plates are far more positive then the roller sets are. STOP AND THINK.*

**FIGURE 1-5A:** shows a diagram of a proton. This plus sign represents the **positive electrical charge**. The arrows which extend outwards represent the lines of force which make up the **electrostatic field**.

*NOTICE: that the lines are arbitrarily assumed to extend outward away from the positive charge.*

**FIGURE 1-5B:** compare this to the electron shown here. The minus sign represents the negative charge while the arrows which point inward represent the lines of the electric field. Now let me see how these two fields interact with one another.

**SEARL STATES:**

*There will always be those who questions if that motion is real or is it faked!*
LAW OF ELECTRICAL CHARGES:

There is a basic law which describes the action of electrical charges. It is called Coulomb’s Law after Charles A.de Coulomb who discovered this relationship.

**QUITE SIMPLY: COULOMB’S LAW STATES THAT:**

1. **Like charges repel;**
2. **Unlike charges attract.**

Because like changes repel, two electrons repel each other as do two protons

FIGURE 1-6A illustrates how the lines of force interact between two electrons. The directions of the lines are such that the two fields cannot interconnect. The net effect is that the electrons attempt to move apart. That is, they repel each other.

FIGURE 1-6B illustrates that the same is true of two protons.

FIGURE 1-6C an electron and a proton are shown. Here the two fields do interconnect. As a result, the two charges attract and tend to move together.

These examples show only individual charged particles. However, Coulomb’s Law holds true for concentrations of charges as well. In fact, it holds true for any two charged bodies. An important part of Coulomb’s Law is an equation which allows me to determine the force of attraction or repulsion between charged bodies. The equation states that:

\[
F = \frac{q_1 \times q_2}{d^2}
\]

Where

- \( F \) = the force of attraction between unlike charges or the force of repulsion between like charges
- \( q_1 \) = the charge on one body
- \( q_2 \) = the charge on the second body
- \( d^2 \) = the square of the distance between the two bodies.
It is deeply regretted that in electrical and electronics mathematics are involved but I will try to keep the amount down at this stage; for the non-mathematical viewers. Another reason why is that most mathematics can be done in Excel which has been removed from this PC.

While I need not work actual problems to determine the force between charges, I can see some interesting relationships by examining the equation. If I experiment as I did at that time with the equation by substituting some simple arbitrary numbers for:

\[ q_1, q_2, \text{ and } d^2 \]

I can determine how the force changes as the quantities change.

To help those who want to understand basically what is just been stated above.

**Let the first body charge = 10**  
10 x 10 = 100

**Let the second body charge = 10**

**Let distance = 8\(^2\)**  
8 x 8 = 64

**Force =**  
100

64 = 1.5625

**If the value of either charge doubles, the force also doubles:**

**Let the first body charge = 20**  
20 x 10 = 200

**Let the second body charge = 10**

**Let distance = 8\(^2\)**  
8 x 8 = 64

**Force =**  
200

64 = 3.125

**If both charges double, then the force increases by a factor of four:**

**Let the first body charge = 20**  
20 x 20 = 400

**Let the second body charge = 20**

**Let the distance = 8\(^2\)**  
8 x 8 = 64

**Force =**  
400

64 = 6.25

The space available here is insufficient to complete the next sample without breaking it up so will carry on the nest page for it.

Well it leaves you to STOP – THINK – ACT what part the force acts within the **Searl Effect Generator**?

Already you should have spotted issues relating not only to the Law of the Squares but materials too.
On the other hand, increasing the distance between charges decrease the force:

If the distance between charges is double, the force is reduced to one fourth its former value.

Let the first body charge = 20
\[ 20 \times 20 = 400 \]

Let the second body charge = 20
\[ 16 \times 16 = 256 \]

\[ \text{Force} = \frac{400}{256} = 1.5625 \]

If the value of either charges doubles and the distance is doubled:

Let the first body charge = 20
\[ 20 \times 30 = 600 \]

Let the second body charge = 30
\[ 32 \times 32 = 1,024 \]

\[ \text{Force} = \frac{600}{1,024} = 0.5859375 \]

The magnitude of the negative charge on the electron is exactly equal to the magnitude of the positive charge on the proton. Figure 1-7 is a diagram of a Hydrogen H.1. Atom consisting of one electron in orbit around one proton. Notice that the negative charge of the electron is exactly offset by the positive charge of the proton. Thus, the atom as a whole has no charge at all. That is, overall, this atom has neither a negative nor a positive charge. It is electrically neutral.

SEARL STATES:

From 1946, he released copies of his training progress relating to three different schools of learning, as newsletters. What you are reading in this book covers only one of those schools, but NOTE after 1968 he undertook university courses, including two flying schools training and kept employed across a vast band of science and technology.

Searl accepts that he was exceptional lucky as that was something most people never get an opportunity to have. But at a price that brought evil minded people towards him like a magnet to metal. It cost him love and happiness from those who would had benefited most of all, rejection, gang fights and treats. Became homeless to being robbed to stop his research work, and know what it is like to be hungry, even today in the year 2010 he still does not eat a cook meal a day: once in while he may get a cook meal, but it is rare.

All this in the name of technology to give the world a better lease of life for all humankind regardless, yet it appears very few want it, the rest of the population is happy about the cost and global warming and pollution which is making them ill.

Late November 1946: Searl knowledge base on the Hydrogen H.1. Atom was limited to the following information as shown here:

Atomic weight = 1.00797 Year discovered = 1766 It was a element belonging to the gas group.

At least that made a start in his learning curve which had to overcome his clinical deafness and imbalance problem which caused his Ménière’s disease which he suffered since a few days of birth.

Page 1.15
SEARL TECHNOLOGY LIMITED-ELECTRONICS. DOC-SISRC-ST-DCE-IT-1.

Searl agree that his former education never existed. But that was not his fault; but from 12 years old at the navy training school he had started to progress forward against all odds, top that with his training in the air cadets, his mind was gearing up against all officials claims that he would never make it.

Here on public records are the facts on how he did the impossible, for all to see and learn that sometimes it is better to take no notice of these experts’ statements and make the effort to prove them wrong – like Searl has done and many more before him and many more will do in the future.

Searl employment was the cause of why he really studied so hard to catch up with those who had a far better start in life than he had. He brought ex-government equipment for cheapness mainly to take it apart to see how things were made and how they work; people sold him cheap; electrical products they no longer wanted so he could find out how they work.

But all this are subjects of other books in the past he has written and released, so he will return to this book now being re-written for public records.

Atoms which are electrically neutral have no charge. Therefore, they neither attract nor repel each other. By the same token they are neither attracted nor repelled by charged particles such as electrons and protons. I have seen that atoms normally contain the same number of electrons (negative charges) as protons (positive charges) proving yet again that the Law of the squares hold true.

And, since the neutrons add no charge, all atoms are normally neutral as far as their electrical charges are concern. However, this normal condition can be easily upset by external forces which Searl only to aware of from experience.

THE ION:

![Figure 1-8 Carbon C. 6 atom and ions.](image)

1946 late November Searl only knew the following FACTS on Carbon:

**Atomic weight = 12.01115**  **Year discovered = BC.**  **Which is a key atom of the human body?**

Atoms are affected by many outside forces such as heat, light, electrostatic fields, chemical reactions and magnetic fields. Quite often the balanced state of the atom is upset by one or more of these forces. As a result, an atom can lose or gain an electron. When this happens, the number of negative charges is no longer exactly offset by the number of positive charges. Thus, the atom ends up with a net charge. An atom is no longer in its neutral state is called an ion. The process of changing an atom to an ion is called ionization.

There are both negative and positive ions. Figure 1-8 compares a neutral atom of carbon C. 6. With negative and positive ions of carbon C. 6.
Figure 1-8A: Shows the balanced or neutral atom. Notice that the six negative charges (electrons) are exactly offset by the six positive charges (protons). The neutrons are ignored in this example since they contribute nothing to the electrical charge.

Figure 1-8B: Shows the condition which exists when the carbon C. 6 atom loses an electron. There are many forces in nature which can dislodge an electron and cause it to wander away from the atom. I will discuss this in more detail later. Notice that the carbon C. 6 atom now has one more proton than electrons. Thus, there is one positive charge which is not cancelled by a corresponding negative charge. Therefore, the atom has a net positive charge. We call this a positive ion.

Figure 1-8C: Shows a carbon C. 6 Atom: This has picked up a stray electron. In this case, there is one negative charge which is not offset by a corresponding positive charge. Hence, the atom has a negative charge. This is called a negative ion.

The ion still has all the basic characteristics of carbon C. 6, because the nucleus of the atom has not been disturbed. Therefore, an atom can give up or pick up electrons without changing its basic characteristics.

Changing atoms to ions is an easy thing to do and everything you see around you contains ions as well as atoms. The material around you also contains a large number of free or stray electrons. These are electrons which have escaped from atoms leaving behind a positive ion. As I shall show later, the electrical characteristics of different types of material are determined largely by the number of free electrons and ions within the material.

**ACTION OF ELECTROSTATIC CHARGES:**

At one time or another we have all seen or felt the effects of electrostatic charges. A most spectacular effect which we have all seen is lightning. Less spectacular examples are often witnessed when remove clothes from a dryer, comb our hair, or touch a metal object after scuffing our feet on a rug. In each of these cases, two different bodies receive opposite electrical charges. This is caused by one of the bodies giving up a large number of electrons to the other. The body which gives up the electrons becomes positively charged while the body receiving the electrons becomes negatively charged.

When we comb our hair vigorously with a hard rubber comb, our hair gives up electrons to the comb. Thus, the comb becomes negatively charged while our hair becomes positively charged. That is, the comb collects a large number of free electrons from our hair.

*This is an example of charging by friction.*

There are several other ways in which an object can be charged. For example, the charge on the comb can be partially transferred by another body simply by touching the comb to the uncharged body. When the charged comb comes into contact with the uncharged object, many of the excess electrons leave the comb and collect on the other object. If I now remove the comb, the object will have a charge of its own.

*This is called charging by contact.*

Another method of charging is called charging by induction. This method takes advantage of the electrostatic field which exists in the space surrounding a charged body. This allows me to charge an object without actually touching it with a charged body as in the Searl Effect Generator (S.E.G).

**FIGURE 1-9** shown at top of next page: shows the negatively charge comb placed close to an aluminium Al. 13 rod.

The excess electrons in the comb repel the free electrons in the rod. Consequently, the free electrons gather at the ends of the rod away from the charged comb.
Figure 1-9. Charging by induction: Figure 1-10 charging and discharging a glass rod.

This causes that end of the rod to acquire a negative charge. The opposite end acquires a positive charge because of the deficiency of electrons. If I now touch the negative end of the rod with a neutral body, some of the electrons leave the rod and enter the neutral body. This leaves the rod with a net positive charge. Thus, I have induced a positive charge into the rod without touching it with a charge body.

