Glasgow – Lanarkshire – Scotland.

LOCATION : **Headquarters –Glasgow – Scotland.**
DIVISION : **Searl Technology Ltd.**
SUBJECT : **Mathematics.**
DATE : **10th January 2009.**
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STATUS : **Head of R&D S.E.G. & I.G.V.**

Both the Searl Effect Generator (S.E.G) and the Inverse-Gravity-Vehicle (I.G.V) are products of the precision engineering domain – not really a subject to undertake at home; unless you have such skills that are required.

The magnetiser is extremely complex vehicle and in the world of reality, there is none available anywhere in the world, so far to date.
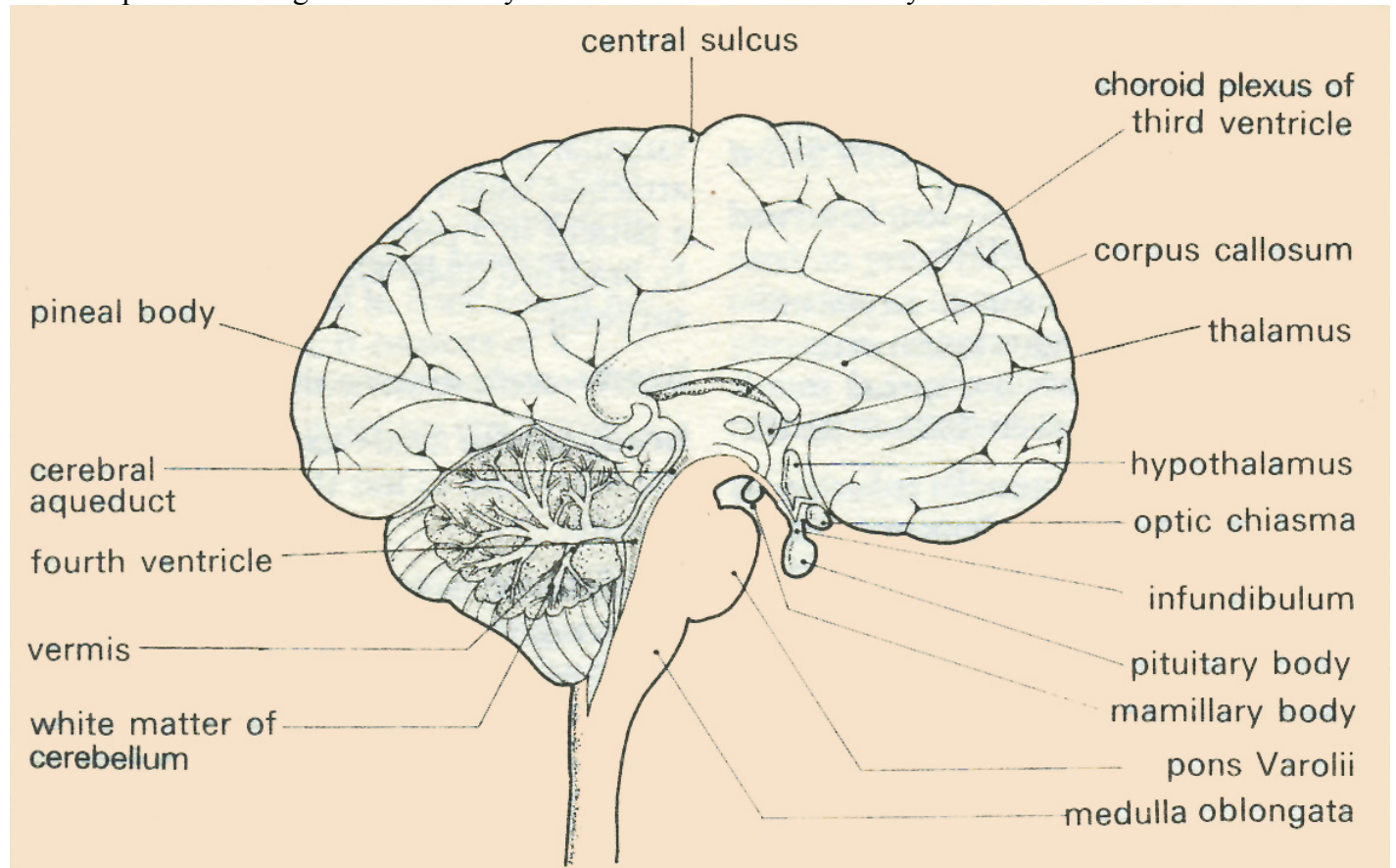
Agree there is just one under research and development; a product of Searl Magnetic Ltd.

All major products in reality demand the function of mathematics to obtain the optimum route by which such a concept is developed and "hopefully" from that effort it get manufactured.

The S.E.G. plus the I.G.V, both has some very demanding appetites for mathematics as you will become aware of dear Flowerbower; and that demand is a requirement, regardless of whether you love or hate math.

Being one that hates math meant that science and technology clearly was in another domain in relation to my domain. Strange that such a massive change in my domain was required; actually materialised in the most peculiar way that brought the bits of a jigsaw together and created the domain of tomorrow.

Before any concept can commence, no matter what that subject relates to, triggers have to operate within the Homo sapiens brain regardless who they are – that is the world of reality.

central sulcus

choroid plexus of third ventricle

corpus callosum

thalamus

pineal body

cerebral aqueduct

fourth ventricle

vermis

white matter of cerebellum

hypothalamus

optic chiasma

infundibulum

pituitary body

mamillary body

pons Varolii

medulla oblongata

This is the brain (midsagittal section) the drawing I used in my 1956 newsletter.

BRAIN   (brayn) n.

The enlarged and highly developed mass of nervous tissue: that forms the upper end of the central nervous system.

My understanding, it is invested by three connective tissue – there goes the Law of the Squares again – and floats in cerebrospinal fluid within the rigid casing formed by the bones of the skull.

At this time, I will not go into more details upon its structure which is belongs to another section of this book to be.

But will make a statement here: that since man appeared upon the Planet Earth he has been storing a mass of data of his existence upon this planet. Furthermore, all inventions pass, present and in the future were already here when time commenced.

What man has achieved was the ability to store data with his / her sensors recorded as the observed upon their way. Thus, the ability to transfer this data to their next generation during her pregnancy was a milestone in man's development.

For hidden within every brain at birth, lies dormant a massive amount of data that required triggers to open them – in many ways no different then this PC operation which we call software.

This software: I have since 1946 termed it as triggers – I am certain the medical domain will find that term acceptable.

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So where and how do we obtain these triggers?

There is no argument that the eyes produce; by its observations: the triggers that are needed to activate this data which is already stored within the brain at birth.

The eyes are actually the only part of the brain that actually directly sees outside of itself – all other data arrives from hundreds of sensors wired to the brain.

And that is 100% absolute correct – as its your eyes which is transferring this observed book to your brain to store or reject – that is your brain choice – which will depend upon the amount of brainwashing its under gone over time.

Even though these two sensors are amazing devices, they do nevertheless have restricted frequency range in relation to many other animals.

But at least I am convince that they are within the frequency range bandwidth to be able to study what you are about to observe – or more precisely – I hope you will be able to observe – digest – the contents and act upon them in a positive manner that I would expect from an intelligent animal.

I have always wondered why nature so often uses a 3 system within its structure and my conclusion is that square 3 is the first true square that is available to use for structure design and implementing.

50	1	36
15	29	43
22	57	8

Facts = the centre is shell 1 = 29
There are only 2 shells in this construction.
Shell 2 whose 4 corner values = 4 times the value of shell 1 = 116.

This illustration is a square 3 first True Square available. There are just 2 mathematical modes available. Which are to my terms: 1 = Space mode: 2 = Time mode.

Shell 2 has a construction of 8 cells which is equal to 8 times the value of shell 1 = 232
Its frequency equals the sum of the square Shell 1 + Shell 2 = 261.

I have worked this example in the Time mode.

In the Space mode, it's found to be on level 26 from absolute.

In the Time mode, it's found to be on level 7 from absolute.

What is the outcome thus obtained from this observation?

To this data impresses upon my mind that this Time frame would generate 7 times more energy than that of level 26 in the Space mode.

32	25	30
27	29	31
28	33	26

This work out has been done in the space mode to obtain the same outcome in values, the mathematics remain the same regardless of which mode is employed.

The only difference involved is the levels in used.

WHY?

Simple because there are far more electrons available in that Time Frame mode values in relation to those quoted in the Space frame mode.

Though that is a great advantage to the user – nevertheless its disadvantage is that it cost more to construct.

Always remember that the law of the squares states that there are always 2 main states and they are opposites; if this was not true you would not exist.

You should by now understand that I never square 3 to design of the Searl Effect Generators (S.E.G).

I use the structure of square 4 for the Searl Effect Generator; no doubt many of you may wonder *WHY?*

Strange how a word like *WHY* used by a child of 3 years; can present a key marker that child is intelligent and that its ability to reason; has not yet been damaged by education.

Let me assure you that my step Grand daughter Joy was an expert in the application of that term and knew how to hold your attention upon her requirements for knowledge; for as long as she wanted to; for as long as an hour or more that she needed your attention. Because of her very nature in wanting to gain knowledge, I was rather soft with her and allowed her to do whatever her mind leads her to do. She thrived and grew upon learning: and she knew that she could talk to me upon any subject without fear; and that my reply would be honest and true. A bond that was strong, and guess made the mother a little jealous of her bonding to me. Which gave Joy that power to tease and torment me, in a playful way – she knew how to tease.

Sadly, I guess after all these years that I have been away, that bond has been broken and that her learning ability has diminished to a more natural level. I know from hands on experience that all children has this ability to learn. If the correct steps taken from 6 months before conception is planned; to prepare ones body for this even, and continue to their adulthood days, makes a massive difference in their achievements. Sadly, to say that my childhood days I never had the experience of such support as Joy got from me.

So let me try to present now square 4 to you.

86	188	35	205
239	1	154	120
137	103	256	18
52	222	69	171

We see that square 4 is similar in construct to that of square 3.

It construction consist of 2 shells.

Square 4 belongs to a mathematical group 2 system: which one quarter of everything in the universe belongs to it.

Whereby, square 3 belongs to a mathematical group 1 system, in which half of everything in the universe belongs to it.

Yet, square 3 and 4 can be regarded as 'cooper pair' in function.

In the above case, shell 1 has 4 cells whose value = 514

The shell 2 whose 4 corners should be equal to the same value = 514

The shell 2 has 12 cells whose value total = 1,542

Therefore, the sum of those 16 cells or 4 times that of shell 1 = 2,056.

I have worked this example in the Time-frame mode and its level from absolute = 17.

You may be wondering what that would look like in the Space frame mode, so would I; therefore you are not alone.

126	132	123	133
135	121	130	128
129	127	136	122
124	134	125	131

We see that square 4 is similar in construct to that of square 3.

It construction consist of 2 shells.

Square 4 = 16 cells and belongs to a mathematic group 2 system.
Shell 1 = value 514
Shell 2:   4 corners value = 514
Shell 2:   12 cells value = shell 1 times 3 = 1,542
Total square value = shell 1 plus shell 2 = 16 cells whose value totals = 2,056

Where the sample of Square 4 is in the Time Frame mode above is 17 levels from absolute.
The Space Frame requires level 122 from absolute.

So how do I apply these figures having gone to all the trouble to work them out?

Square 4 is most suitable for Earth bound applications only and not suitable really for flight requirements.

Here I give an example in two modes for a particular value, which is 514 – but what do 514 relate too?

This 514 relates to weight of the 4 layers of the roller segments and plate layers and must use the same terms.

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Thus, if the segment uses a system of grams for the roller layer sets, likewise the same system must apply to the plates; the only difference being that the plates are at a higher level than that of the roller sets.