That is a scientific FACT and that is precisely what is taking place with the roller sets of the Searl Effect Generator (S.E.G):

THEY ARE CAUSED TO ROTATE DUE TO INDUCTION OF FREE ELECTRONS FROM THE PLATE, WHICH THEN ARE REPEL TO THE NEXT PLATE, AND THE SYSTEM REPLEATS AGAIN TO THE THIRD PLATE AND A CONTINUE CYCLE OF EVENTS TAKES PLACE UNTIL YOU STOP IT; BY THE USE OF FORCE.

Now, let’s see how electrical charges can be neutralized. When a glass rod is rubbed with a silk cloth in the manner of man masturbation, the glass gives up electrons to the silk. Therefore, the glass becomes positively charged. This is shown in Figure 1-10A.

However, if the rod is now brought back into contact with the cloth, the negative electrons in the silk are attracted by the positive charge in the glass. The force of attraction pulls the electrons back out of the silk so that the charge is neutralized as shown in Figure 1-10B.

Thus, if two objects having equal but opposite charges are brought into contact, electrons flow from the negatively charge object into the positively charged object. The flow of electrons continues until both charges have been neutralized.

A scientific FACT Searl recognised that issue at the Great Bridge cinema: as a boy asked how did they get still film shots to move on screen; when the governor took him up to the projection room to ask the projectionist to explain how the film motion seen on the screen was achieved. The proof was in the light source which was carbon rods inside an envelope of copper, positive being a long thick one and the negative one a short thin one.

The projectionists was explaining that the power went from the positive one to the negative one, but Searl brain said he was wrong, it was the opposite way round; as the boss witnessed Searl telling his operator what was taking place and insisting he was wrong, the boss offered him a job immediately which is just another subject in his learning cycle belonging to another book.

Just to remain you that Searl wrote 100 large books and 200 newsletters some odd ones were more the size of a book over the years. But they were done in extremely small print to get as much information on a page possible. These reprints and updated where possible are being done in larger print size and larger photos and drawings, I trust now that will pleases everyone except that idiot Flowerbower.
A programmed Review of questions Searl had to answer.

Q  Normally an atom contains the same number of electrons as protons. Thus, the positive charges in the nucleus are exactly offset by the negative charges in orbit around the nucleus. An atom has no net charge when it has the same number of protons as ...?
A  Electrons.

Q  Once the glass rod is positively charged, this charge can be partially transferred to a neutral body by touching the two objects together. When the two objects touch, electrons are drawn from the neutral body by the positive charge on the rod. Thus, the charge on the rod is partially neutralized. However, because the neutral body gave up electrons, it now has a ... charge.
A  Positive.

Q  Electricity is a property that electrons and protons have which causes them to behave in certain predictable ways. Each has a tiny electrical charge. However, the electron’s charge is opposite to that of a proton. This agrees with the Law of the Squares. The proton is said to have a positive charge, while the electron has a .... charge.
A  Negative.

Q  However, a negatively charged body should be attached by a ... charged body.
A  Positively.

Q  Although the two charges are opposite, they have exactly the same magnitude. Thus, the positive charge on the proton has the same strength as the negative charge on the ....
A  Electron.

Q  Also, any two positively charged bodies should ....
A  Repel.

Q  While the electron and proton have electrical charges, the third particle found in the atom does not. That is, the ...... has no electrical charge.
A  Neutron.

Q  According to Coulomb’s Law, two electrons should ...... each other.
A  Repel.

Q  The negatively charged electrons are held in orbit around the nucleus by the attraction of the positively charged ...... in the nucleus of the atom.
A  Proton.

Q  A law which describes how charged particles behave is called Coulomb’s Law. The action described in above question is summarized by one part of Coulomb’s Law which states that unlike charges ....
A  Attract.

Short of room for the nest question and Searl answer.
This Law goes on to say that like charges behave in the opposite manner. It states that like charges ....

Repel.

An atom which has a net electrical charge is called an ion. Ions are formed when an atom loses one or more electrons or picks up one or more extra electrons. Since electrons have negative charges, an atom which picks up an extra electron becomes a .............. ion.

Negative.

On the other hand, an atom which loses an electron becomes ..... ION.

Positive.

One way to produce free electrons and positive ions, is to rub a glass rod with a silk cloth. The glass rod gives up many electrons to the silk cloth. Thus, the glass rod becomes ...... charged.

Positively.

Simultaneously, the silk cloth becomes ...... charged.

Negatively.

I agree those were simple questions, then why is it shown on YouTube that these simple basics conditions are unknown to these experts, that is what they are stating that the Searl Effect Generator (S.E.G) cannot work; if it did it would break all the Laws of physics – HOW STRANGE TALK – WHAT LAWS OF PHYSICS? So far none has been broken: if anything; the Laws of physics so far agrees with the Searl Effect Generator S.E.G. findings which are and have been demonstration at public shows.

CURRENT FLOW:

In electronics, current is defined as the flow of electrical charge from one point to another. I have already shown some examples of this. I have shown that when a negative charged is touched to a positively charged body, electrons flow from the negative object to the positive object. Since electrons carry a negative charge, this is an example of electrical charges flowing. Before an electron can flow from one point to another, it must first be freed from the atom. Therefore, let me take a closer look at the mechanism by which electrons are dislodged from the atom.

FREEING ELECTRONS:

I have shown that electrons revolve around the nucleus at very high speeds, to my mind at least; there is no reason whatsoever that a roller set of the Searl Effect Generator (S.E.G.) should not be capable of performing in the similar manner around the plates; as if the plates in relation to the roller sets are the nucleus of that power system.

Two forces as the Law of the Squares states hold the electron in a precarious balance. The centrifugal force of the electron is exactly offset by the attraction of the nucleus. No different to that of the Searl Effect Generator (S.E.G) in its functions. The balanced condition can be upset very easily so that the electron is dislodged, which is clearly not understood by the masses which they clearly expose; by the way they are treating this planet in which the result are clearly on display; yet they have eyes but cannot see damage they are doing.

Not all electrons can be freed from the atom with the same ease. Some are dislodged more easily than others. To see why, I must discuss the concept of orbital shells. Searl believe that the orbits of the electrons in an atom fall in a certain pattern that his dream one appears to be suggesting to him.
Fact: everything is made from atoms. Figure 1-11 arrangements of orbital shells in atom.

For example, in all atoms which have two or more electrons, two of the electrons orbit relatively close to the nucleus. The area in which these electrons rotate is called a shell. In the work out of the Law of the Squares I also present them as shells because in many ways they are similar in structure. The shell closest to the nucleus contains two electrons. This area can support only two electrons and all other electrons must orbit in shells further from the nucleus.

Likewise in the Law of the Squares in which the centre is the nucleus of all levels from its absolute to infinity of all squares constructed; each shell must be offset by that value times the shell step.

A second shell of the atom which is somewhat further from the nucleus can contain up to eight electrons. Yes, that was all in my dream one, First Square of that dream states that the first shell of the atom can only hold 2 electrons and the second shell can only hold 8 electrons.

Also in some atoms there are third shells which can contain up to 18 electrons and there can be a fourth shell which can hold up to 32 electrons. The first four shells are illustrated above in Figure 1-11. Although not shown, there are also additional shells in the heavier atoms. This also applies to the Law of the Squares.

Of particular importance to electronics is the outer electron shell of the atom. Hydrogen H.1 and Helium He.2 atoms are gases, which has one and two electrons respectively. In this case, the outer shell is the first (and only) shell. With atoms which have three to ten electrons, the outer shell is the second shell. Regardless of which shell it happens to be, the outer shell is called the valence shell. Electrons in this shell are called valence electrons.

Electrons are arranged in such a way that the valence shells never has more than eight electrons. This may be confusing since I have shown that the third shell can contain up to 18 electrons. This no doubt also applies to the Inverse-Gravity-Vehicle which I have stated uses 64 struts in its construction which are subdivided by 8 to generate 8 units, Which is another book of the past.

An example shows why both statements are true. An atom of argon Ar 18 a gas contains 18 electrons – 2 in the first shell, 8 in the second shell, and 8 in the third shell. As I appreciate how nature designs its products which I try to copy in my products the same concepts of nature uses, but target a uniform system against the random system nature uses.
Figure 1-12 Freeing an electron from a copper Cu 29. SM Headquarters to be R&D USA.

It might seem that the next heavier element, potassium K 19, would have 9 electrons in its third shell. However, this would violate the valence rule stated above. Actually, what happens is that extra electron is placed in a fourth shell.

Thus, the 19 electrons are distributed in this manner:

K shell = 2 in the first shell:
L shell = 8 in the second shell:
M shell = 8 in the third shell:
N shell = 1 in the fourth shell.

**NOTICE:** that the outer or valance shell becomes the fourth shell rather than the third. Once the fourth shell is established as the valence shell, the third shell can fill to its full capacity of 18 electrons.

The valence electrons are extremely important in electronics. These are the electrons which can be easily freed to perform useful functions. To see why the valence electrons are more easily freed, let’s consider the structure of an atom of copper Cu 29.

Figure 1-12A shows how the electrons are distributed in the various shells.

**NOTICE:** that the valence shell contains only one electron. This electron is further from the nucleus than any of the other electrons. From Coulomb’s Law I know that the force of attraction between charged particles decreases as the distance increases.

Therefore the valence electrons experience less attraction from the nucleus. For this reason, these electrons can be easily dislodged from the atom.

Do not forget that I was studying vast numbers of subjects from 1946 to 1968; this one of 1946 was more for the work side of my life, others subjects were about my dreams to prove that they were real products yet to be created, today, it is clear they were work dreams of a future that is meant to be, you either like them or hate them, depending if you are making a fat profit you will hate this technology.
Since I am concerned primarily with the valence electrons, I need not show the inner electrons. Instead, I can show the atom in the simplified form in Figure 1-12B.

FIGURES 1-12C and D use this simplified form to illustrate one way in which a valence electron can be freed. Here two copper Cu 29 atoms are shown as they might appear in a copper Cu 29 wire. Each valence electron is held in orbit by the attraction of the nucleus. However, the force of attraction is quite weak because the orbits are so far from the nucleus.

If these two atoms are close together, the valence shells may be closer together than either electron either electron is to the nucleus. At certain points in their orbits the two electrons may come very close together. When this happens the force of repulsion between the two electrons is stronger than the force of attraction exerted by the nucleus.

Thus, one or both of the electrons may be forced out of orbit to wander as a free electron. Notice that when the electron leaves, the atom becomes a positive ion.

As the free electron wanders around through the atomic structure, it may be eventually captured by another positive ion. Or, it may come close enough to other valence electrons to force them from orbit. The point is that events like these occur frequently in many types of material. Thus, in a piece of copper Cu 29 wire containing billions and billions of atoms, there are bound to be billions of free electrons wandering around the atomic structure.

In some elements, the valence shell is half filled. That is, there are four valence electrons. Two examples of elements of this type are silicon Si 14 and germanium Ge 32. We call these elements semiconductors because they are neither good conductors nor good insulators.

Later in this course will be dealing with semiconductors as they were in the process of reaching the marketplace. Semiconductors will become important in electronics because transistors and future integrated circuits are composed of these elements.

However, in this course, I will be concerned primarily with conductors and insulators, this statement is for the benefits of expert idiots, such as FB – Flowerbower – Friedrich Bauer – Martin Colborne – Kenneth Gibbs – Peter King who claim to know everything but expose themselves as poison pen writers and the last three are criminals; that they know nothing of worth, except the desperate need to stop my progress as the last three are under an illusion that they own my technology – which I hereby state they do not own it and never will own it AMEN! To that list an ancient 1968 evil mind that went by the name of Omar Fowler who played a major part of stopping me getting this technology to the marketplace.

A photo just in from our first official Lab and HQ in the USA will be shown on the next page as an update of progress and proof that these evil minds have been unsuccessful to stop this technology from getting to the marketplace.

CONDUCTORS AND INSULATORS:

In itself represents a major subject in the Searl Technology requirements, and under present day laws, makes it an even harder task to comply with them; in reference to my days of past R&D which were much simple.

In fact, today it takes much longer and far more costly to obtain the goods which you need; then back in the 1946 to 1968 time slot. Where companies were excited about supplying their products to you and would go to any lengths to create the product you want. Only China appears today to be chasing products to manufacture; who now supply me with most of the products required.

The people of the world should know the truth of the reality relating to my life and work, the problems that held up this technology reaching the marketplace; which today still exists but fortunate tools are now in place where I can fight back for a change – now I am back again after all these years, in control.
Saturday 16\textsuperscript{th} October 2010: update, equipment arriving at Searl Magnetics INC, CA USA, which has been delayed since 1968 by evil minded people, as named in this document. Which now clearly expose themselves for what they are: and at this time they are sitting on dangerous grounds legally as poison pen writers, robbers, conmen; time will come soon to sue them for compensation in the Supreme Court, Washington DC.

Richard Balding please take note that is what you could have done if you had listen to my advice; instead of conning me for my signature for Martin Colborne and Kenneth Gibbs; the con photographs that they used to con you out of money have been shown in my books and should have been seen on the websites.

Richard Balding you owe me £380,000.00 plus the interest to date as the agree fee was never paid due to the fact that equipment stolen by your team was purchased by those payments and the taxes and delivery charges which also included much of my pension money. The world did not know these facts, but they do now.

That ends the update here as the websites will keep you up to date.

1946: The importance of the valence electrons cannot be emphasised too strongly. Both the electrical and chemical characteristics of the elements depend on the action of the valence electrons; as does the \textit{Searl Effect Generator (S.E.G)} and the \textit{Inverse-Gravity-Vehicle (I-G-V)}. An element’s electrical and chemical stability are determined largely by the number of electrons in the valence shell. I have shown that the valence shell can contain up to eight electrons precisely as my dream one stated. I see no problem there nor can I see any laws of physics’ being broken but some new FACTS have now been added to them.

Page 1-24
For the benefit of the criminals who stole my equipment to stop me, on the websites use the letters FB or Flowerbower real names Peter King – Martin Colborne – Ken Gibbs – Friedrich Bauer these nine drums of wire which I have just purchased from my pension money to replace that lost in London which is for the Swallow Command audio – vision Division with another nine I have to order to complete what will be needed for the job; when the suitable site is obtained to re-construct that section again for making documentaries and testing of all components being mass produced so they can be released to the marketplace.

Yes, Martin Colborne you truly believe you could stop me by stealing my property – you better rethink quick as you are now standing on dangerous grounds, because I shall release the film on how you con vast sums of money out of Richard Balding and the crap which you gave him to control his mind, as you have tried to control the minds of many on the web not to help me and for a time you were winning – but evil will always get beaten by the good people regardless.
Dear beloved FB – Flowerbower – Peter King – Martin Colborne – Ken Gibbs – Friedrich Bauer and any other names which you used: take note of this photo just taken on Sunday 17th October 2010 at 09:45 BST at my home - and this was my 5th time I have had to buy this amount of wire; still another 9 drums to buy for the re-building again that section of the work.

Because of evil minds: like you tired to stop me getting this technology to the marketplace. Dr Robert Lipman and Dr Terry Moore can certified and Richard Balding that there were such a number of drums of wire being used at my home in Grahame Part London. Likewise, this photo can be certified as my office here in Scotland by Morris and Bradley Lockerman both from California USA.

That is not all I have struggled to buy from my pension money to replace my property which you stole on Monday 25th August 2003 on the UK public holiday; hoping no one would see you carry out this 5 hour robbery – but there was a witness Martin who watch everything you did while I was in hospital due to you getting Peter to fix my drink so I would be out of the way for you to rob me.

The two monitors shown here, I brought to replace those costly ones which you stole, from my pension money: the laser printer shown here Morris brought me while he was here helping me, as he felt that they do better printing than the type I was using and would be cheaper to run.

Martin your evil days like Peter King and your mate Ken Gibbs are almost over, this photo above confirms what I show on page 25 of this document as being TRUE and is not like those cons you did to obtain funds from Richard. I play along with your claims on YouTube to obtain enough proof for the courts that you are a poison pen writer. You blindly walked into the trap.

Dear Martin please informs your employed Peter King who masterminded that robbery that if anyone is going to write a book: it is I who is writing it straight to the website.
Continue with Searl education 1946:

Those elements which have valence shells that are filled or nearly filled tend to be stable.

For example, the elements neon Ne 10 a gas; argon Ar 18 an gas, which I always used, likewise so did Geon in Germany used the same; Krypton Kr 36 a gas; xenon Xe 54 a gas, and radon Rn 86 a gas have 8 electrons in their valence shell. Thus, the valence shell is completely filled. As a result, these elements are so stable that they resist any sort of chemical activity. They will not even combine with other elements to form compounds under conventional process systems that are used today.

Also, atoms of these elements are very reluctant to give up electrons; surely that is what my dream one clearly states to me. All these elements have similar characteristics in that they are all inert gases. Which FB, I understood that issue at a tender age of 14 years that I doubt you understood that at 14 years; I might be correct to state I doubt if you even know that now until you have read it here.

Elements which have their valence shells almost filled tend to be stable also, although they are not as stable as those whose valence shells is completely filled. These elements will strive to fill heir valence shell by capturing free electrons. Consequently, elements of this type have very free electrons wandering around through the atomic structure.

Substances which have very few free electrons are called insulators; which I knew and understood. And that is why they are employed in the structure of the SEARL EFFECT GENERATOR (S.E.G): for those very reasons. They naturally form a control gate in the function of the Searl Effect Generator (S.E.G); clearly no physical Laws are being broken here.

In addition to certain elements which act as insulations, there are many compounds which have few free electrons. Thus, they act as insulators also. By opposing the production of free electrons, these substances resist certain electrical actions. Insulators are important in electrical and electronics work for these reason and therefore they also plays major role in the construction of the Searl Effect Generator (S.E.G); for similar reasons.

The plastic or rubber material on electric wires as shown in above photo is an insulator dear FB and its function is to protect you from electric shock. Add this to your education training that elements in which the valence shell is almost empty have the opposite characteristics precisely as my dream one states.

Those which have only one or two electrons tend to give up these electrons very easily, as demonstrated by Fernando Morris with his copper Cu 29 plate at events; silver Ag 47, and gold Au 79 each have one valence electron. In these elements, which I use in the Searl Effect Generator (S.E.G) construction the valence electrons are very easily dislodged.

Consequently, a bar of any one of these elements will have a very large number of free electrons. Substances FB which have a large number of free electrons are called conductors. For your added education FB that in addition to silver Ag 47; copper Cu 29 and gold A79, and some other good conductors are iron Fe 26; nickel Ni 28, and aluminium Al 13, this last element I have used in the construction of the Searl Effect Generator (S.E.G) when the price of copper Cu 29 short up high. Notice that all of these elements are metals.

Most metals are good conductors. Conductors are important because they are used to carry electrical current from one place to another. Which is also important in the construction of both the: Searl Effect Generator (S.E.G) and the Inverse-Gravity-Vehicle (I.G.V). For without these elements neither the Searl Effect Generator (S.E.G) nor the Inverse-Gravity-Vehicle (I-G-V) would be possible.

In some elements, the valence shell is half filled which means FB that it is half full. That is, there are four valence electrons. Two examples of elements of this type are silicon Si 14 and germanium Ge 32. We call these elements FB semiconductors because they are neither good conductors nor good insulators.
Semiconductors are important in electronics because transistors and integrated circuits are composed of these elements which I have added as an update upon my knowledge base. However, in this learning course, I shall be concerned primarily with conductors and insulators.

**THE BATTERY:**

Current flow is the movement of free electrons from one place to another. Thus, to have current flow I must first have free electrons. I have shown how valence electrons can be dislodged from atoms to form free electrons and positive ions. This can be done by very simple means such as combing our hair or rubbing a glass rod with silk cloth.

However, to perform a useful function, I must free very large numbers of electrons and concentrate them in one area. This requires more sophisticated techniques like the Searl Effect Generator and Inverse-Gravity-Vehicle (I-G-V); but first we have to climb that ladder to reach that stage.

One device for doing this is the ordinary battery. Since 1946 the time period of the commencement of my employment; there have been many different types of batteries invented.

Figure 1-13 shows two familiar examples. These are the dry cell – flash light battery – and wet cell – normally for the automobile battery.

![Figure 1-13 Types of battery.](image)

While these two types of batteries are quite different in construction, they do have several points in common, as does the **Searl Effect Generator (S.E.G)** regardless of the crap that you read on the internet.

**FACT:** Both have two terminals or poles to which an electrical circuit can be connected. The **Searl Effect Generator (S.E.G)** is no different. Also, both employ a chemical reaction which produces an excess of electrons at one terminal and a deficiency of electrons at the other; whereby, the **Searl Effect Generator (S.E.G)** do not employ an chemical reaction to produce an excess of electrons at one terminal.

The terminal at which the electrons congregate is called the negative terminal. It is indicated by the minus sign as shown in Figure 1-13. The other terminal is indicated by a plus sign and has a deficiency of electrons. Now let’s see how the battery affects the free electrons in a conductor.

**Searl Effect Generator** does not belong to the chemical domain construction system in common use today.
RANDOM DRIFT and DIRECTED DRIFT:

**FACT:** A conductor is a substance which has a large number of free electrons. In a conductor, the free electrons do not stand still. Instead they drift about in a random motion.

Figure 1-14A represents a small section of a conductor containing many free electrons. At any instant, the free electrons are drifting at random in all directions. In the scientific domain this is referred to as random drift; whereas Searl terms it random motion in his newsletters and books.

Cu 20 copper rings whose free electrons are in random drift in this state as illustrated above being a part of the Searl Effect Generator (S.E.G) construction system. This type of drift occurs in all conductors but it has little use. To do useful work, the free electrons must be forced to drift in the same direction rather than at random. For copper Cu 29 to reach this state of being lot of inventing had to take place to design, construct the method to extract it from the surrounding fabric into this state by which the Searl Effect Generator (S.E.G) could be invented. It took many inventors to reach this stage of the product.
I can influence the drift of electrons so that all or most electrons move in the same direction through the conductor. This can be done by placing electrical charges at opposite ends of the conductor.