1	3.1411592	3.1411592	53	3.141159	166.4814	105	3.141159	329.8217
2	3.1411592	6.2823184	54	3.141159	169.6226	106	3.141159	332.9629
3	3.1411592	9.4234776	55	3.141159	172.7638	107	3.141159	336.104
4	3.1411592	12.564637	56	3.141159	175.9049	108	3.141159	339.2452
5	3.1411592	15.705796	57	3.141159	179.0461	109	3.141159	342.3864
6	3.1411592	18.846955	58	3.141159	182.1872	110	3.141159	345.5275
7	3.1411592	21.988114	59	3.141159	185.3284	111	3.141159	348.6687
8	3.1411592	25.129274	60	3.141159	188.4696	112	3.141159	351.8098
9	3.1411592	28.270433	61	3.141159	191.6107	113	3.141159	354.951
10	3.1411592	31.411592	62	3.141159	194.7519	114	3.141159	358.0921
11	3.1411592	34.552751	63	3.141159	197.893	115	3.141159	361.2333
12	3.1411592	37.69391	64	3.141159	201.0342	116	3.141159	364.3745
13	3.1411592	40.83507	65	3.141159	204.1753	117	3.141159	367.5156
14	3.1411592	43.976229	66	3.141159	207.3165	118	3.141159	370.6568
15	3.1411592	47.117388	67	3.141159	210.4577	119	3.141159	373.7979
16	3.1411592	50.258547	68	3.141159	213.5988	120	3.141159	376.9391
17	3.1411592	53.399706	69	3.141159	216.74	121	3.141159	380.0803
18	3.1411592	56.540866	70	3.141159	219.8811	122	3.141159	383.2214
19	3.1411592	59.682025	71	3.141159	223.0223	123	3.141159	386.3626
20	3.1411592	62.823184	72	3.141159	226.1635	124	3.141159	389.5037
21	3.1411592	65.964343	73	3.141159	229.3046	125	3.141159	392.6449
22	3.1411592	69.105502	74	3.141159	232.4458	126	3.141159	395.7861
23	3.1411592	72.246662	75	3.141159	235.5869	127	3.141159	398.9272
24	3.1411592	75.387821	76	3.141159	238.7281	128	3.141159	402.0684
25	3.1411592	78.52898	77	3.141159	241.8693	129	3.141159	405.2095
26	3.1411592	81.670139	78	3.141159	245.0104	130	3.141159	408.3507
27	3.1411592	84.811298	79	3.141159	248.1516	131	3.141159	411.4919
28	3.1411592	87.952458	80	3.141159	251.2927	132	3.141159	414.633
29	3.1411592	91.093617	81	3.141159	254.4339	133	3.141159	417.7742
30	3.1411592	94.234776	82	3.141159	257.5751	134	3.141159	420.9153
31	3.1411592	97.375935	83	3.141159	260.7162	135	3.141159	424.0565
32	3.1411592	100.51709	84	3.141159	263.8574	136	3.141159	427.1977
33	3.1411592	103.65825	85	3.141159	266.9985	137	3.141159	430.3388
34	3.1411592	106.79941	86	3.141159	270.1397	138	3.141159	433.48
35	3.1411592	109.94057	87	3.141159	273.2809	139	3.141159	436.6211
36	3.1411592	113.08173	88	3.141159	276.422	140	3.141159	439.7623
37	3.1411592	116.22289	89	3.141159	279.5632	141	3.141159	442.9034
38	3.1411592	119.36405	90	3.141159	282.7043	142	3.141159	446.0446
39	3.1411592	122.50521	91	3.141159	285.8455	143	3.141159	449.1858
40	3.1411592	125.64637	92	3.141159	288.9866	144	3.141159	452.3269
41	3.1411592	128.78753	93	3.141159	292.1278	145	3.141159	455.4681
42	3.1411592	131.92869	94	3.141159	295.269	146	3.141159	458.6092
43	3.1411592	135.06985	95	3.141159	298.4101	147	3.141159	461.7504
44	3.1411592	138.211	96	3.141159	301.5513	148	3.141159	464.8916
45	3.1411592	141.35216	97	3.141159	304.6924	149	3.141159	468.0327
46	3.1411592	144.49332	98	3.141159	307.8336	150	3.141159	471.1739
47	3.1411592	147.63448	99	3.141159	310.9748	151	3.141159	474.315
48	3.1411592	150.77564	100	3.141159	314.1159	152	3.141159	477.4562
49	3.1411592	153.9168	101	3.141159	317.2571	153	3.141159	480.5974
50	3.1411592	157.05796	102	3.141159	320.3982	154	3.141159	483.7385
51	3.1411592	160.19912	103	3.141159	323.5394	155	3.141159	486.8797
52	3.1411592	163.34028	104	3.141159	326.6806	156	3.141159	490.0208

Here is just another set of values associated with the Searl Technology; which could be Centimetres, millimetres, inches, feet, yards or miles; at this time for the S.E.G. is in mm.

Again, there is another problem to set the struts of the I.G.V apart. Let's just take a peep at my normal class of structure using 64 struts.

1	3.141595	3.141595	0.049087		51	3.141595	160.2213	2.503459
2	3.141595	6.28319	0.098175		52	3.141595	163.3629	2.552546
3	3.141595	9.424785	0.147262		53	3.141595	166.5045	2.601633
4	3.141595	12.56638	0.19635		54	3.141595	169.6461	2.650721
5	3.141595	15.70798	0.245437		55	3.141595	172.7877	2.699808
6	3.141595	18.84957	0.294525		56	3.141595	175.9293	2.748896
7	3.141595	21.99117	0.343612		57	3.141595	179.0709	2.797983
8	3.141595	25.13276	0.392699		58	3.141595	182.2125	2.84707
9	3.141595	28.27436	0.441787		59	3.141595	185.3541	2.896158
10	3.141595	31.41595	0.490874		60	3.141595	188.4957	2.945245
11	3.141595	34.55755	0.539962		61	3.141595	191.6373	2.994333
12	3.141595	37.69914	0.589049		62	3.141595	194.7789	3.04342
13	3.141595	40.84074	0.638136		63	3.141595	197.9205	3.092508
14	3.141595	43.98233	0.687224		64	3.141595	201.0621	3.141595
15	3.141595	47.12393	0.736311		65	3.141595	204.2037	3.190682
16	3.141595	50.26552	0.785399		66	3.141595	207.3453	3.23977
17	3.141595	53.40712	0.834486		67	3.141595	210.4869	3.288857
18	3.141595	56.54871	0.883574		68	3.141595	213.6285	3.337945
19	3.141595	59.69031	0.932661		69	3.141595	216.7701	3.387032
20	3.141595	62.8319	0.981748		70	3.141595	219.9117	3.43612
21	3.141595	65.9735	1.030836		71	3.141595	223.0532	3.485207
22	3.141595	69.11509	1.079923		72	3.141595	226.1948	3.534294
23	3.141595	72.25669	1.129011		73	3.141595	229.3364	3.583382
24	3.141595	75.39828	1.178098		74	3.141595	232.478	3.632469
25	3.141595	78.53988	1.227186		75	3.141595	235.6196	3.681557
26	3.141595	81.68147	1.276273		76	3.141595	238.7612	3.730644
27	3.141595	84.82307	1.32536		77	3.141595	241.9028	3.779731
28	3.141595	87.96466	1.374448		78	3.141595	245.0444	3.828819
29	3.141595	91.10626	1.423535		79	3.141595	248.186	3.877906
30	3.141595	94.24785	1.472623		80	3.141595	251.3276	3.926994
31	3.141595	97.38945	1.52171		81	3.141595	254.4692	3.976081
32	3.141595	100.531	1.570798		82	3.141595	257.6108	4.025169
33	3.141595	103.6726	1.619885		83	3.141595	260.7524	4.074256
34	3.141595	106.8142	1.668972		84	3.141595	263.894	4.123343
35	3.141595	109.9558	1.71806		85	3.141595	267.0356	4.172431
36	3.141595	113.0974	1.767147		86	3.141595	270.1772	4.221518
37	3.141595	116.239	1.816235		87	3.141595	273.3188	4.270606
38	3.141595	119.3806	1.865322		88	3.141595	276.4604	4.319693
39	3.141595	122.5222	1.914409		89	3.141595	279.602	4.368781
40	3.141595	125.6638	1.963497		90	3.141595	282.7436	4.417868
41	3.141595	128.8054	2.012584		91	3.141595	285.8851	4.466955
42	3.141595	131.947	2.061672		92	3.141595	289.0267	4.516043
43	3.141595	135.0886	2.110759		93	3.141595	292.1683	4.56513
44	3.141595	138.2302	2.159847		94	3.141595	295.3099	4.614218
45	3.141595	141.3718	2.208934		95	3.141595	298.4515	4.663305
46	3.141595	144.5134	2.258021		96	3.141595	301.5931	4.712393
47	3.141595	147.655	2.307109		97	3.141595	304.7347	4.76148
48	3.141595	150.7966	2.356196		98	3.141595	307.8763	4.810567
49	3.141595	153.9382	2.405284		99	3.141595	311.0179	4.859655
50	3.141595	157.0798	2.454371		100	3.141595	314.1595	4.908742

In due time there will be I.G.V whose diameter will be much larger then these figures presented in this table.

The power-house of the I.G.V is a modify S.E.G. a slightly more complicated unit to that of the domestic market which is for Earth bound applications.

These samples are for those who lack mathematical education but sincerely want to try to understand what it is that I am doing and how.

To those who fall into this domain I trust these workouts help you to understand what is involve.

But, do not worry if you still find it hard to follow, in due time you will understand throughout this book something will trigger you into action.

From this table we see what the diameter is and what the distance apart from centre of one strut to the centre of the next.

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There are times when values are better display in other forms – like to our knowledge everything in the universe operates on a system termed binary – and the earliest computers also stated off upon the same system.

For those who have no knowledge upon this subject I will attempt to create a table layout showing how this system works.

2048	1024	512	256	128	64	32	16	8	4	2	1	Total
											1	1
										1	0	2
										1	1	3
									1	0	0	4
									1	0	1	5
									1	1	0	6
									1	1	1	7
								1	0	0	0	8
								1	0	0	1	9
								1	0	1	0	10
								1	0	1	1	11
								1	1	0	0	12
								1	1	0	1	13
								1	1	1	0	14
								1	1	1	1	15
							1	0	0	0	0	16
							1	0	0	0	1	17
							1	0	0	1	0	18
							1	0	0	1	1	19
							1	0	1	0	0	20
							1	0	1	0	1	21
							1	0	1	1	0	22
							1	0	1	1	1	23
							1	1	0	0	0	24
							1	1	0	0	1	25
							1	1	0	1	0	26
							1	1	0	1	1	27
							1	1	1	0	0	28
							1	1	1	0	1	29
							1	1	1	1	0	30
							1	1	1	1	1	31
						1	0	0	0	0	0	32
						1	0	0	0	0	1	33
						1	0	0	0	1	0	34
						1	0	0	0	1	1	35
						1	0	0	1	0	0	36
						1	0	0	1	0	1	37
						1	0	0	1	1	0	38
						1	0	0	1	1	1	39
						1	0	1	0	0	0	40
						1	0	1	0	0	1	41
						1	0	1	0	1	0	42
						1	0	1	0	1	1	43
						1	0	1	1	0	0	44
						1	0	1	1	0	1	45
						1	0	1	1	1	0	46
					1	1	1	1	0	0	1	121

This example shows another way of communicating values.