FIGURE 1-14B shows directed drift; a negative charge placed at one end of the conductor while a positive charge is place at the other. The negative charge repels the free electrons while the positive charge attracts them. As a result all of the free electrons move or drift in the same general direction. The direction is from the negative charge to the positive charge.

Here, the application of the electrical charges at the ends of the conductor has changed random drift to directed drift – in the Searl Technology he uses the terms random drift as random motion and directed drift as uniform motion and there is a reason why. Because more than electrons have to move in one direction within the function of the Searl Effect Generator (S.E.G); otherwise the Searl Effect Generator would require an outside constant input source as all other conventional generators require for their operational functions.

This directed drift of free electrons is called current flow and that is also true in the Searl Effect Generator (S.E.G) and applies to all devices that changes free electrons normal random drift to a directed drift. I say that an electric current is following through the conductor. If the electrical charges shown in Figure 1-14B are isolated from one another, the flow of electrons will quickly cancel both charges and only a momentary current will flow.

However, if the two electric charges are caused by a battery, the chemical action of the battery can maintain the two charges for some time. SCIENTIFIC FACT: therefore, a battery can maintain a continuous current through a conductor for a long period.

A copper Cu 29 wire is a good example of a conductor.
Figure 1-15 shows a length of copper Cu 29 wire connected from one terminal to the other of a battery. A heavy current will flow from the negative terminal of the battery to the positive terminal. Recall that the negative terminal is a source of free electrons. An electron at this point is repelled by the negative charge and is attracted by the positive charge at the opposite terminal.

Thus, the electrons flow through the wire as shown. When they enter the positive terminal of the battery, they are captured by positive ions. The chemical reaction of the battery is constantly releasing new free electrons and positive ions to make up for the ones lost by recombination.

**NOTE:** I inform you that in practice, I never connect a conductor directly across the terminals of the battery as shown in Figure 1-15. The heavy current would quickly exhaust the battery. This is an example of a short circuit and is normally avoided at all cost. This example is shown here merely to illustrate the concept of current flow.

**PROGRAMMED REVIEW:**

**Q.** Current is the flow of electrical charges from one point to another. Since electrons carry electrical charges, current can also be defined as the flow of ....

**A.** Electrons.

**Q.** A conductor is defined as a substance which has a large number of free electrons. Thus, elements which have only one or two electrons in their valence shell normally are good ....

**A.** Conductors.

**Q.** Before electrons can participate in current flow; they must first be freed from the atom. When an electron is dislodged from the atom, the atom becomes a positive .......

**A.** Ion.

**Q.** If the valence shell contains one or two electrons: they can be easily dislodged. However, when the shell is full or nearly full the electrons are very difficult to dislodge. Therefore, the ease with which an electron can be dislodged depends largely on the ...... of electrons in the valence shell.

**A.** Number.

**Q.** Electrons are distributed around the atom in shells. Of particular importance to electrons is the outer shell. This shell is called the valence shell. Also, the electrons in this shell are called ......... electrons.

**A.** Valence.

**Q.** These are the electrons which can be most easily freed from the atom. However, the valence electrons in some elements are very difficult to dislodge while in other elements they are freed easily. The difference stems from the number of electrons in the ...... shell.

**A.** Valence.

**Q.** Electrons which leave the negative terminal of the battery are replaced by other electrons which are released by the chemical reaction within the battery. Thus, a battery can maintain a continuous flow of electrons through a conductor for a long period of time. This flow of electrons is called current. Electrons flow from a.... charge to a ..... charge.

**A.** Negative, positive.
Elements such as gold Au 79, silver Ag 47, and copper Cu 29 have only one valence electron. Therefore, these elements are very good ..........

If one end of a conductor is connected to a negative terminal and the other is connected to the positive terminal, electrons will flow through the conductor. In the conductor, electrons will always flow from the negative terminal to the .......... terminal.

On the other hand, an insulator is defined as a substance which has very few free electrons. This situation occurs in elements which have their valence shells nearly full. For example, elements with 6 or 7 valence electrons make good ......

The free electrons within a conductor drift around at random. To do useful work these electrons must be forced to drift in a desired direction. I can influence the drift of electrons by connecting the conductor across a battery. A battery is a device which has an excess of electrons at one terminal and a deficiency of electrons at the other. The terminal with an excess of electrons is called the negative terminal. The terminal with the deficiency of electrons is called the .... terminal.

END OF REVIEW:

THE ELECTRIC CIRCUIT:

In its simplest form, an electric circuit consists of a power source, a load, and conductors for connecting the power source to the load. Often the power source is a battery. The purpose of the power source is to provide the force necessary to direct the flow of electrons. As you will see in the next unit, this force is called voltage - DCE 2 deals with Voltage. Power sources produce voltage by creating a positive charge at one terminal and a negative charge at the other.

The load is generally some kind of electrical device which performs a useful function. It might be a lamp which produces light, a motor which produces physical motion, a horn which produces sound, or a heating element which produces heat. Regardless of the type of load used, the load performs its useful function only when electric current flows through it.

The third part of the circuit is the conductors which connect the power source to the load. They provide a path for current flow – which you have witness here in this first document the start to get the conductors in to stock has started here. The conductor may be a length of copper Cu 29 wire – so far here there are 100 metres each drum – or a strip of aluminium Al 13, the metal frame of an automobile, just as a reference issue at this date of re-writing this report October 2010. I do not yet have that section in operation as the company in France failed to keep their appointment; also John Thomas Jr was appointed in charge of that section in New York, so far it is still dead.

But the good news is that at last one section and an very important one is that the Searl Magnetics INC new site is progressing in setting up to commence its operations in the United States. Which I sincerely thank all who made it possible from investors, Broadcasts and TV stations and those who worked behind the scenes to make things happen. And to Bradley Lockerman who is not only making the film clips of the progress but has helped with the labour as well. You are a great team by which we have climb the first step to the marketplace and shortly the next step will be seen on a film clip within the next day or two. Watch for it!
Figure 1-16 Simple electric circuit just the first test I undertook in 1946 – the bulb never went through the ceiling.

FIGURE 1-16 shows a pictorial representation of an electric circuit consisting of a battery, a lamp, and connection copper Cu 29 wires. The battery produces the force (voltage) necessary to cause the directed flow of electrons. The force developed by the battery causes the free electrons in the conductor to flow through the lamp in the direction shown. The free electrons are repelled by the negative charge and are attracted by the positive charge.

Thus, the electrons flow from negative to positive. The negative and positive charges in the battery are constantly being replenished by the chemical action of the battery. Therefore, the battery can maintain a current flow for a long period of time. As the electrons flow through the lamp, they heat up the wire within the lamp. As the wire becomes hotter, the lamp emits light. The lamp will glow as long as a fairly strong current is maintained.

I know FB from my own experiences with flashlights that a battery cannot maintain a constant current flow forever. As the battery is used, the chemical reaction within the battery slows down. Over a period of time, the force produced by the battery becomes weaker and less current is provided. As a result the lamp emits less light. It becomes dimmer and dimmer and eventually it emits no light at all. At this time the battery is said to be dead, burned out, or run down. In this condition the battery cannot produce the force necessary to push enough electrons through the lamp to cause the lamp to glow.

The circuit in Figure 1-16 can be made much more practical by adding one additional component. This component is a switch in which provides a simple method of turning the lamp on and off.

Figure 1-17 shows the circuit after the switch has been added. For simplicity, a knife switch is shown. It consists of two metal contacts to switch conductors may be connected, a metal arm which can be opened and closed, and a base.

Current cannot flow through the base of the switch because an insulator material is used. Current can flow only through the arm and then only if the arm is closed.

Well FB here I am educating you and company, of course that depends if your brain capacity is capable to find space to store it – which I doubt it has – as it is full to maximum of evil crap. Nevertheless there is lot more of my 1946 period of learning is coming up on my websites. But it is well above your brain capacity to understand it: as it is base on the crap you push out on the websites to stop me. Now the hour has arrived where I turn the tables on you and hammer you like hell so the world will know the truth about your evil actions: because you cannot own this technology which you were sure that you did.
FIGURE 1-17A the switch is shown closed FB and company; there is a path for current flow from the negative terminal of the battery through the switch and lamp to the positive terminal. The lamp lights because current flows through it.

FIGURE 1-17B shows the switch is open. Which shows the path for current flow is broken FB and company. Thus, the lamp does not glow because FB there is no current flowing through it.

Searl agree that while he could understand that simple circuits can be drawn and Searl did construct them as well in his education training, as shown in Figures 1-16 and 1-17, it would be very difficult to draw complex circuits in this manner.

For this reason, the schematic diagram was developed. FB please note that a schematic diagram is a drawing in which symbols are used to represent circuit components.

FB; thus, the first step to understanding the schematic diagram is to learn the symbols for the various components used. Which makes sense to me that is why I learnt them; in reality I had no choice but to understand them as my employment demanded it. Which also applies to all future employment demand from me, without such understanding you have no value to any company in which you are employed.
Figure 1-18

PICTORIAL

SCHEMATIC SYMBOLS

Figure 1-18

PICTORIAL

SCHEMATIC SYMBOLS

Figure 1-18

PICTORIAL

SCHEMATIC SYMBOLS

Figure 1-18

PICTORIAL

SCHEMATIC SYMBOLS

Figure 1-18

PICTORIAL

SCHEMATIC SYMBOLS.
FIGURE 1-18 compares the schematic symbol with the pictorial of the circuit components I have used up to this point. The conductor is represented by a single line in the schematic. Also, the picture of the battery is replaced by a series of long and short lines. The long line represents the positive terminal while the short line represents the negative terminal. The same symbol can be used regardless of the type of battery. The symbols for the lamp and switch are also shown.

![Figure 1-19 schematic diagram of a simple circuit.](image)

FIGURE 1-19 shows several of the symbols combined to form a schematic diagram.

FIGURE 1-19A is the schematic diagram for the pictorial drawing shown earlier in Figure 1-17A.

FIGURE 1-19B is a schematic diagram of the pictorial shown in Figure 1-17B.

The circuit shown in Figure 1-19 is the schematic diagram of a flashlight.

It is also the diagram for the headlight system in an automobile.

In fact it can represent any system which contains a battery, a lamp, and a switch.

If the lamp is replaced with a motor, the circuit becomes that of the starter system in a car.

In this case, the switch is operated by the ignition key. Other circuits which operate in a similar manner are the doorbell and the automobile horn. In this case, the bell is the load while the switch is operated by a push button at the door. In the second case, the horn is the load while the switch is located on the steering wheel.

FB please note for your book that I did not know about doorbells or car battery or car horn before I was 14 years: as I had never been in a place that used such devices, But kindly add that I am sure going to learn about such devices pretty soon, and much; much more about people including you FB.