That last line shown in the table on page 17.58 may confuse some of my visitors to this site, for them let me see if I can explain how that arrangement comes about.

```
2)121
2)060 r 1 = LS
2)030 r 0
2)015 r 0
2)007 r 1
2)003 r 1
2)001 r 1
 )000 r 1
```

1	1	1	1	0	0	1	TOTAL
64	32	16	8	0	0	1	121

x	x	x	x	y	y	x	121
							121

That information could have been sent like this.

-..-/-..-/-..-/-..-/-.--/-.--/-..-/ = **121** There are many options by which SWALLOW COMMAND flight operations can transmit information form ground to air or vice versa.

S.I.S.R.C consists at this date: **Swallow Command / Searl Technology Ltd / Searl Magnetics Ltd / New Space Technology Ltd / Disc INC.** And it is growing, the day will sure to come where Swallow Command shall go where no man has ever been before.

The above Morse code data was coded so what would that appear like as an open data train?

.----/ .----/ .----/ .----/ -----/ -----/ .----/ = **121** thus any one understanding Morse code could obtain this value.

Binary fits the Law of the squares perfect – it has two prime states:

1)   **Advantage: Its simple with just two functions: Yes or No.**
2)   **Disadvantage; being that the trains of information can be very long**

This pictorial presentation could also be used as a coded data train = 121

Code like any language is agreed by arbitration by those who will use such a system for communication.

What I am actually stating here is that all forms of communication are agreed upon through arbitration.

Any one manage to the intercept of that above data train; doubtful if they could possible arrive at the value of 121? Simple because they need the keys by which to covert image to a value – another issue here is that it does not state if text or numerals – thus another symbol would be required to confirm if data train was numerals or text.

Thus, Morse code is very straight forward and needing no code to indentify text from numerals.

Again; the problem in deep space penetration will be communications – a formatted code system would have to be used to speed up data transfer from planet Mars to planet Earth. Which I shall tackle in another section of this book.

177	254	1	78	155
243	45	67	144	166
34	56	133	210	232
100	122	199	221	23
111	188	265	12	89

Square 5.   Shells 3.   Cells 25   Time Frame

Both mode Shell 1 = 133
Both mode Shell 2 = 1,064
Both mode Shell 3 = 2,128

137	144	121	128	135
143	125	127	134	136
124	126	133	140	142
130	132	139	141	123
131	138	145	122	129

Square 5.   Shells 3   Cells 25   Space Frame

Shell 2 = Shell 1 x 8
Shell 3 = Shell 1 x 16

Mathematics group 1.   Options = 12

Shell 3 four corners = shell 1 x 4 = 532
Shell 2 four corners = shell 1 x 4 = 532

Line value in both Space and Time frame = 665
The frequency in both Space and Time frame = 3,325

Well, I guess its time to leave the squares, while you digest them – that is not the only class of mathematics I have to been in involved regarding to my research and development work.

So, I would like to include here a copy of my workout by graph of paper and pen of year 1985, bear in mind that I rushed the drawings quick.
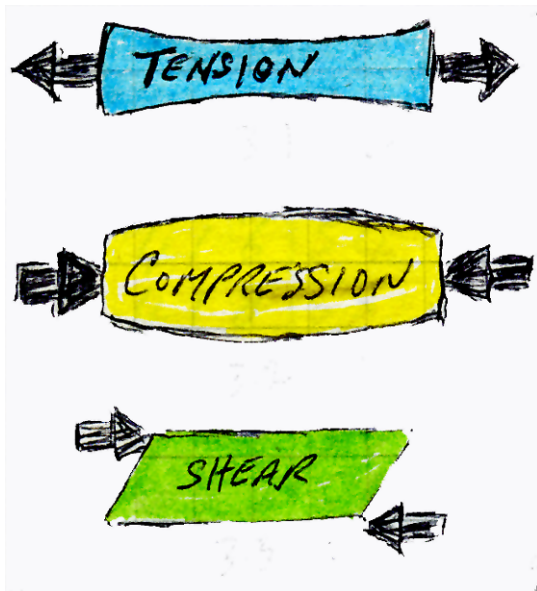
Figure 1.1

Tension – to load the body, or part of it, in tension (a) or in compression (b) or shear (c); or in some combination of these loads.

The force must act on a body; it has magnitude of definite number of units it acts in a straight line.

Therefore has direction, quantities that can be specified as so called vector quantities, because they can be represented on paper by a straight line drawn to scale.

Figure 1.1   (a)-(b)-(c).
Page 17.60

2)
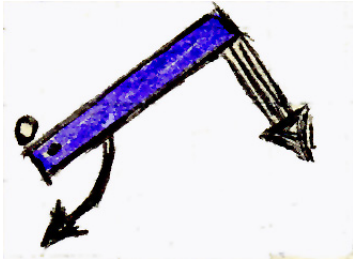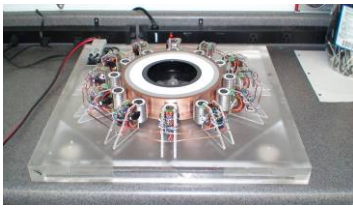
Tendency to turn about O.

3)

To change, or tend to change, the state of motion of the body, the unit of force is determined from this effect.

The unit of force is the Newton, with multiples.

SYMBOLS.

Newton = N
KiloNewton   = Kn = 10^3N   1000 N
MegaNewton = Mn = 10^6N   1000000 N
GigaNewton   = Gn = 10^9N   1000000000 N

3)
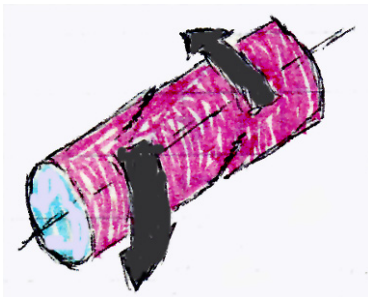
Torque producing twist about the axis.
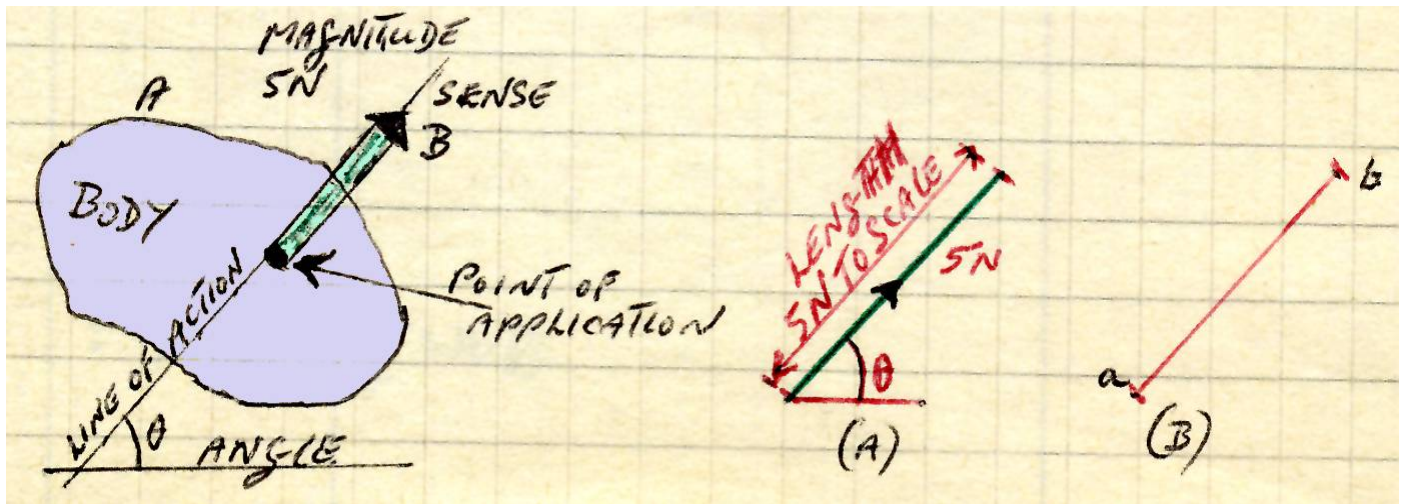
Considering the age of my notebook, I am surprised that I can get a reasonable image from it of my past work.

The assumption means that the force in a member always directed along the axis of the member and will thus cause either *TENSION* or *COMPRESS.* **WAKE UP FLOWBOWER THE WORLD NEEDS YOU!**

TENSILE FORCES ARE CARRIED BY TIES: **Flowerbower, please take note!**

COMPRESSIVE FORCES ARE CARRIED BY STRUTS:

The IGV 42: or the future Star Ship Explorer 1; will be constructed on a framework that may be defined as an arrangement of members assembled to form a rigid structure.

Page 17.61

A triangular shape gives the stiffest construction with the least number of members – I should know as I have built over time 41 such structure code name Probes.

The members clearly to my observations: transmit the applied loads to the supports and therefore are themselves loaded.

The purpose of analysing a structure is to determine the force in each member and hence the size of the member.

The following assumptions are usually made in the analysis of simple frameworks.

1) ***The members are light compared with the applied loads.***

2) ***The members are connected by frictionless pin joints.***

3) ***The loads and support reactions are applied only at the joints.***

Additionally, the use of pin-joints means that the force system at a joint is concurrent; hence it is only necessary to apply the first equilibrium condition.

If we take a look back at page 17.61, the last illustration: You notice (a) and (b) shows the vector representation of the 5 N forces.

In (A) a line is drawn parallel to the local vector and of length representing 5 N to the chosen scale; an arrowhead is marked to show the sense and the magnitude placed by the arrow.
In (B) A line is drawn parallel to the local vector and of length representing the force AB to scale.

The ends of the line are marked with small letters to correspond with the space letter – ab in this case – the direction a to b along the line agreeing with the sense of the force.

There is no need to mark the sense with an arrowhead or to show the magnitude.

I now explain the first image of this article; the straight line at an angle θ to the horizontal is the line of action of the force; it passes through the point of application in the body.
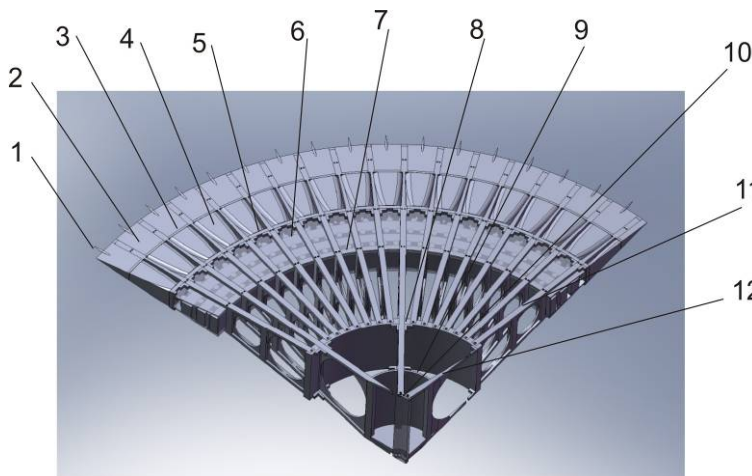
A quarter sections for of the IGV struts.

Our guest is late relative of Wernher Von Braun.

Structures regardless of their function, requires the use of mathematics – to define the optimum route by which hopefully will succeed and give good results out of the hard labour.

Structures are components which handle forces that under most conditions be of various forces working at all times; how well such structures perform relates to how good you are at mathematics.

The arrowhead indicates the sense of the direction of the force and the magnitude of 5 N is located by the side of the short thick line which is referred to as the local vector.

The diagram of local vectors acting on the body and showing their relationship to one another is often drawn to scale and is called the *SPACE DIAGRAM.*

A useful method of force identification is to label the space on each side of the local vector by capital letters such as A and B as shown; this makes it easier to identify a particular force (AB in this case) and to construct vector diagrams.