**PROGRAMMED REVIEW:**

*Q.* Figure 1-19 shows a complete electrical circuit. When the switch is closed, electrons flow from the ...... terminal of the battery through the lamp to the ...... Terminal.

*A.* Negative, positive.

*Q.* An electric circuit consists of a power source connect to a load. The power source provides the force which causes electrons to flow. This force is called voltage. In a flashlight the power source is a ........

*A.* Battery.

I doubt if my next question and answer will fit in this space; so let me state FB that you have to get up every morning with determination like me, if you are going to bed with satisfaction son! Of course, if you are what people are thinking you are, then I guess it is night time that is your determination to get satisfaction.

Page 1.36
Q. Figure 1-20 identify these symbols.

Shown in Figure 1-20 are the schematic for four different components. Identify each one.

a. ..................  b. ..........  c. ....................  d.  --------------

A.  

Q. The load is a device which performs some useful function. The load’s function may be to produce light, sound or motion. Thus, lamps, horns, and motors are examples of ........

A.  Loads.

Q. The symbol for the battery has a short line at one end and a long line at the other. The short line represents the .......... terminal.

A.  Negative.

Q. The load performs its function when current flows through it. Most loads do not perform continuously. Instead the current is turned on and off by some kind of ........

A.  Switch.

Q. Schematic diagrams are used as a shorthand method of drawing electric circuits. The schematic diagram differs from a pictorial presentation in that the components are drawn as ..........  

A.  Symbols.

**MEASURING CURRENT:**

Current is the flow of electrons from a negative to a positive charge. To measure current flow, I must measure the number of electrons flowing past a point in a specific length of time. Before I discuss how current is measured, I must first define the unit of electrical charge and the unit of current.

**THE COULOMB:**

I have shown that the charge on an object is determined by the number of electrons which the object loses or gains. If the object loses electrons, the charge is positive. However, an object which gains electrons has a negative charge. The unit of electrical charge is called the coulomb. The coulomb is equal to the charge of 6.25 x 10^{18} electrons. For those who are not used to expressing numbers in this way, the number is:

\[
6.250,000,000,000,000,000
\]

An object which has gained 6.25 x 10^{18} electrons has a negative charge of one coulomb.
On the other hand, an object which has given up $6.25 \times 10^{18}$ electrons has a positive charge of one coulomb. That is $6,250,000,000,000,000,000$ electrons FB and company that is a scientific FACT!

**POWERS OF TEN AND SCIENTIFIC NOTATION:**

FB is a group who stole my equipment on Monday August 25th 2003 value £380,000.00 plus which contain some of my pension money. Luis when you talk to educated people you gave away who you are: you talk like an expert which I personally know you think that; but change subjects when the person ask you a simple scientific question because you do not have any scientific knowledge accept what you read from UFO magazines, books and internet; which is your fingerprint.

Peter King – notice I use your name known to many and not your real name; as I no longer and will never accept you as my brother; as you master mined that robbery of my equipment and implement that robbery knowing that the law would not accept that it was a criminal act but a civil one; therefore you were safe as you knew that I only had small pension money and therefore would not be able to meet a cost of taking you to court whereby I would be force to give you the secret how to make the S.E.G.

One thing that evil mind of yours would not accept: that if you did carry out your threats you would cease to be accepted as brother but a criminal – now you have learnt that is true – Peter I do not talk out of my arse now you know that is a FACT!

So all this stuff these conmen Martin Colborne and Kenneth Gibbs brainwashed you with was to con you into getting the secret from me; knowing that you were money mad – and could give the impression of being scientific expert – which I know you are not: you proved that to me many times, agree I am certain Bradley Lockerman who meet you way back agree that you are reasonable good with your hands, but not an experts based on what he saw at by home that you did there.

That world these conmen presented to you was a world of imagination not reality; they had no intension to honour them. I tried to get you to understand that, BUT LIKE OTHERS IN THE PAST YOU ACCEPT THAT CRAP BEFORE MY FACTS and in so doing you lost everything and there is no turning back Peter you made your bed now s sleep in it.

Then Peter, Martin Colborne and Kenneth Gibbs both knew you were great in impressing people with your crap about your life in the army, so you were an ideal candidate to carry out their duty work. You also forgot that they also knew how the Judge played you in court over weeks making you work having to study legal books for ways to present your case to win: where he knew you were giving him crap, and I warn you that you will never win but you insisted you would.

When that day came you returned back crying; that big Peter had spent time and money believing you would be getting thousands of pounds, but in reality you got nothing; exactly as I warn you would happen But of course; as Luis stated you are an expert in Law – really – then why did you lose your case?

You are so dumb that you believe what Martin crap on how rich you will be if you steal my equipment and get the secret from me on how to do it. Well Peter where is all these big riches – strange in reality others are chasing you for the funds they gave you to make that SEG which you had impressed them you could do in 3 months and you have no idea how to do it.

There are many others in the past done the same mistake and on the run from the law. There is one already in prison I guess for the rest of his life for the exact mistake, I too guess you will sooner or later join them in prison; which will interest your mind to wonder why you are there. I know Pam your wife will be absolutely confused as she was when I attack you for robbing me while I was in hospital and you called the police for help – but the police thought it was funny they never seen a war using piss and shit as weapons before which was something new on their list of weapons. Well that war which you started is not over until you are in prison for your crimes against humanity.
For the benefits of all those who want me to help them in learning and to try if possible to educate FB and company: I shall give you a word about powers of ten and scientific notation which I sincerely hope will be helpful at this point: and to all really who are experts to see where I am coming from that what you have read about me on websites is no more than crap to turn you off supporting me for their benefits.

Agree, I am aware that you will need a lot of details of my education before you accept that what I state is TRUE. Nevertheless, as I can find time that information will again appear in the marketplace but this time on the web so all can witness it as a legal statement.

The number $6.250,000,000,000,000,000$ can be expressed as $6.25 \times 10^{18}$. This number is read “six point two five times ten to the eighteenth power” it is up to you experts to say that I am wrong, that is not correct after all I was only 14 years and 9 months old when I understood that was the way to write it and to state it: and FB and company means that the decimal place in 6.25 should be moved 18 places to the right in order to convert to the proper number.

FB and company please take note; the theory is that it is easier to write and remember $6.25 \times 10^{18}$ than it is to write and remember $6,250,000,000,000,000,000$. This shorthand method of expressing numbers is known as powers of ten or scientific notation no doubt invented by mathematicians and used by scientists long before I appeared on planet Earth which means that I never invented it, so you cannot blame me for it.

It is often used in electronics to express very large and very small numbers: and for the education of FB and company, very small numbers are expressed by using negative powers of ten.

For example, $3.2 \times 10^{-8}$ is scientific notation for the number $0.000000032$. Here, “ten to the minus eighth power” means “move the decimal place in 3.2 eight places to the left” Is that correct after all I am just a simple old Professor whose lost his marbles by FB statements, he and you are the experts.

I like to be sure you have the idea, let me look at some examples of both positive and negative powers of ten:

**POSITIVE POWER OF TEN:**

<table>
<thead>
<tr>
<th>Number</th>
<th>Decimal Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6.6 \times 10^4$</td>
<td>66,000</td>
</tr>
<tr>
<td>$7.9 \times 10^4$</td>
<td>79,000</td>
</tr>
<tr>
<td>$8.5 \times 10^5$</td>
<td>850,000</td>
</tr>
<tr>
<td>$5.1 \times 10^8$</td>
<td>510,000,000</td>
</tr>
<tr>
<td>$2.0 \times 10^{12}$</td>
<td>2,000,000,000,000</td>
</tr>
</tbody>
</table>

**NEGATIVE POWER OF TEN:**

<table>
<thead>
<tr>
<th>Number</th>
<th>Decimal Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6.6 \times 10^{-4}$</td>
<td>0.00066</td>
</tr>
<tr>
<td>$7.9 \times 10^{-4}$</td>
<td>0.00079</td>
</tr>
<tr>
<td>$8.5 \times 10^{-5}$</td>
<td>0.000085</td>
</tr>
<tr>
<td>$5.1 \times 10^{-8}$</td>
<td>0.000000051</td>
</tr>
<tr>
<td>$2.0 \times 10^{-12}$</td>
<td>0.000000000002</td>
</tr>
</tbody>
</table>

To all those who have asked me for help with your education I sincerely hope that you are beginning to understand the reality of my work involved in the creation of the Searl Technology.

I like to quote here before I forget it, that Luis Jarrio can discuss technology matters as long as he seen and heard what is stated – for instance; following that Day Time live TV interview: the errors made by Dr. M who was supposed to knock me out was discussed with me and filmed at the same time that event recording should still be here, and should had gone on the website some time ago but it is not yet there – not my fault.

Study these examples until you got the idea of this system of writing numbers. If you feel you need additional explanation, I shall try to remember to add appendix A at the end of this unit. Which you can except as a programmed instruction sequence designed to teach the powers of ten and scientific notation in much greater detail; as stated if I do not forget: at coming 79 years old and so many things to remember it is easy to forget to add it in to this document.

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THE AMPERE:

The unit of current FB and company is the ampere. The ampere is the rate at which electrons move past a given point. As mentioned above, 1 coulomb is equal to $6.25 \times 10^{18}$ electrons. Let me assure you that I have never counted them nor intend to; for a simple reason before I got to 100; I would have miscounted those which have passed that point of check. Therefore at this time I have no option but to assume that the experts are right upon that assumed number.

To my mind sitting here in this chair makes me wonder how can scientists from 1946 make positive claims that the Searl Effect Generator (S.E.G) cannot possible work, if it did it would break all the laws of physics where they are stating that in a given time of one second a total of $6.250,000,000,000,000,000$ electrons has passed a given reference point they term as a measurement of 1 coulomb. What is FACT; and what is not is the question that time can only prove which is correct. So far, you have seen everything claim by the scientists hold true in the proposed mass production model of the Searl Effect Generator (S.E.G) being demonstrated by Searl Magnetics INC USA.

Just stop and think: an ampere is equal to 1 coulomb per second. That is FB and company, if 1 coulomb - $6.25 \times 10^{18}$ electrons:- ($6,250,000,000,000,000,000$) flows past a given point in one second then the current is equal to 1 ampere.

FB and company I shall attempt to simplify that for you: Coulombs indicate numbers of electrons: Whereby, amperes indicate the rate of electron flow or coulombs per second.

This is the time period of late 1946 as my education learning curve started and developed over time. What you see here is what I knew and understood at that date.

When $6.25 \times 10^{18}$ electrons flow through a wire each second, the current flow is 1 ampere. If twice this number of electrons flows each second, the current flow is 2 amperes. That is hard to believe due to the fact that you cannot see these electrons let alone see them moving, so we have to accept for the time being that these assumptions by scientists are correct.

This relationship is expressed by equation:

$$\frac{\text{Coulombs}}{\text{Amperes}} = \frac{\text{Second}}{}$$

If 10 coulombs flow past a point in two seconds, then the current flow is 5 amperes.

The name ampere is often shortened to amp and is abbreviated A. Many times the ampere is too large a unit. In these cases metric prefixes are used to denote smaller units.

*The milliampere (mA) is one thousandth (0.001) of an amp.*

*The microampere (µA) is one millionth (0.000,001) of an amp.*

FB and company for your education needs what I am station here for your education requirements that in other words, there are 1000 milliamperes or 1,000,000 microamperes in an ampere.

I change from amperes to milliamperes by multiplying by $10^3$. Thus 1.7 amperes is equal to $1.7 \times 10^3$ (1,700) milliamperes.

I change from amperes to microamperes by multiplying by $10^6$. Therefore, 1.7 amperes is equal to $1.7 \times 10^6$ microamperes.
Let me remind those who have requested my help in learning about this technology. I shall try to remember to add a more detailed explanation of metric prefixes will be given in an appendix – A.

**THE AMMETER:**

![Figure 1-21 ammeter.](image1)

![This is the Avo meter I brought on my 21st birthday.](image2)

The device for measuring current flow is the ammeter. The name ammeter is a shortened form of the name ampere meter. Figure 1-21 shows a diagram of an ammeter. It has a pointer which moves in front of a calibrated scale. In this figure, the scale is calibrated from 0 to 10 amperes. The movement of the pointer is proportional to the amount of current flowing through the meter. Therefore, an accurate indication of the amount of current flowing in a circuit is obtained by reading the pointer against the scale. This ammeter reading shown here is presently displaying a reading of just over 6 amperes.

![Figure 1-22 Measuring current.](image3)

Figure 1-22A shows a circuit in which an unknown amount of current is flowing. I can measure this current by inserting an ammeter into the circuit as shown in Figure 1-22B. NOTICE that the schematic symbol for the ammeter is a circle with the letter A. Before the ammeter can measure current, it must be placed in the circuit in such a way that the current I wish to measure actually flows through the meter. I say that I have connected the ammeter in series with the circuit elements. For the attention of FB and company: incidentally, a circuit like the one shown in Figure 1-22B is called a series circuit. A series circuit FB is one in which the same current flows through all the elements in one continuous loop.

Searl agrees that today, Wednesday 20th September 2010 your world is completely different to my world of 1946, where life was slower, learning was easier as companies offer me help – that do not exist today in your world in which I am now living.
The maximum current that an ammeter can safely measure is indicated by the highest number on the scale. The highest current that the ammeter in Figure 1-21 can safely measure is 10 amperes. This is called its full scale reading. Many current meters are much more sensitive. Some have a scale reading of 1 milliampere. Others provide a full scale reading with only 50 microamperes flowing through them.

Ammeters are delicate instruments and can be destroyed if the current applied greatly exceeds the full scale reading of the meter. For this reason FB and company, I must exercise certain precautions when using the ammeter.

To protect myself and the ammeter, there is a definite procedure which must be followed when using an ammeter. The first step is to insure that the ammeter I am using is heavy enough for the job. As I have mentioned above, if the current rating is exceeded, the meter may be damaged.

The second step is to remove power from the circuit to be tested. In battery powered circuits this can be done by removing the battery or by disconnecting one of the battery leads. Do you know why FB and company? No don’t, in that case I will be please to tell you that the purpose of this step is to protect myself from electrical shock as I connect the ammeter; that was elementary FB.

![Figure 1-23 Procedure for measuring current.](image)
The third step is to break the circuit at the point where the current is to be measured. The circuit must be broken because the ammeter must be placed in series with the circuit.

Fourth, the ammeter is connected to the circuit while observing polarity. The ammeter has two terminals labelled negative and positive. Current must flow through the ammeter from the negative terminal to the positive terminal.

Thus, the wire from the negative terminal of the battery must lead to the negative terminal of ammeter. If the ammeter is connected backwards, the pointer will attempt to deflect backwards and may end up bent or broken. Observing polarity simply means that the negative terminal of the ammeter is connected to the wire that leads to the negative terminal of the battery. Naturally FB and company, the positive terminal of the ammeter is connected to the wire that leads to the positive side of the battery.

Finally, power is reapplied to the circuit and the current read from the ammeter scale. Figure 1-23 illustrates this step-by-step procedure.

**PROGRAMMED REVIEW:**

**Q.** The unit of current is the ampere. The ampere is a measure of the rate at which electrons pass a point in a specific length of time. The ampere can be thought of as 1 coulomb per second. If one coulomb per second flows through a wire the current in the wire is one .......

**A.** Ampere.

**Q.** In addition, I must observe polarity when connecting the ammeter in a circuit. This means that the negative lead of the ammeter is connected to the wire which leads to the negative side of the battery. Also, the positive lead must be connected to the wire that leads to the ....... Side of the battery.

**A.** Positive.

**Q.** The unit of electrical charge is the coulomb. The coulomb is equal to the charge of $6.25 \times 10^{18}$ electrons. Thus, if an object as an excess of $6.25 \times 10^{18}$ electrons, it has a negative charge of one .......

**A.** Coulomb.

**Q.** A device for measuring current is the ammeter. The ammeter must be placed in the circuit so that the current to be measured through it. That is the .......... must be connected in series with the circuit.

**A.** Ammeter.

**Q.** On the other hand, an object which has given up $6.25 \times 10^{18}$ electrons has a ........ charge of one coulomb.

**A.** Positive.

**Q.** The abbreviation for ampere is A. Smaller units of current are the milliampere (mA) and the microampere (µA). The milliampere is equal to $10^{-3}$ or 0.001 amperes while the microampere is equal to $10^{-6}$ or 0.000,001 amperes. Stated another way the milliampere is one-thousandth of an ampere while the microampere is one .......... Of an ampere.

**A.** Millionth.

There is not enough room here for the next subject to start.
Dear FB and company – do you know what these are – I doubt it: based upon the facts of the excrement you are so keen to empty on YouTube and other sites suggest you are full of it. I will try to educate you – these are term as two drums of wire – some would say drums of cable.

Now FB the tricky question – why is one red and the other blue? Well I tell you even if your brain is incapable to understand what I am stating. This wire will be used: as in the past to connect power distributor output to the bank of cut outs in both the Swallow Command Audio – Vision communication Division and the Swallow Command Aviation Division; the blue one will be used as the Negative feed and the red one will be used for the positive feed. The other colours will be used for precise functions; so from maintenance point of view it is easy to find the feed line you want during servicing.

These are just two of the drums of wire now in stock ready to move, but got to get a suitable flight case for 18 drums. FB and company you have not seen anything yet: when we show you what we have; I feel certain that your balls will hit the floor in shock as the real world see what an evil men you are – the crap which you got them to believe you: amazes me. All I can think is that your excrement must have a very high stink to it pooh!

**SUMMARY:**

The following is a summary of the important points discussed in this document 1 of Searl Education 1946 with update facts inserted. If you have a question on any point presented here, reread that portion of the text which covered this point:

*Electronics is that science which controls the behaviour of electrons so that useful function is performed. Matter is anything which has weight and occupies space. All matter is composed of one or more of the elements. A compound is a substance composed of two or more elements. The smallest particle of a compound is a molecule. A molecule consists of two or more atoms bound together.*
The atom is the smallest particle into which an element can be divided. There are 92 different types of atoms occurring in nature. Another dozen or more have been artificially made by man. Atoms are composed of electrons, protons, and neutrons. Electrons orbit the nucleus. The type of atom is determined by the number of electrons, protons, and neutrons.

Electricity is a property that electrons and protons have which causes them to behave in certain predictable ways. The electron has a negative electrical charge. The proton has a positive electrical charge. An electrostatic field surrounds every charged particle. Coulomb’s Law describes the action of charged particles. It states that like charges repel, while unlike charges attract.

An atom has a neutral charge when it contains the same number of electrons and protons. An atom which has a net electrical charge is called an ion. Electrical charges can be produced in certain materials by friction. An electrical charge can be partially transferred from a charged object to an uncharged object by touching the two objects together. The electric charge can be induced into a neutral object by bringing a charged object near it.

In electronics, current is defined as the flow of electrical charge from one point to another. Before an electron can participate in current flow, it must be freed from its atom. The centrifugal force of the orbiting electron is exactly offset by the attraction of the positive charge in the nucleus. Electrons are distributed in shells. The outer shell is called the valence shell. Valence electrons are the ones important in electronics because they are the ones which can be freed to contribute to current flow. The number of valence electrons determines if an element is a conductor or an insulator.

A conductor is a substance which has a large number of free electrons. An insulator is a substance which has very few free electrons. Most metals are good conductors. A battery is a two-terminal device which produces an excess of electrons at one terminal and a deficiency of electrons at the other. Free electrons normally drift around in random pattern. However, they can be forced to flow in a directed direction. Current flow is the directed drift of free electrons. A schematic diagram uses symbols to represent electronic components.

The unit of electrical charge is the coulomb. The coulomb is equal to $6.25 \times 10^{18}$ electrons. Current is the rate at which electrons flow past a point. The ampere is the unit of current. The ampere is equal to one coulomb per second. A milliampere is one thousandth of an ampere. A microampere is one millionth of an ampere. A device to measure current is the ammeter. The ammeter must be connected in series with the circuit under test. Polarity must be observed when connecting an ammeter to a circuit.

This concludes the summary of chapter 1. When you are certain that you understand all of these points: complete the unit examination.

**APPENDIX – A: SCIENTIFIC NOTATION:**

In electronics, it is common to deal with both very large and very small numbers. An example of a very large number is the speed at which electricity travels. It travels at the speed of light which is approximately based on my understanding in 1946 as $1,000,000,000$ feet per second or about $300,000,000$ meters per second.

As for very small numbers, consider the size and weight of an electron. It is believed that the electron has a diameter of approximately $0.000,000,000,0022$ inch and a weight of about $0.000,000,000,000,000,000,000,000,000,000$ gram. Sometimes, I do have to perform arithmetic with numbers such as these. To simplify such arithmetic, a shorthand method has been developed to express numbers. This shorthand method is called scientific notation.

The following programmed instruction sequences will serve as an introduction to scientific notation.

There is no room here to start the next section, so will pass that over to the next page.
1. As mentioned above, scientific notation is a shorthand method of expressing numbers. While any number can be expressed in scientific notation, this technique is particularly helpful in expressing very large and very ....... numbers.

A Small.

2. Scientific notation is based on a concept called powers of ten. Thus, in order to understand scientific notation I should first learn what is meant by powers of .........

A Ten.

3. In mathematics, a number is raised to a power by multiplying the number times itself one or more times. Thus, I raise 5 to the second power by multiplying 5 times itself. That is, 5 to the second power 5 x 5 = .......

A 25.

4. Also, 5 to the third power is the same as saying 5 x 5 x 5 = ---------

A= 125,

5. Thus, 5 can be raised to any power simply by multiplying it times itself the required number of times. For example, 5 X 5 X 5 X 5 = 625, consequently, 5 raised to the ........ power is equal to 625.