Forces do not act singly but in groups; which in my early day's research made that issue clear to me; which are called Force systems.

The body upon which the system acts is considered to be rigid, which means that it does not distort and hence alter the alignment of the forces. Which the I.G.V. structure should meet these requirements 100%.

The system would normally be disposed in all three dimensions but many problems can be solved by considering their action to be in one plane. Such systems are called *Coplanar Force Systems.*
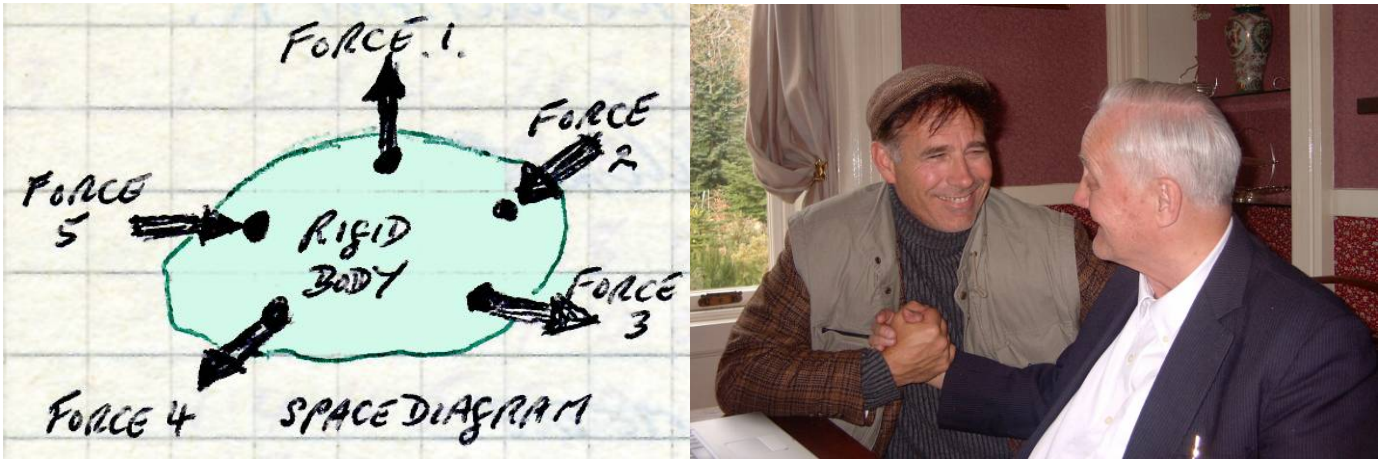
Figure 4.   **Total force (The resultant) = the sum of the separate forces.**

The representation of a system of coplanar forces is shown in the figure 4, and most of my work on statics deals with this type of force system.
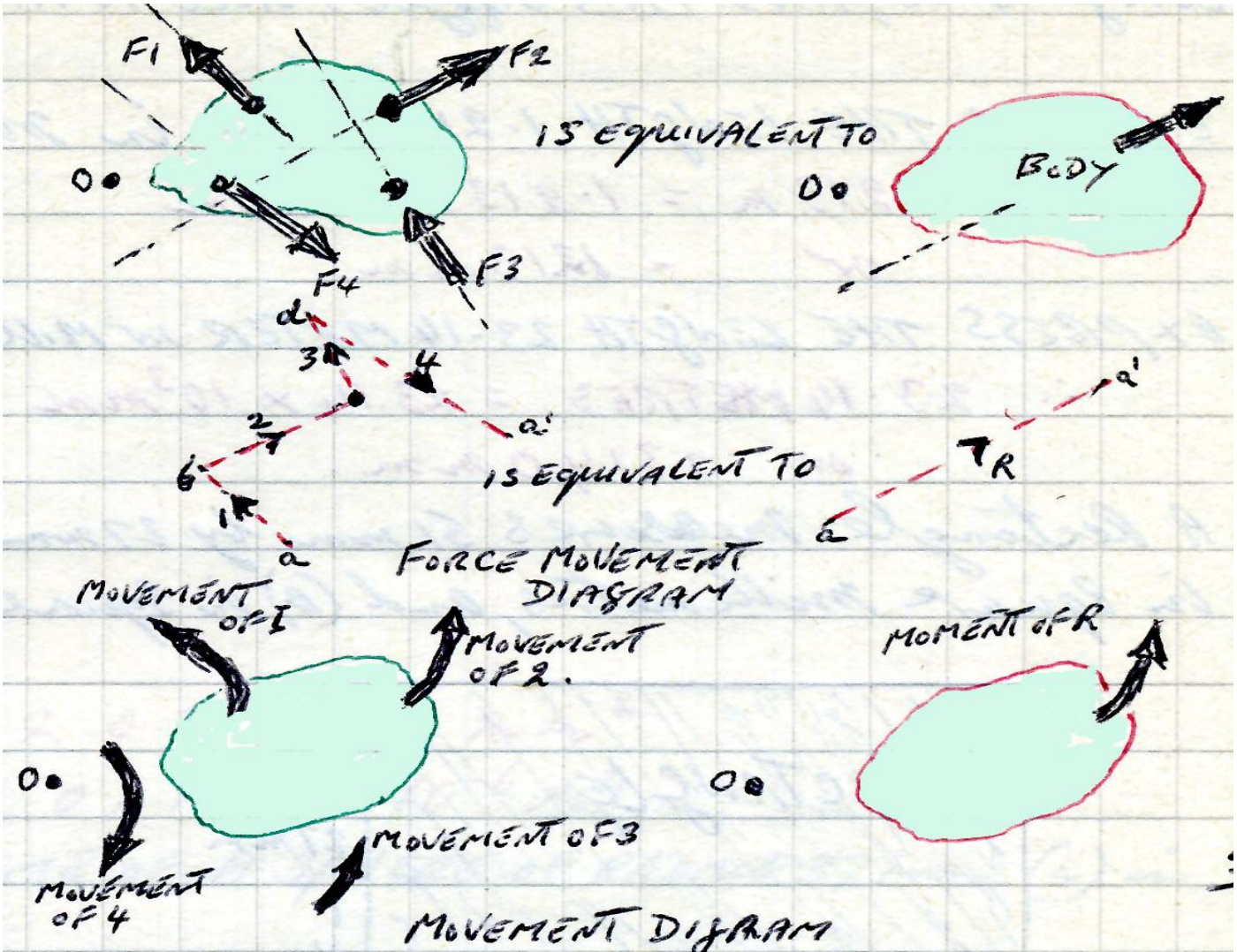
Figure 5.   **Force is a vector quantity; the sum I must take is the vector sum.**

It often happens that the lines of action of all the forces in a system pass through the same point in space; in this case the forces are said to be ***concurrent forces.***

Page 17.64

The resultant of a force system is defined as that single force which could replace the given system and produce the same effects.

Remember that the effects are:
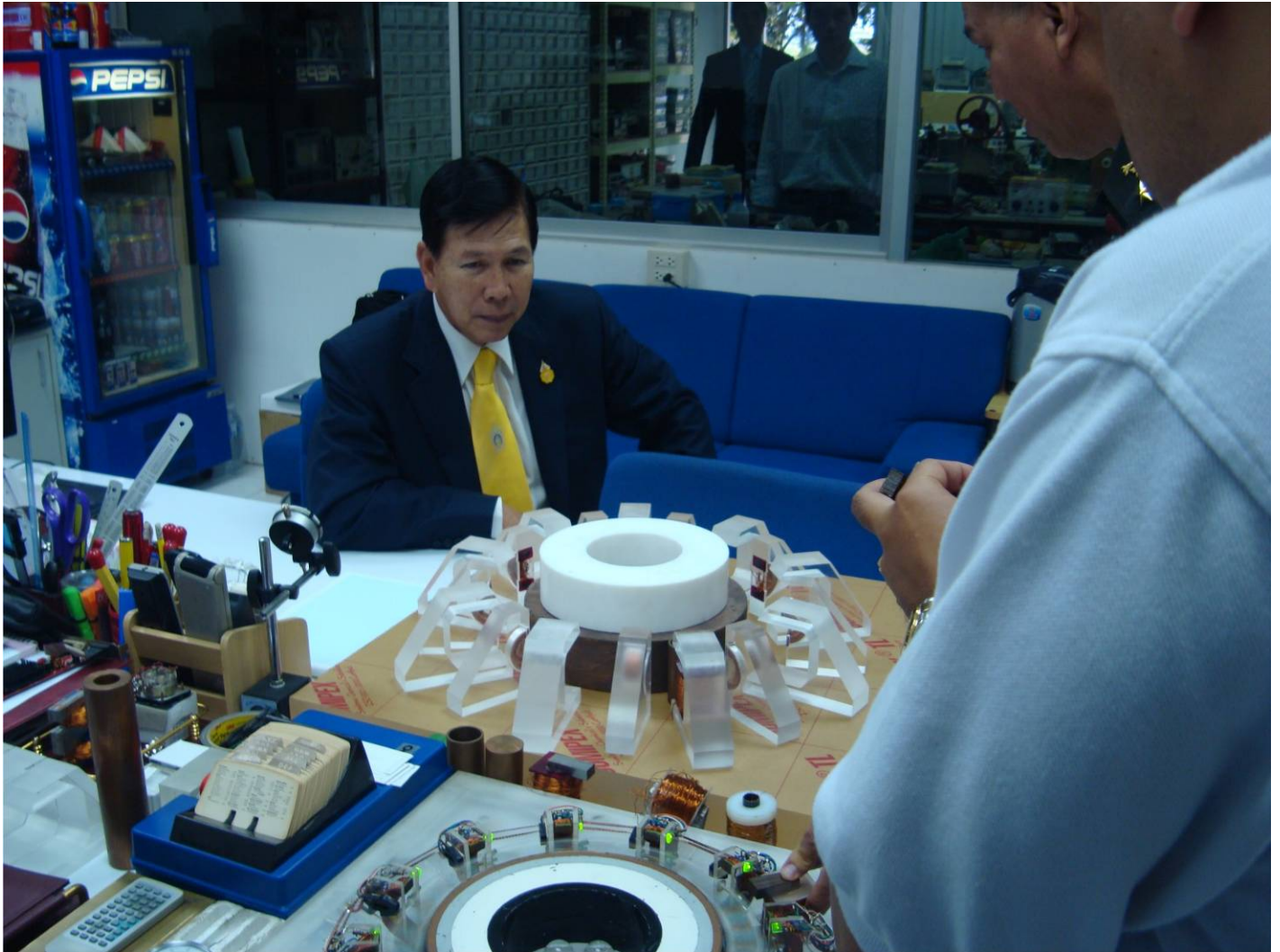
1)   To produce the same change in motion.

2)   To induce the same tendency to turn about any point in the plane.

The magnitude of the resultant and the position of its line of action in the body can be found using the principle of super-position.

That states that:

The total effect of the system = the sum of the effects produced by each part acting separately.

In this case: is a special case where all the forces are in the straight line, I take the ***ALGEBRAIC SUM***.

Also total tendency to turn about a point (the resultant moment) = the sum of the turning effects of the separate forces about the same point.

Page 17.65

Because force is directional, so the moments will be directional, they will be either clockwise or anticlockwise, as the mock-up demonstrates, and therefore, must be added with regard to sense.

The movement diagram 5, page 17.64: shows how the separate effects can be added by imagining movement of the body proportional to force magnitude as follows:

FORCE 1: acting alone would move the body along a – b

FORCE 2: acting alone would next move the body along b – c

FORCE 3: acting alone would next move the body along c – d

FORCE 4: acting alone would next move the body along c – d

The same total effect could be made simply by moving along $a - a^1$.

This movement would be made by a single force directed along $a - a^1$, and this single force is the resultant R.

I accept the opinion that I have done more then enough upon this issue for now, and its time to tackle another of the many problems which is available in such a project as Star ship Explorer, let alone its model testing rig to be I.G.V. 42.

This document has been released to the public by the authority of:

Prof. John Roy Robert Searl: Head of research and development.
Division: Tomorrow's Energy and Transportation Systems.

S.I.S.R.C. – GLASGOW – SCOTLAND

LOCATION   :   Headquarters – Glasgow – Lanarkshire – Scotland.
DIVISION   :   Medical
SECTION   :   Manned Flight
SUBJECT   :   Moisture Lesions / Pressure Ulcers
DATE   :   12TH December 2008.
AUTHOR   :   Prof. John Roy Robert Searl
STATUS   :   R&D Human Studies.

LEARNING OBJECTIVES:

1)   **Identify the differences between pressure ulcers and moisture lesions.**

2)   **Identify how Swallow Command and S.I.S.R.C. divisions shall cope with the management of moisture lesions which may differ from that of pressure ulcers.**

This document discusses the difference between pressure ulcers and moisture lesions.

It explores the causes: according to my knowledge; of these skin problems and hopefully will highlight the need for flight staffs care plans to reflect the underlying cause of the problem.

I appreciate the views of those who think such things are not important, therefore I should not be discussing these issues here.

Really – that surprises me – so they don't mind going to Mars to work for a year or two with an arse loaded with pressure ulcers or moisture lesions – in that case enjoy them – like I have to here on planet Earth – thus I am talking from actual experience what its actually like to suffer from them; you are sure welcome to them.

ULCER   (ul-ser) n

A break in the skin or in the mucous membrane lining the alimentary tract that fails to heal and is often accompanied by inflammation.

DECUBITUS ULCER   (bed-sor) n

Decubitus ulcer, pressure sore; often relates to bed sores.

An ulcerated area of skin caused by continuous pressure on part of the body in a bedridden patient; don't be fooled by that statement; because as yet I am not bedridden – but I suffer from them – agree its due to prolong pressure on the skin over time – in my case it's sitting for hours per day at this PC.
In that case why don't I stand – I have tried that; big problem keyboard difficult to work from standing up.

I am fully aware that the answer is the requirement of careful nursing is without doubt necessary to prevent local gangrene.

In my case that's impossible: as in the first case, I cannot see the problems; secondly case; with serve arthritis of the neck, arms and hands not much chance to deal with them in a manner; that I can care for others in the same boat. There goes that law of the square again needs two to tango.

The patient's position should be changed frequently, and the buttocks, heels, elbows, and other regions at risk kept dry and clean.

Have you ever tried to sit for over 12 hours per day; on a hard seat – better still have you tried to sit just on one buttock for an hour, then change to the other and so on. Guess you have not – nor have I – I would find it most uncomfortable and extremely tiring to achieve on the time factor in which per day I am sitting.

Yes, I have cared for patients in hospital and know what the problems were like on the wards; thus it is a subject I am experienced in and, can appreciates what Swallow Command must consider in its long term missions into space requires.

Introduction:

I am aware that wounds on the sacrum are often classified as pressure ulcers and little thought is given to whether pressure is the true cause.

I am aware that there are other reasons why wounds occur in this area.

They are often related to incontinence, which can lead to incontinence dermatitis (ID) or incontinence associated dermatitis (IAD).

I am aware that ID is widespread superficial damage that is the result of episodes of incontinence.

Agree that the whole sacral area can be red and angry, with multiple diffuse lesions.

LESION   (lee – zhǒn) n.

A zone of tissue: with impaired function as a result of damage by disease or wounding.

I understand that many practitioners still fail to differentiate between this and pressure damage; unfortunate within the S.I.S.R.C. complex this status is unacceptable due its very function of operations.

I do bear in mind that some lesions that are attributed to moisture (incontinence or perspiration) present with a much more focused area of damage then pressure ulcers.

There may be a linear wound in the natal cleft between the buttocks or on the cheeks of the buttocks, with a wound often being present on both buttocks (a copy or kissing lesion); I will not include of photo here of my state of health, to prevent a number of people calling to want to see if the photo is true or not.

I agree that it is important to identify the cause of lesions as the treatment and management of pressure ulcers and moisture lesions differ.

NOTE: A moisture lesion will not heal if treated purely by pressure reduction / relief; to that I can confirm is true.

However, the presence of moisture may increase the risk of pressure ulceration so some pressure ulcer risk management is required Flowerbower.

TABLE 1. SHAPE OF SKIN DAMAGE (DEFLOOR ET AL, 2005)		
Pressure ulcer	**Moisture lesion**	**Remarks**
• If the lesion is limited to one spot, it is likely to be a pressure ulcer. • Circular wounds or wounds with a regular shape are more likely to be pressure ulcers; however, the possibility of friction injury has to be excluded.	• Diffuse different superficial spots are more likely to be moisture lesions. • In a kissing ulcer (copy lesion), at least one of the wounds is most likely caused by moisture (urine, faeces, sweat or wound exudate).	• Irregular wound shapes are often present in combined lesions (pressure ulcer and moisture lesion). • Friction on the heel may also cause a circular lesion, with full thickness skin loss. The distinction between a friction lesion and a pressure ulcer should be made based on history and observation.

By the way; I have never met a woman who can look straight at my eyes and state that she is happy with her bum; they would sooner pay out many thousands of dollars to make changes – strange as they can not see their own bum so why pay out such money in the first place.

Where most men accept the reality that they can not see their own bums, so why worry about what others think about it.

Agree that we all would like a perfect bum, but in reality that cannot be guarantee; and you like me should accept reality.

So we have to accept that in reality, due to how we treat our bums; they may respond in a manner that is not so appreciated by our brains: that respond with an excitement which through arbitration has been labelled as pain.

But the domain of the medical world appreciate that fact and at least in the UK most healthcare environments now have good access to specialist beds, mattresses and seating, and most patients are routinely assessed for their pressure ulcer risk.

I can confirm: that in my days on the ward every patient were checked for bed sores risks regardless.

Some of you will have already experienced that unfortunately, the symptoms of incontinence are often managed with pads rather than the cause of incontinence being investigated.

That is one issue that really concerns me about flight crews on 5 years or longer missions at a time, some of which might run well over 20 years. Is this problem of incontinence?

Going to Mars or even thinking going beyond Mars, we better start to re-think upon this issue, for I can not list any date or time where one will commence such a problem, it can be at any time and at any age.

We have no experience whatsoever of how our bodies will cope with such a trip and such a length of time working on planet Mars, that is, if we get there. Everything we do for such a trip will be assumed; base on our findings from robotic observations; evaluated from data obtained from other investigations.

All I can do at this stage is pray that we get our sums right the first time.

This means that patients do not receive interventions to resolve or reduce the problems caused by moisture.

In reality of flight; I have to accept the fact that without risks there are no rewards; no hope, no future progress for the next generation to extend.

DEFINITION OF MOISTURE LESIONS:

During late 1968 when at a committee meeting I proposed that moisture lesions should within S.I.S.R.C. complex be differentiated from pressure ulcers.

This was based upon my own experiences upon the wards, and that grading system was really needed as from my observations such damage differed between patients.

It is apparent from many of the photographs of pressure ulcers which I have reviewed over time that the impression upon my mind that a large proportion of the wounds identified as examples of grade 2 pressure damage were not real pressure ulcers but lesions related to moisture and not forgetting the possibility of friction.

It was this impression upon my mind that concerns me and I felt that this lack of differentiation inflated the number of pressure ulcers and lead to in appropriate management.

Even with me; the medical world made great mistakes and their management of my problems failed to be of value or beneficial which ever term you prefer to use. But that is another document for the future.

This view that I high lighted at my meetings and in my books of the time; that accurate identification of causative factors is critical to effective skin care as good management begins with the correction of causative factors.

This was aimed at S.I.S.R.C. complex – especially at Swallow Command operating; deep space penetration requires absolute accuracies in all records upon any form of illness on flight. In fact – I went even further by stating that a daily medical record be filed upon each flight member, regardless of who and what they are.

Dr. Brooke agreed with the contents of that document; that I had a good understanding of problems that might or will effect crew members on long missions; and that my suggestions as to procedure was great thinking. THANK YOU Dr. Brooke for your encouragement in the work, and I hope you will remain alive to see such event taking place: which you well understand that I have done everything possible for the safety and well being of the crew.

I appreciate that to prevent pressure damage, the most important factor is to reduce or relieve pressure.

To prevent moisture damage, the most important factor is keeping the skin clean, dry and well hydrated.

Clearly, these are very different management options.

S.I.S.R.C. complex clinically: must separate identification of moisture lesions make sense.

They do not follow the same pattern as pressure ulcers.

FACT for example, they are not found over a bony prominence and can occur in areas of low pressure.

I understand there has been some debate about whether there can be a true definition of a moisture lesion. This situation was generated by a study of 14 histopathological samples from patients with both pressure ulcers and incontinence lesions.

Although the results clearly identified two distinct histopathologies – an ischaemic pattern and a pattern of irritation – it was therefore concluded that this was insufficient evidence to justify the use of the term moisture lesion and it was suggested the use of the term could be dangerous as it may lead to inadequate pressure ulcer prevention.

Here we witness the same like condition as I get over the S.E.G. the experts knocking down the findings of those who they consider below them to protect their status.

My reply is simple; that this conclusion seems inappropriate as incorrect identification of cause is likely to lead to inappropriate management and pressure ulcer prevention should be based on the level of the patient's measured risk rather than the existence of a wound on the sacrum.

This is the reality, that if there are distinct histopathological differences, then to my mind; there is a different cause and therefore a different diagnosis that would initiate different management. Such understanding is vital to be able to get the design operation of Star Ship Explorer absolute correct – agree there are hundreds of major issues about what will or should be accounted for in such a mission as to Mars or beyond, and that until we have been there we shall never know for certain if we failed in any respect upon that mission in the design, planning and the execution of that mission.

Only time can certify if our judgement was correct – agree that we learn more from our errors then from the successes – but upon such mission of this nature – the last thing I wish to learn is from an error of judgement.

Clinical identification of moisture lesions:

At my committee meeting upon the manned flight proposal project then title Star Ship Ezekiel MK V that took place late 1968, at Mortimer in Berkshire – England. I suggested that nurses who would be train for flight missions should be tested to assess their ability to grade pressure ulcers throughout the S.I.S.R.C. complex and to my mind at that stage that they also to be able to differentiate between pressure ulcers and moisture lesions.

There has, I agree been a unit who carried out a two-phase study using a standard set of 56 photographs of wounds. To my mind that is not good enough – I need to see the actual problems to make a judgement. As I understand it that in the first phase of the study, a random selection of nine photographs from the set of 56 photographs were shown to 473 nurses.

My understanding that in the second phase, all 56 were presented to a different set of 86 nurses at baseline

To my understanding and again after a one month interval, I understand that the photographs were presented in a different order on the second occasion.

The verdict was precise according to my expectations that the study found that nurses find it difficult to classify the grade of pressure damage and also had difficulty differentiating between pressure ulcers and moisture lesions; comes as no surprise to me.

What is needed is a gauge system that will measured off in units – thus a nurse can place that template over the damage and read off its grade; thereby all readings would be similar no matter which nurse undertook the check out. The problem I have always recognised is that we all see differently in some way or another and our thinking varies too.

Nursing should be identical to any engineer operating in the domain of engineering he / she need the measuring tools to get the components precise measurements; they cannot rely upon their eyes to define a product size, because they will end up as scrap.

Nurses can only do what they believe is what is required of them – observations may not prove enough to obtain a precise accurate picture of the patients problem. In most cases, contact with the body is necessary, but in the UK with todays laws. This could be a problem in deterring an accurate picture of the true problem of the patient being possible – thanks to the level of insanity of those experts who are in charge.