A= Fourth.

6. The above examples use powers of five. However, any number can be raised to a power by the technique of multiplying it times itself the required number of times. Thus, the powers of two would like this:

2 to the second power equal 2 x 2 = 4
2 to the third power equal 2 x 2 x 2 = 8
2 to the fourth power equal 2 x 2 x 2 x 2 = 16
2 to the fifth power equal 2 x 2 x 2 x 2 x 2 = 32
2 to the sixth power equal 2 x 2 x 2 x 2 x 2 x 2 = 64
2 to the seventh power equal 2 x 2 x 2 x 2 x 2 x 2 x 2 = 128
2 to the eighth power equal 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 256
2 to the ninth power equal 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 512
2 to the tenth power equals 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 1,024
2 to the eleventh power equal 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 2,046
2 to the twelfth power equal 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 4,096

7. In mathematics, the number which is raised to a power is called the base. If 5 is raised to the third power, 5 is considered the ---------

A= Base.
8. The power to which the number is raised is called the exponent. If 4 is raised to the third power, then the exponent is 3. In the same way, if 4 is raised to the sixth power, then 4 is the base while 6 is the ____________

A= Exponent.

9. There is a shorthand method for writing “4 raised to the sixth power.” It is

\[ 4^6 \]

Notice that the exponent is written as a small number at the top right of the base. Remember that the 4 is the base while the small number is the exponent. Therefore in the example \( 4^{12} \), 4 is the ---- while 12 is the ____________

A= base, Exponent.

10. The number \( 4^6 \) is read “4 raised to the sixth power.” It is equal to:

\[ 4 \times 4 \times 4 \times 4 \times 4 \times 4 = 4,096 \]

The number 4 is read ________________

A= 4 raised to the sixth power.

11. Scientific notation uses powers of ten. Several powers of ten are listed below:

\[ 10^2 = 10 \times 10 = 100 \]
\[ 10^3 = 10 \times 10 \times 10 = 1,000 \]
\[ 10^4 = 10 \times 10 \times 10 \times 10 = 10,000 \]
\[ 10^5 = 10 \times 10 \times 10 \times 10 \times 10 = 100,000 \]
\[ 10^6 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 1,000,000 \]
\[ 10^7 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10,000,000 \]
\[ 10^8 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 100,000,000 \]
\[ 10^9 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 1,000,000,000 \]
\[ 10^{10} = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10,000,000,000 \]
\[ 10^{11} = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 100,000,000,000 \]
\[ 10^{12} = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = \______________ \]

A= 1,000,000,000,000.
12. Multiplication by 10 is extremely easy since all we have to do is add one zero for each multiplication. Another way to look at it is that multiplication by 10 is the same as moving the decimal point one place to the right. Thus, I can find the equivalent of $10^2$ by multiplying 10 x 10 = 100; or, simply by adding a 0 after 10 to form a 100; or moving the decimal point one place to the right to form 10.0 = 100. In any event, $10^2$ is equal to 100.

$A = 100.$

13. There is a simple procedure for converting a number expressed as a power of ten to its equivalent number. I simply write down a 1 and after it write the number of zeros indicated by the exponent. For example, $10^{12}$ is equal to 1 with 12 zeros after it. In the same way $10^{20}$ is equal to 1 with $10_0 = 100.$ zeros after it.

$A = 20.$

14. This illustrates one of the advantages of power of ten. It is easier to write and remember $10^{21}$ than its equivalent number $1,000,000,000,000,000,000,000,000,000,000,000,000,000.$ Why not try it for yourself and see if it isn’t easier to write $10^{38}$ than to write its equivalent number of: $100,000,000,000,000,000,000,000,000,000,000,000,000,000.$

$A = 100,000,000,000,000,000,000,000,000,000,000,000,000,000,000.$

15. In the above examples, I converted a number expressed in powers of ten to its equivalent number. Now let’s see how I convert in the opposite direction. Remember the number must be expressed using 10 as the base with appropriate exponent. The exponent is determined simply by counting the zeros which fall on the right side of the 1. Thus, 1,000,000 become $10^6$ because there are 6 zeros in the number. In the same way 10,000,000,000 is expressed as $10^{10}.$

$A = 10^{10}.$

16. To be sure you have the right idea, study each of the groups below. Which group contains an error?

A = Group C.

17. There are two special cases of powers of ten which require some additional explanation. The first is $10^1.$ Here the exponent of 10 is 1. If I follow the procedure developed in statement 13 I find that $10^1 = 10.$ That is, I put down a 1 and add the number of zeros indicated by the exponent. Thus $10^1 = 10.$

$A = 10.$

I do not think that there is enough space here to include another block of scientific FACTS which you need to understand before you can say you know how the Searl Effect (S.E.G) works, but I sincerely trust all of you who ask me to help to understand the maths are able to follow these instructions and samples presented here to help you the way I taught myself.

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The other special case is $10^0$. Here the exponent is 0. Once again I follow the procedure outlined in block 13. Here again I write down a 1 and add the number of zeros indicated by the exponent. However, since the exponent is 0, I add no zeros. Thus, the equivalent number of $10^0$ is 1. That is

\[ 10^0 = \text{--------} \]

\[ A = 1. \]

Any base number with an exponent of 1 is equal to the base number. Any base number with an exponent of 0 is equal to 1. Thus, $X^1 = \text{--------}$ and $X^0 = \text{--------}$

\[ A = X, 1. \]

In the examples given above, the exponents have been positive numbers. For simplicity the plus sign has been omitted. Therefore, $10^2$ is the same as $10^{+2}$. Also, $10^6$ is the same as

\[ 10^6. \]

Positive exponents represent numbers larger than 1. Thus, numbers such as $10^2$, $10^8$, and $10^{12}$ are greater than 1 and require

\[ \text{--------} \] exponents.

\[ A = \text{Positive.} \]

Numbers smaller than 1 and are indicated by negative exponents. Thus, numbers like 0.01, 0.0001, and 0.00001 are expressed as negative powers of ten because these numbers are less than

\[ \text{--------} \]

\[ A = 1. \]

Some of the negative powers of ten are listed below:

\[ 10^{-1} = 0.1 \]
\[ 10^{-2} = 0.01 \]
\[ 10^{-3} = 0.001 \]
\[ 10^{-4} = 0.0001 \]
\[ 10^{-5} = 0.00001 \]
\[ 10^{-6} = 0.000001 \]
\[ 10^{-7} = 0.0000001 \]
\[ 10^{-8} = 0.00000001 \]
\[ 10^{-9} = 0.000000001 \]
\[ 10^{-10} = 0.0000000001 \]
\[ 10^{-11} = 0.00000000001 \]
\[ 10^{-12} = \text{--------} \]

\[ A = 0.00000000001. \]

There is not enough room for the next block to fit in here, so will hope that all of you who have asked me for help are truly studying all this FACTS present here.
A brief study of this list will show that this is simple a continuation of the list shown earlier in block 11. If the two lists are combined in a descending order, the results will look like this.

\[10^{12} = 1,000,000,000,000.\]
\[10^{11} = 100,000,000,000.\]
\[10^{10} = 10,000,000,000.\]
\[10^9 = 1,000,000,000.\]
\[10^8 = 100,000,000.\]
\[10^7 = 10,000,000.\]
\[10^6 = 1,000,000.\]
\[10^5 = 100,000.\]
\[10^4 = 10,000.\]
\[10^3 = 1,000.\]
\[10^2 = 100.\]
\[10^1 = 10.\]
\[10^0 = 1.\]
\[10^{-1} = 0.1\]
\[10^{-2} = 0.01\]
\[10^{-3} = 0.001\]
\[10^{-4} = 0.0001\]
\[10^{-5} = 0.00001\]
\[10^{-6} = 0.000001\]
\[10^{-7} = 0.0000001\]
\[10^{-8} = 0.00000001\]
\[10^{-9} = 0.000000001\]
\[10^{-10} = 0.0000000001\]
\[10^{-11} = 0.00000000001\]
\[10^{-12} = \ldots\]

\[\text{A} = \ 0.000000000001\]

Again, I am out of space for the next point of the subject. Inserts are FACTS from our first site in the USA section Searl Magnetics INC: showing the steady progress from a factory to a Laboratory for the Magnetic research and development for the attention of FB and company the others are components used in 1946 test.
I can think of the negative exponent as an indication of how far the decimal point should be moved to the left to obtain the equivalent number. Thus, the procedure for converting a negative power of ten to its equivalent number can be developed. The procedure is to write down the number 1 and move the decimal point to the left the number of places indicated by the negative exponent. For example, $10^{-22}$ becomes:

$$A = 0.00000000000000000001$$

**NOTICE**: that the $-22$ exponent indicates that the decimal point should be moved twenty-two places to the left.

$$A = 22, \quad \text{Left.}$$

Up to now, I have used powers of ten to express only those numbers which are exact multiples of 10 such as 100, 1000, 10,000, etc. Obviously, if these were the only numbers which could be expressed as powers of ten, this method of writing numbers would be of little use. Actually, any number can be expressed in powers of ten notation.

$$A = \text{Number.}$$

The technique by which this is done can be shown by an example. If 1,000,000 can be represented by $10^6$, then 2,000,000 can be represented by $2 \times 10^6$. That is, I express the quantity as a number multiplied by the appropriate power of ten. As another example: $2,500,000 = 2.5 \times 10^6$. Also, $3,000,000 = \ldots$ can be expressed in powers of ten notation.

$$A = 3 \times 10^6.$$

In the same way, I can write 5,000 as $5 \times 10^3$. Some other examples are:

$$
\begin{align*}
100 & = 1 \times 10^2 \\
200 & = 2 \times 10^2 \\
1500 & = 15 \times 10^2 \\
22,000 & = 22 \times 10^3 \\
120,000 & = 12 \times 10^4 \\
1,800,000 & = 18 \times 10^5 \\
38,000,000 & = 38 \times 10^6 \\
220,000,000 & = \ldots
\end{align*}
$$

$$A = 22 \times 10^7$$

By the same token, I can convert in the opposite direction. Thus, $2 \times 10^5$ becomes $2 \times 100,000$ or 200,000. Also: $2.2 \times 10^3 = 2.2 \times 1000 = 2200$. And, $73 \times 10^4 = \ldots$

$$A = 730,000.$$
30. You may have notice that when I use powers of ten there are several different ways to write a number as there are for different faces:

For Example, 25,000 can be written as $25 \times 10^3$ because $25 \times 1000$ equals 25,000. However; it can be written as $2.5 \times 10^4$ because $2.5 \times 10,000$ equals 25,000. It can be written as $250 \times 10^2$ since $250 \times 100 = 25,000$. In the same way, $4.7 \times 10^4$, $47x \times 10^3$, and $470 \times 10^2$ are three different ways of writing the number. In the same relationship the 5 images above can be recognize as female faces regardless, except the last face images which is impress upon your minds is I, FB but I can confirm that I am a male face and not a female one.