These findings of a lack of inter and intra-rater reliability to my knowledge has been echoed by many other authors.

I am also aware of a group who carried out a large survey of 1,452 European nurses to study the inter-observer reliability of the EPUAP pressure ulcer classification system and also the ability to differentiate between moisture lesions and pressure ulcers.

Now I guess that you are wondering as to what that verdict of that study was.

It appears that they concluded the differential diagnosis between pressure ulcers and moisture lesions is complicated and that definitions and unambiguous descriptors should be developed and used.

To my understanding, the pressure ulcer classification system was devised to help clarify both pressure ulcer grading and the difference between pressure ulcers and moister lesions.

Also am aware of the e-learning materials that tested with 212 qualified nurses and 214 student nurses.

Swallow Command nurses must be able to deal with differential factors such as: causes:

(1) Location: (2) shape;   (3) depth;   (4) necrosis;   (5) edges;   (6) colour
    Of the wound.

S.I.S.R.C. complex descriptors should provide for each category to allow the clinician to identify the type of wound.

I have given you an example in the table on page 17.69; which I sincere trust that it will help you to understand much better as to what I am stating in this report.

Photographs should without question be taken of wounds so that a record of progress can be observed over time in the effort to find a solution that actually work for that patient.

Combined presentation:

I can understand that although the descriptions seem clear – and differentiation therefore straightforward – in reality this is frequently not the case Flowerbower in clinical practice.

A very common presentation is a combined lesion, where the patient has one or more wounds with elements of both pressure and moisture damage.

For example:

In a patient who is immobile and has continence problems or who has pressure damage and a heavy exuding wound.

It is important to be aware of all the causes of skin damage, assess the patient's risk and plan management accordingly.

Importance of continence care:

Prevention and management of pressure ulcers has attracted a great deal of attention and resources but unfortunate the same cannot be said for the management of incontinence; from what I have observed – **WHY?**

I feel that the real answer to that statement is that incontinence is frequently accepted as part of ill health, ageing and hospitalisation.

I also feel that in many instances, incontinence is simply managed with pads rather than the cause of the incontinence being investigated and interventions initiated, incontinence remains a taboo subject – and we know who to blame for that status – don't we?

I appreciate the fact that the prevalence of urinary or faecal incontinence is largely unknown and, where surveys have been undertaken, it is to my knowledge accepted that the figures are very much underestimates.

Outbreaks of specific types of diarrhoea – for example; those related to *clostridium difficile* raise the profile of faecal incontinence but this can lead to an assumption that all incontinence is manageable with antibiotics.

To my knowledge this is not the case for most patients with incontinence.

My conclusion:

S.I.S.R.C. complex clinicians should develop assessment skills and management strategies to manage pressure ulcers, moisture lesions and also the combined lesion.

In this way, flight crew of Star ship Explorer on long term missions: in this way, best use can be made of resources and patient pain, suffering and loss of dignity can be avoided

Lost of dignity relates to insanity – no other animal in the world to my knowledge suffer with this complaint. If you are that ill – dignity doesn't enter the equation – getting you well with a better lease of life is the only equation to be solved – and boy S.I.S.R.C. is determined to solve all problems which include your problem of so called dignity which has a very simple solution – forget it and get better!

Indeed I have really arrived at the end of this document – but will check it first before signing out.

Since 1968, I have not been able to keep abreast with medical progress as such due to the shear cost involved and not because I have lost interest in the subject. The opposite is true and thus some of the details quoted within this book based upon what I knew at that time. Yes, I have in this book given you details that you have been reading that show some of the latest pictures upon an operations I underwent in Thailand: which was one way to understand the progress which has been made in the domain of the medical world. The actual video of that whole operation sadly to quote, you are not likely to see as I have no idea how to put it on the web.

A few lines back in this document I made a quote – *__Clostridium difficile__* at this stage I cannot tell you much about this baby; as I wish I could but can enlighten you on what I did know then:

CLOSTRIDIUM   (klo-strid-iǔm) n.

A genus of mostly Gram-positive anaerobic spore – forming rod like bacteria commonly found in soil and for interest sake found also in the intestinal tract of man and animals – why I stated man from animals; even though he is an animal, sadly to state that today so many of them are worst then the rest of the animal kingdom, and that is an understatement. Where most of you think of man as something special, something different and that some god created him. Let me assure you that no god create me just a man and woman did the job then the man cease to have interest in the result of his action.

Clostridium botulinum:

A species that grows freely in badly preserved canned foods, producing a toxin causing serious food poisoning.

Clostridium tetani:

A species: that causes tetanus on contamination of wounds.

Clostridium perfringens (Welch's bacillus)

A species: that causes blood poisoning, food poisoning, and gas gangrene.

Sorry not much I can recall at this time as I am far too over worked, and far too much worry to cope with. With the flu containing a real headache to enjoy – I have a job to define if the Co-Dydramol is killing the pain or is the pain killing the Co-dydramo instead.

This is the important subject, at this time we do not know enough about man to send him to Mars to work.

This document has been release to the public by the authority of:

Prof. John Roy Robert Searl - Head of human studies.
Swallow Command – Manned Flight Division.
Date: 12th December 2008
Project: Star ship Explorer – Model IGV42.
PROJECT R&D to be carried out at NST HQ Thailand.

S.I.S.R.C. – Mortimer – Reading – Berkshire – England.

LOCATION : *Headquarters – Mortimer – Berkshire – England.*
DIVISION : *Tomorrow's Energy and Transportation Systems.*
DATE : *28th August 1947.*
SUBJECT : *Current.*
AUTHOR : *John Roy Robert Searl.*
STATUS : *Superintendent of documents – UK*

The fact that such an attacks of hate towards myself following the mass of publicity via TV, Radio and press came as no surprise to me; those who are failures in life will always result in hate towards those who are successful and it does appear that Flowerbower falls within that category.

I have inserted this report for the benefit of those few idiots out there who actually believe they are experts and that I agree with them on some issues but not in quite the same way as they state.

Question which has been used to try to stop this work over the years was that I had no formal education.

Now, I take it they talking about early school education, which is a strange thing to say considering that with all their education, it is clearly blowing their brains out, they have yet to be able to make the S.E.G. nor can they do the mathematics at the speed I do. They cannot even work it out, so what education have they got that makes them claim to be experts on the subject – bullshit?

These online books on the web, adds to nearly 100 other books written by me over the years plus 100 newsletters which were released. I have given the world a true insight how I was successful, where others have failed.

By re-writing this newsletter in Chapter 17 of the book on the web will help you to follow my steps of learning – that is self taught with real hands on experience.

The newsletter was released from Mortimer in bulk form in 1953, before that date others released them for me.

By releasing this information again, I am hoping it will help those real people to understand how a boy with no formal education as is commonly known was able to do it.

Just a quick recap – Searl had two types of dreams that operated in a precise way, therefore he classed them as dream 1 then dream 2. These covered a time slot of six years, upon that last one, his dream 1 commenced without him being aware of it.

That date was the 5th of July 1944 and clearly, Searl had no idea what lay ahead of him. All that he understood is that he was going to a naval school to train for a sea life. Exciting, what child would not had been so, remember that he had no knowledge of mains electric lights, or tap running water, or flush toilet, and certainly never been stripped naked before a number of strange boys and a strange woman who would be washing him and checking his body out. This strange new world to Searl would be a great shock to the world he had just left; it was impossible to compute – they were opposite worlds.

Reality had made its first strike upon Searl's mind – that in the world of a child, adults enjoy filling their Brains with crap, in some belief that they are protecting them – where in reality they are not – they are generating serious problems for the child as Searl discovered.

At the naval school, he did well; now bear in mind that he never had any real education, but he sure is getting it now, from every angle – the real world – not dream world of Suffolk.

Then the war with Japan ended on the 2nd September 1945, therefore in reality Searl training was no longer urgent. His health deteriorated to a point of concern with the doctor that it would be best to discharge him on the grounds that he was too ill to continue training as he spent more time in sick bay now with this added unknown disease which eat away the flesh.

Then on the 17th June 1946 he departed from that naval training centre to cease just being a number and a machine; to something called a civilian; with the only sex lesson of 5 minutes – which I now was going out into the world – one day I will meet a girl and marry here and have a baby.

O my God: can't afford a baby so just keep away from girls – and I sure did – from that time, girls keep away from me – how strange that the law of the squares are so precise that there are always two main states and they are opposite and revisable.
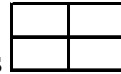
So that was how I became to be arriving at this company on that day – having no idea what to expect which of cause is exciting in itself. As I recall it, I was the only boy there – when I say boy I mean all the others were old men in relation to me who welcome me into the team.

I can recall the images of those men today; they agreed teased me, which I have grown to accept as normal behavior of older men to new comers. Example; give you a document for materials to take to the stores – unknown to me that it stated for a long wait which the store man perform to the best of his capabilities.

Strange that such action actually excites old men minds – what they forgot was while waiting for a long wait I was being paid 9 pence per hour doing nothing – where in reality I should had been winding coils of wire. Well you cannot complain too much about pay to do nothing can you?

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As you know on that first day of training, dream 1 contents was stirred up by the contents of a store document request being 1.5^2, that superscript was the problem. You do not see the problem – well you certainly cannot see it because you have not yet had the triggers needed to see the invisible – because you not intended to see it.
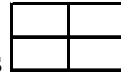
What the foreman showed me when question this: was this [grid] my brain was saying to me that each cell must have a value – I might have been dumb at that moment in time, I can certify that is going to change.

I now actually understand that wire is important for some unseen force that you can actually feel if you are stupid enough to check that issue out.

But I had to due to the nature of this work and also understanding that there is another force present that goes by some strange term of magnetic – interesting indeed I cannot see these two forces but can understand that one is a by product of the other and related by function.

As an apprentice; I am expected to undertake some time at home to study – and you guessed it – I sure did flowerbower – not only by text but by hands on experience as well. Mrs Tregoning, my landlady of that period without doubt learnt that this lodger was possessed with electricity and magnetism, lengths of wire and hot soldering irons that create a horrible smell; quite different to that smell of Searl breaking wind.

What with walkie talkers and other devices like transmitters and receivers, little was she aware that he was also an expert in improving the air ventilation of her home – which she will discover on Christmas morning.

Now that you have basic recollections of the facts of Searl's past life, we shall proceed to how he got his knowledge – it's a long story – but it answers your misinformed knowledge.

CURRENT:

INTRODUCTION:

Electrons Flowerbower involves that science which controls the behaviour of electrons so that some useful function is possible.

As this definition implies Flowerbower, better wake up as I am teaching you so you can become intelligent for a change, that the electron is vitally important to electronics and well as the SEG.

In fact, the word electronics derives from the word electron.

Electricity comes to our homes and offices which now I am aware of by the movement of electrons through wires – that is amazing Flowerbower – a solid length of wire – you can't feel or see anything important about it – yet something termed electrons can move through it.

Actually, electric current is nothing more than the movement or displacement of electrons.

Obviously then: to understand electronics. Searl must first understand the nature of the electron.

In this document upon Searl's education, he will explain his understanding at this stage for you to see how he was able to do what you cannot do Flowerbower.

He will show you what the electron is, how it behaves, and how he can use it to perform useful jobs.

According to his understanding at that time, he will also learn how to measure the flow of electrons.

However, before Searl get involved with the details of electron theory, he had first to take a quick look at the overall field of electronics.

Guess you can understand this requirement, as that will give him a better idea of how electronics is used and why he should study this interesting field.

The detail objectives listed below state exactly what Searl was expected to learn from that study material.