A = 47,000.

31. Numbers smaller than one is expressed as negative powers of ten in much the same way. Thus, 0.0039 can be expressed as $3.9 \times 10^{-3}$, $39 \times 10^{-4}$, or $0.39 \times 10^{-2}$. Those five images above can be presented as negative images. Also: $6.8 \times 10^{-5}$; $68 \times 10^{-6}$ and $0.68 \times 10^{-4}$ are three different ways of expressing the number.

A = 0.000068.

32. As you can see there are several different ways in which a number can be written as a power of ten. Scientific notation is a way of using powers of ten so that all numbers can be expressed in a uniform way. To see exactly what scientific notation is, consider the following examples of numbers written as scientific notation:

$8.12 \times 10^{22}$
$8.25 \times 10^{18}$
$12.0 \times 10^{20}$
$3.7 \times 10^6$
$4.0 \times 10^2$
$6.7 \times 10^{-4}$
$8.0 \times 10^{-6}$
$12.0 \times 10^{-8}$
$2.2 \times 10^{-12}$

NOTICE: that the numbers range from very large numbers to an extremely small number. And yet, all these numbers are written in a uniform way. This method of writing numbers is called scientific notation.

A = Notation.
33. The rules for writing a number in scientific notation are quite simple. First, the decimal point is always placed after the first digit on the left which is not zero. Therefore, the final number will appear in this form: 6.25, 7.3, 9.65, 8.31, 2.0 and so forth. It must never appear in a form such as: 625, 73, 96.5, 831 or 20. Thus, there is always one and only one digit on the --------- side of the decimal point.

A= Left.

34. The second rule involves the sign of the exponent. If the original number is greater than 1, the exponent must be positive. If the number is less than 1, the exponent must be negative. Thus, 67,000 require a positive exponent but 0.00327 requires a --------- exponent.

A= Negative.

35. Finally, the magnitude of the exponent is determined by the number of places that the decimal point is moved. For example, 39.000.0 is expressed as $3.9 \times 10^4$ because the decimal point must be moved 4 places in order to have only one digit to the left of it. Using this rule, 6,700,000,000 is expressed as $6.7 \times 10^{9}$.

A= $10^9$.

36. The number 0.00648 is expressed as $6.48 \times 10^{-3}$. Here the decimal point is moved 3 places in order to have one digit which is not zero to the left of the decimal. Likewise 0.00064 is expressed as $6.4 \times 10^{-4}$.

A= $10^{-4}$.

37. To be sure you have the idea look at the groups of numbers below. Which of the following groups contains a number that is not expressed properly in scientific notation?

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6.25 \times 10^{18}$</td>
<td>$1.11 \times 10^{11}$</td>
<td>$6.9 \times 10^{10}$</td>
</tr>
<tr>
<td>$3.75 \times 10^{-9}$</td>
<td>$-3.1 \times 10^{2}$</td>
<td>$3.4 \times 10^{7}$</td>
</tr>
<tr>
<td>$4.20 \times 10^{1}$</td>
<td>$-3.1 \times 10^{-2}$</td>
<td>$39.5 \times 10^{2}$</td>
</tr>
<tr>
<td>$7.93 \times 10^{0}$</td>
<td>$2.00 \times 10^{2}$</td>
<td>$6.0 \times 10^{4}$</td>
</tr>
</tbody>
</table>

A= Group C.

38. The number $39.5 \times 10^2$ is not written in scientific notation because there are two digits on the left side of the decimal point. The minus signs in Group B may have confused you. Although, it has not been mentioned, negative numbers can also be expressed in scientific notation. Thus, a number like -6,400,000 becomes $-6.4 \times 10^6$. All the rules previously stated by me hold true except that now a --------- sign is placed before the number.

A= Minus.

Sorry there is no room to complete the next block here – so will continue on the next page.

Page 1.53.
39. Small negative numbers are handled in the same way. Thus -0.0092 becomes -9.2 x 10^{-3}. Thus minus sign before the number indicates that this is a negative number. The minus sign before the exponent indicates that this number is less than \(-\infty\).

\[ A = \ 1. \]

40. Listed below are numbers which are converted to scientific notation. Which one of these groups contains an error?

\[ A = \ \text{Group B}. \]

41. 864,000 convert to 8.64 x 10^5 and not to 8.64 x 10^4. Which of the groups below contains an error?

\[ A = \ \text{Group A}. \]

The Law of the squares are similar as scientific notation; they have also rules to follow for the design of the Searl Effect Generator (S.E.G). Unfortunate, the Searl Effect Generator (S.E.G) is far more complicated than Scientific Notations. Due to its various complex characteristics it takes only one small mistake to fail the system of design and therefore the construction of the unit.

Did you notice what I have done here? I took the above 2 samples and witched them over so the Sample 1 is now showing sample 2 levels so in sample three here you can see there is a big difference in the values: The same with sample two switch to sample one level here in sample 4.

This distraction was to break up your concentration on Scientific Notation to check if you have forgotten how to do them.

43. The final number in group A requires a negative exponent. Which of the groups below contains an error? 

| 1. 16 | a. 1.6 × 10^{-3} |
| 2. .0016 | b. 1.6 × 10^{4} |
| 3. 160,000 | c. 1.6 × 10^{0} |
| 4. 1.6 | d. 1.6 × 10^{1} |
| 5. .016 | e. 1.6 × 10^{-2} |
| 6. 16,000 | f. 1.6 × 10^{5} |

A = I = d, 2 = a, 3 = f, 4 = c, 5 = e, 6 = b.

If we just close our eyes and instead open up our mind eye we see that there are similarities in the Law of the Squares to that of Scientific Notation.

Law of the Squares: Space Frame is equal to Scientific Negative Notation.

Law of the Squares: Time Frame is equal to Scientific Positive Notation.

Are you now confused at a much higher level, don’t let that worry you as my mum was also very confused at a much higher level when I popped in to the world six weeks early. You know the saying the early bird catches the worms. But thinking on that issue I do not recall catching any worms, just piles.

But that is another book subject; how am I doing here FB and company? This is only chapter one, many more chapters yet to come and this one are not yet finished. So when you tell people that you are writing a book about me as a conman, remember that I am an expert in writing books as you have seen on my web and its all free to the world – what are you charging the public for your book? I give you a great title for it – THE BOOK OF CRAP BY FLOWERBOWER and it will sell in millions as the masses loves bullshit it is that rich smell: like flies use to attract them to it. Here again I am trying to take your mind off scientific notation for a few moments, before I hit you with the next test question.
42. I forgot to add this block which I had intended, so here it is: The final number in group A requires a negative exponent. Which of the groups below contains an error?

A= Group B.

44. Another concept that goes hand in hand with powers of ten and scientific notation is metric prefixes. These are prefixes such as mega and kilo which when placed before a word change the meaning of the word. For example, the prefix kilo means thousand. When kilo and metre are combined the work kilometre is formed. This word means 1,000 metres. In the same way, the word kilogram means ------------ grams.

A= 1,000.

45. Since kilo means 1,000 I can think of it as multiplying any quantity times 1,000 or $10^3$. Thus, kilo means $10^3$. Another popular metric prefix is mega. Mega means million. Thus a mega ton is one million tons or $10^6$ which I know too well that the Searl Effect Generator S.E.G manufacture will use each year far more than that. In the same way one million volts is referred to as a --------- volt.

A= Mega.

46. So I can say that one thousand watts can be called a kilowatt. Also I can state that one million watts can be called a -------.

A= Megawatt.

47. A kilowatt is equal to $10^3$ watts while a megawatt is equal to --------- watts.

A= $10^6$.

48. Often it is convenient to convert from one prefix to another. For example, since a megaton is $10^6$ tons and a kiloton is $10^3$ tons, a megaton equals 1000 kilotons. And, since a megaton is one thousand times greater than a kiloton, the kiloton is equal to .001 megaton. Now, consider the quantity of Neodymium Nd 60 equal to 100,000 tons per day. This is equal to 100 kilotons or ----- megatons.

A= 0.1.

49. Kilo is often abbreviated K; did you know that FB, if you do know that you are a cleaver boy. But I doubt it; as there cannot be any pace in your brain to store anything intelligent. Thus, 100 Kilowatts may be expressed as 100 K watt. Mega is abbreviated M. Therefore 10 megawatts may be expressed as --------- watts.

A= 10M.
50. The quantity 5 K Volts or 5,000 volts. Also, 5 M volts is 5 megavolts or 5,000,000 volts.

51. There are also prefixes which have a value less than one. The most used are:

- **Milli:** which means thousandth (0.001) or \(10^{-3}\).
- **Micro:** which means millionth (0.0001) or \(10^{-6}\).

One thousandth of an ampere is called a milliampere. Also, one thousandth of a volt is called a millivolt.

52. If a second is divided into one million equal parts each part is called a microsecond. Also, the millionth part of a volt is called a microvolt.

53. One volt is equal to 1,000 millivolts or 1,000,000 microvolts. Or 1 volt equals \(10^3\) millivolts and \(10^6\) microvolts. Expressed another way, 1 millivolt equals 0.001 volt while 1 microvolt equals 0.000001 volt. Thus, 1 millivolt equals \(10^{-3}\) volts while 1 microvolt equals \(10^{-6}\) volt.

54. Powers of ten allow us to express a quantity using whichever metric prefix I prefer. For example, I can express 50 millivolts as \(50 \times 10^{-3}\) volts simply by replacing the prefix milli with its equivalent power of ten. In the same way 50 microvolts is equal to \(50 \times 10^{-6}\) volts.

55. When writing abbreviation for the prefix milli the letter small m is used to distinguish it from mega which used a capital M. Obviously, the abbreviation for micro cannot also be m. To represent micro the Greek letter \(\mu\) (pronounced mu) is used. Thus, 10 millivolts is abbreviated 10 m volts while 10 microvolts is abbreviated 10 \(\mu\) volts. As a matter of fact let us look at one of the medications which I have to take each day: Folic Acid \(\mu\) 400 which I need not discuss here as that belongs to another book of the past. Remember, m means \(10^{-3}\) while \(\mu\) means \(10^{-6}\).
56. Match the following:

1. $M$ watt  a. $10^3$ watts
2. $k$ watt  b. $10^6$ watts
3. $m$ watt  c. $500 \times 10^3$ watts
4. $\mu$ watt  d. $10^6$ watts
5. $.5$ watt  e. $.5k$ watts
6. 500 watts  f. $10^3$ watts
7. 500,000 watts  g. $.5 M$ watts
8. $.00005$ watts  h. $.05 k$ watts
9. 50 watts  i. $5 m$ watts
10. $.005$ watts  j. $50 \mu$ watts

$A= 1 = d, 2 = f, 3 = a, 4 = b, 5 = c, 6 = e, 7 = g, 8 = j, 9 = h, 10 = i.$

Additional aspects of powers of ten, scientific notation, and metric prefixes will be discussed later, which plays an important issues in my past, present and future undertakings. This page will close Chapter 1. Section one.