Searl's unit objectives;

1) *To define electronics and list five different fields into which the broad field of electronics is divided*

2) *To define: DC, AC, Molecule, element, atom, electron, proton, neutron, nucleus, and ion.*

3) *To state the electrical charge associated with each of the following: atom, electron, proton, neutron, nucleus, ion*

4) *To draw a simple diagram of the Bohr model of the atom identifying each part.*

5) *To state Coulomb's law and explain how like and unlike charges behave.*

6) *To define: coulomb, ampere, conductor, insulator, valence, and current.*

7) *To draw a schematic diagram of a simple circuit from a pictorial diagram of that circuit and indicate the direction of current flow.*

8) *To express numbers in powers of ten, express quantities using metric prefixes, and convert from one metric unit to another.*

9) *To demonstrate the proper method for connecting an ammeter to a circuit and measure current.*

Yes, Searl had much to learn in a very short time – if you are not educated in this domain, then rest assured that I understand that you might be wondering what all that has to do with the S.E.G – well in all honesty – EVERYTHING – that is correct!

This learning curve included component parts as well and I will attempt to present these details as received at that time. I guess that makes your eyes water to hear that Searl can actually display something here of yesterday, that belongs to a time so long ago just to confirm to idiots like Flowerbower and company that he don't talk out of his arse as he tries to impress viewers on YouTube that Searl never had such knowledge or equipment.

He sure did have and infact that meter shown at the heading of this article sits here and still works – some meter.

You should by understand now, that Searl had no option but to study hard for his job sake, which in turn made him experiment. An enquiring mind is quite a normal function to see happen which I agree, but that putting of holes through rooftop is not a normal practice – so one has to accept the fact that inventing is not normal and accidents will happen, due to that fact!

| KEY No.	PART No.	QTY.	DESCRIPTION

RESISTORS (composition)

KEY No.	PART No.	QTY.	DESCRIPTION
A1	1-2	1	68 Ω 1/2 w 10% (blue, gray, black, silver)
A1	1-3	1	100 Ω 1/2 w 10% (brown, black, brown, silver)
A1	1-6	1	470 Ω 1/2 w 10% (yellow, violet, brown, silver)
A1	1-35	1	1 MΩ 1/2 w 10% (brown, black, green, silver)
A1	1-40	1	10 MΩ 1/2 w 10% (brown, black, blue, silver)
A1	1-58	1	22 KΩ 1/2 w 5% (red, red, orange, gold)
A1	1-60	1	68 KΩ 1/2 w 10% (blue, gray, orange, silver)
A1	1-80	1	1200 Ω 1/2 w 5% (brown, red, red, gold)
A1	1-90	1	2000 Ω 1/2 w 5% (red, black, red, gold)
A1	1-105	1	10 KΩ 1/2 w 5% (brown, black, orange, gold)
A1	1-123	1	100 Ω 1/2 w 5% (brown, black, brown, gold)
A1	1-137	1	200 Ω 1/2 w 5% (red, black, brown, gold)
A1	1-172	2	1000 Ω 1/2 w 5% (brown, black, red, gold)

NOTE: The following resistors are in the envelope labelled:
RESISTORS FOR EXPERIMENT 4 or R For Exp 4.
Return these parts to the envelope after you have checked them.

KEY No.	PART No.	QTY.	DESCRIPTION
A2	1-1-1	1	470 Ω 1 w 10% (yellow, violet, brown, silver)
A2	1-2-1	1	1000 Ω 1 w 10% (brown, black, red, silver)
A3	1-4-12	1	2200 Ω 1/4 w 10% (red, red, red, silver)
A3	1-8-12	1	4700 Ω 1/4 w 10% (yellow, violet, red, silver)
A3	1-10-12	1	15 KΩ 1/4 w 10% (brown, green, orange, silver)
A2	1-11-1	1	10 Ω 1 w 10% (brown, black, black, silver)
A4	1-13-2	1	220 Ω 2 w 10% (red, red, brown, silver)
A3	1-13-12	1	560 Ω 1/4 w 10% (green, blue, brown, silver)
A4	1-20-2	1	100 Ω 2 w 10% (brown, black, brown, silver)
A1	1-24	1	33 KΩ 1/2 w 10% (orange, orange, orange, silver)
A1	1-29	1	220 KΩ 1/2 w 10% (red, red, yellow, silver)
A1	1-43	1	4700 Ω 1/2 w 5% (yellow, violet, red, gold)
A1	1-49	1	22 Ω 1/2 w 10% (red, red, black, silver)
A1	1-54	1	15 Ω 1/2 w 5% (brown, green, black, gold)
A1	1-57	1	2200 Ω 1/2 w 5% (red, red, red, gold)
A1	1-64	1	5100 Ω 1/2 w 5% (green, brown, red, gold)
A1	1-105	1	10 KΩ 1/2 w 5% (brown, black, orange, gold)
A1	1-129	1	4.7 Ω 1/2 w 10% (yellow, violet, gold, silver)
A1	1-139	1	100 MΩ 1/2 w 20% (brown, black, violet)
A1	1-141	1	1000 MΩ 1/2 w 20% (brown, black, gray)
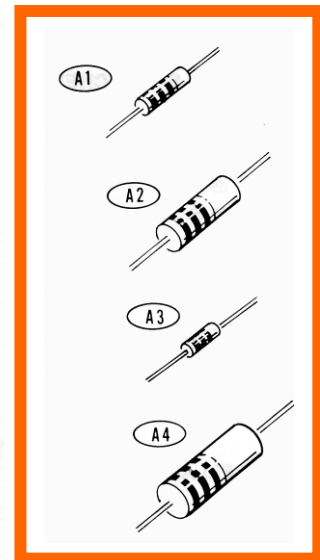
PARTS LIST

This parts list contains all the parts used in the experiments which you will perform with the course.

The key number in the parts list corresponds to the numbers in the pictorial.

Some parts are packaged in envelopes.

Except for this initial parts check, keep these parts in their envelopes until they are called for in the experiment.

Parts List EE-3101

KEY No.	PART No.	QTY.	DESCRIPTION

RESISTORS (precision)

A5	2-58	1	1000 Ω 1/2 w 1%
A5	2-131	1	10 Ω 1/2 w 1%
A5	2-159	1	100 Ω 1/2 w 1%

RESISTORS (special purpose)

A6	9-6	1	Light Dependent Resistor
A7	9-32	1	Thermistor
A8	9-34	1	Thermistor

CONTROLS-SWITCHES-RELAYS

A9	10-237	1	200 Ω linear control
A10	60-2	1	Slide switch (DPDT)
A11	65-24	1	Magnetic Reed Switch (SPST)
A12	69-50	1	Relay

CAPACITORS (electrolytic)

A13	25-54	1	10 μfd 15V
A14	25-98	1	50 μfd 15V
A15	25-157	1	500 μfd 15V

MISCELLANEOUS

A16	331-7	1	Solder package
A17	344-59	1	10 feet of #22 solid wire
A18	406-4	1	Compass
A19	412-16	1	#49 light bulb
A20	421-27	1	1/16 amp fuse
A21	434-21	1	Light socket
A22	474-1	1	Permanent magnet

OR

A5

A6

PARTS LIST

A8   A9   A10

esistor

A11   A12   A13

h (SPST)

A14   A15   A16

wire

A17   A18   A19

A20   A21   A22
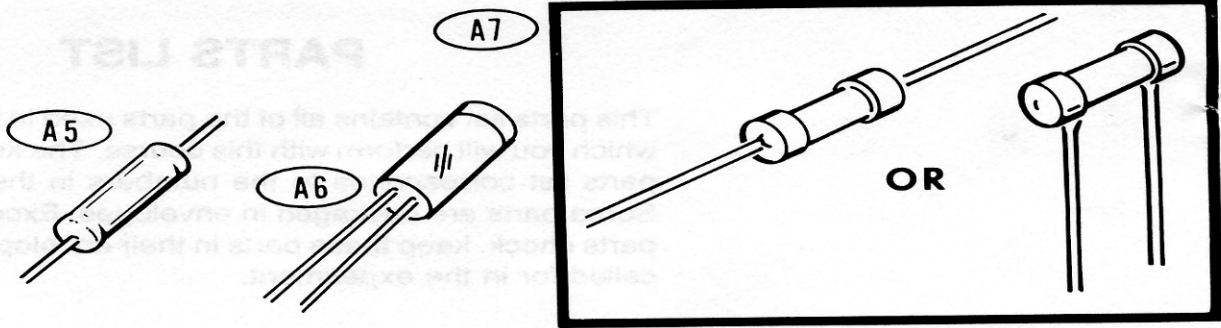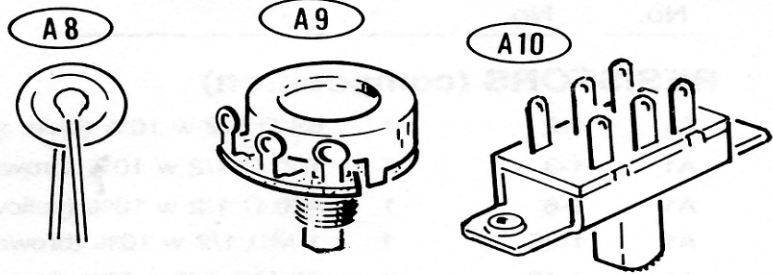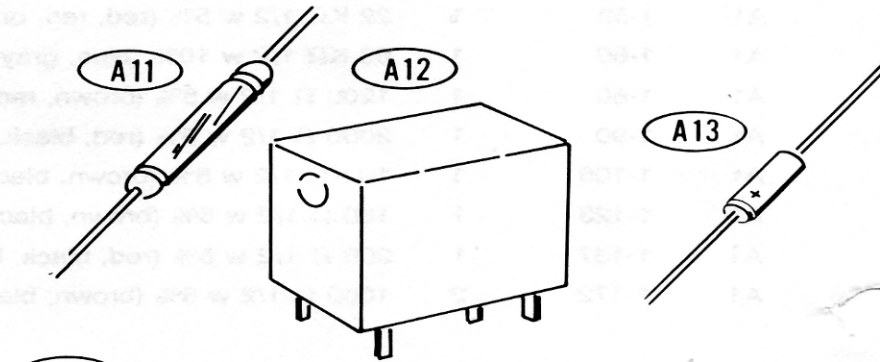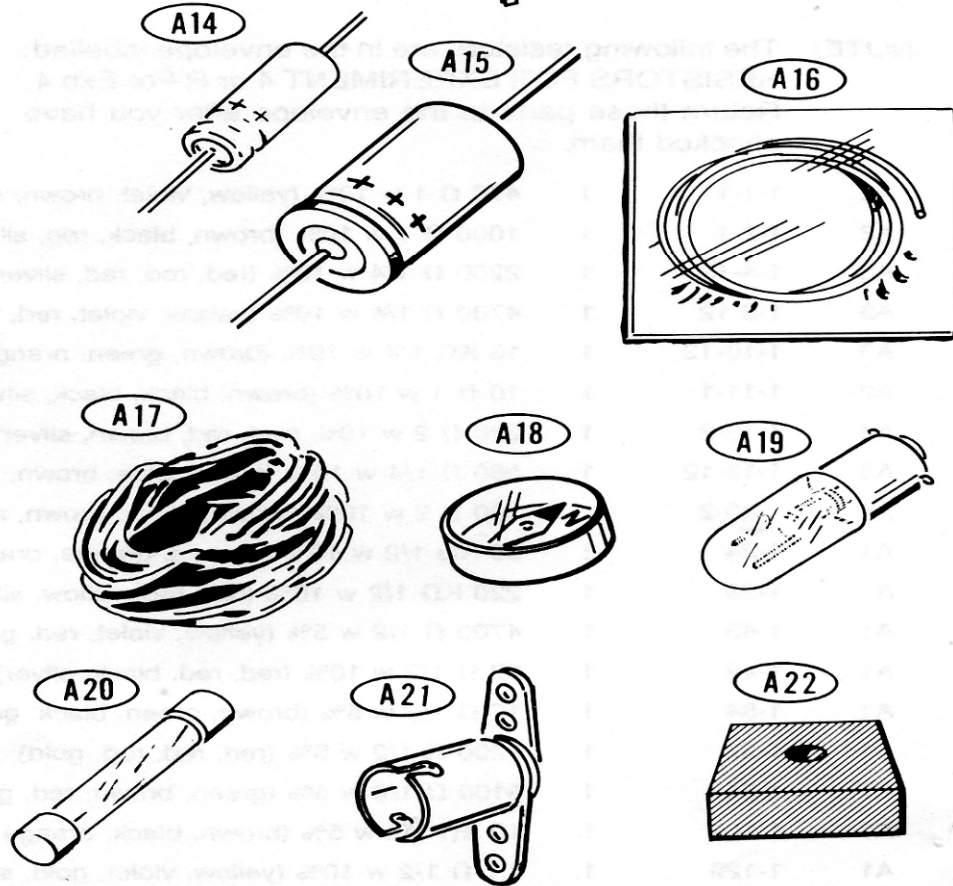
Course objectives:

When I have completed this course, I shall be able to do the following:

1) *I will be able to solve basic electronic problems involving current, voltage, resistance, and power*

2) *I will be able to discuss the relationship between electricity and magnetism.*

3) *I shall be able to convert from one metric prefix to another and to work with powers of ten*

4) *I will be able to explain the relationship between current, voltage, resistance, and power.*

5) *Given a wiring diagram of a circuit containing components such as resistors, relays, switches, lamps, batteries, and capacitors, I will be able to draw an equivalent schematic diagram.*

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

7) *Using a schematic diagram as a guide, I will be able to construct DC circuits with components such as resistors, relays, switches, lamps, batteries, and capacitors.*

8) *I shall be able to demonstrate basic safety procedures designed to protect myself and my test equipment.*

9) *I will be able to use a multimeter to measure current, voltage and resistance.*

10) *I will be able to build and experiment with basic DC circuits of my own design.*

Flowerbower, I know who you are and I know that you have no idea what I am talking about above because it is not your subject is it; just by the things you buy, what shops you buy from and how much you paid for the goods even the date by which you brought them.

How stupid of you to use the same name Flowerbower in your shopping system. You see because of that, we can watching your address, watch where you go and I guess that is where you actually work. You see Flowerbower I know who you are and if you think I don't I can place you list of shopping up on this site; so all can see what you brought, where, when, your address and plus some other bits of interest which will surprise our readers no doubt.

Every one can see that you are a loser; you go out of your way to make that point clear, so before you come before the courts on charges of slander / libel, back off and save time appearing in court that will make you wish that you had stopped your insanity when you had the chance. After all, you have had plenty of experience in losing in court action cases, which you were so certain that you would win, so isn't that enough to say time to pack up – you even tried to bribe Brad, yes I know all about your insanity.

In this book, I have been playing with your insanity, but once that roller set runs around that plate the play ends and reality will switch in. I promise you that I shall bounce you so hard in court that you wish you had not been born and I will show no mercy. You have been warned that the fun and games will end in court and if that is the only way, your insanity is to be dealt with considering that everything you have put on the web is downloaded for the court to study, so you will not be able to say that you did not say it.

COURSE OUTLINE;

Unit one.   CURRENT:

You may think that I am joking here – let me make it quite clear this is only the beginning of what you will be seeing through out this book on the web.

So, the best thing for you to do is to load up on drink and food, so you can read all about it without having to take a break; that is if your eyes can stand the time.

This re-writing the past is actually good for me – just reminds me what it has taken to get to this stage – some event!

COMPOSITION OF MATTER:

Controlling the behaviour of electrons is what electronics is all about; which also includes the Searl Effect Generator.

Therefore, an understanding of the electron is vitally important to an understanding of electronic fundamentals.

Electrons are tiny particles that carry the energy to light our homes, cook our food, and do much of our work.

To understand what an electron is Searl must investigate the make-up of matter.

Searl has pointed that out so often that the Searl Effect Generator (S.E.G.) is matter in motion that does the work of controlling electrons – so let's see how Searl progressed.

To Searl; Matter is generally described as anything of weight and occupies space – fair enough.

Thus, the Earth and everything on it classified as matter.

As so often stated by Searl that the law of the squares says that matter exists in three different states;-

  1) **Solid**
  2) **Liquid**
  3) **Gas.**

Examples of solid matter are:

Gold, sand and wood.

Some liquid examples are:

Water, milk, and gasoline.

Some gas examples are:

Hydrogen, Helium, and oxygen.

These examples are forms of matter.

ELEMENTS AND COMPOUNDS:

The basic building materials from which all matter is constructed are - **ELEMENTS**.

Hence, all matter is composed of elements – which I agree – there is one problem with that statement that many may feel that details what they have read of the Searl Effect Generator construction is not true.

I can assure you that the Searl Effect Generator (S.E.G) is constructed from elements regardless, this confusion which may exist with some readers who are not involved in its material construction. Reading that there are 3 layers using elements and one layer using a compound will now be confused at a higher level.

Some examples of elements are iron, carbon, hydrogen, and gold.

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There are just over one hundred elements known to Searl presently, of these only 92 occur in nature.

Yes, you guessed it, these are called natural elements – sorry, I am getting carried away with writing that it had slipped my mind that I have already explain this part in chapter 16 the question is where on earth do I go from here – just have to think what I have already said.

I don't think that I actually showed the questions that I had to answer – so I shall represent them here first:

1   Elements:

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 Man, including Searl.

2   Elements:

A substance that is composed of two or more elements are compounds. Since water is composed of the elements hydrogen and oxygen, water is a -------------

3   Matter is anything that has weight and occupies space. Thus air, metal, and water are examples of ---- -----

4   Molecule:

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 -------------

5   Matter:

Matter may exist as a gas, liquid, or solid. All matter is composed of one or more of the elements. For example: water is composed of two ----------------- called hydrogen and oxygen.

6   Compound:

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

7   Compound:

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 and one atom of oxygen. Thus the smallest particle of water which is still water is a --------------.

8   S.E.G:

The S.E.G. is constructed of matter in the form of 4 layers. How many of these layers are not elements as such ------------------------.

I shall give you what my answers were later in this chapter, so you got time to fill them in before you see my answers. I still have more questions to present on the next page for you to see what is involved with the S.E.G.

Question 8 is one of mine banged in to check if you have been truly studying the released information within this book. I shall now continue with the questions that I had to answer at the tender age of 14 years 4 months 13 days old.

9   Nucleus:

The nucleus of the hydrogen atom consists of a single proton. However, all other atoms have both protons and ---------------- in their nucleus.

10   Element:

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

11   Neutrons:

It is interesting to note that atoms normally have the same number of electrons and protons. Thus, a hydrogen atom has one proton and one electron. On the other hand, a uranium atom has 92 protons and ---------- electrons.

12   Atoms:

The atom is the smallest divided particle of compounds. Since there are only 92 natural elements, there are only 92 different types of ------------ found in nature.

13   92.

14   Protons, electrons, 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 planets rotate around the sun. Thus, If I compare the atom to our solar system, the sun is equivalent to the -------------- of the atom.

15   Atoms:

One type of atom differs from another type by the number of protons, electrons, and neutrons. These are the three basic building blocks of all atoms. That is, all atoms are made up of different combinations of ------------, -------------, and ----------------.

I would like to add another question to that list – which is from my self – only as a matter of interest as to see if you really understand what I have written here.

16   WHY?

Why is atoms made up of combinations of only three components parts?

I have covered the first 14 questions I had to answer from the first section of the course I had to study – agree, that was simple, but remember this is a boy of 14 years with no formal education that is being referred to here and one who has no natural hearing – so he was handicapped from the start.

I have added two extra questions; which has been key subject in this book for you to answer.

ELECTROSTATICS:

Electrostatics is the branch of physics dealing with electrical charges at rest, or 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 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.

This characteristic is their *electrical charge.*

An electrical charge is a property associated with the electron and the proton.

In the field of electronics and electrical works, it the electrons charge that make so useful; including the Searl Effect Generator (SEG)

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 possess that causes these particles to behave in certain predictable ways.

The Law of the squares state that there are two distinct types of electrical charges.

True to form, as the Law of the Squares state, these two types of charges have opposite characteristics; they have been by arbitration given the names positive and negative.

The electrical charge associated with the electron has been arbitrarily given the name negative; I agree that is a good choice as it is easy to remember and not difficult to spell either.

On the other hand, the electrical charge associated with the proton called positive; I accept that term as reasonable as it is also easy to remember and not too bad for spelling.

The neutron has no charge at all – how interesting as that is absolutely as the Law of the squares predicts.

The law of the squares sure was a better teacher than those who operated the schools of my time. Note, I stated my time, because time changes things and now in the year 2009 schools systems have changed and will still change over again as the system grows old just as we do, to give birth to new teachings.

Yes, the neutron is electrically neutral and therefore, plays no known role in electricity.

The Law of the squares defined: that in this universe there exist always two prime states and that they are opposite and there is always the third state of no real value in relation to these two prime states separated by these states is often a thin line. Strange, that in reality the game called hopscotch was my primary teacher and the law of the squares became my secondary teacher.

Page 17.87

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.

Thus, it is the restraining action of the string which holds the path of the ball to a circle.

In this 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.

The gravitational attraction of the sun exactly balances the centrifugal force of each planet.

Thus, the planets travel in more or less circular paths around the sun.

The electron orbits around the nucleus at a fantastic speed.

What force keeps the electron from flying off into space?

It is not gravity because the gravitational force exerted by the nucleus is much too weak.

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.
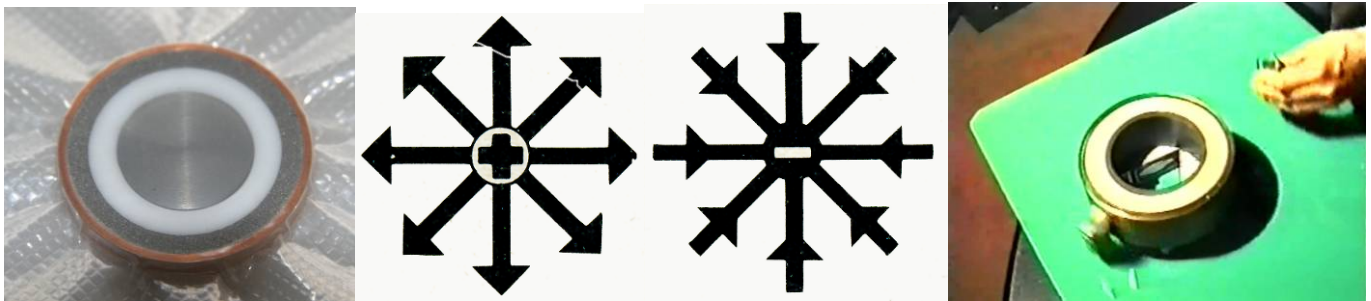
A Proton   *B Electron*
Fields associated with protons and electrons'

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.***

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.

Would it also be true to sate that the roller sets remain attached to the plate regardless of motion by these interaction electric fields?

Figure A: shows a diagram of a proton.

The plus sign represents the positive electrical charge.

The arrows extending outward represent the lines of force make up the electrostatic field.

NOTE: Arbitrarily assumed are the lines extending away from the positive charge.

Compare this to the electron shown in figure B.

The minus sign represents the negative charge; point inward arrows represent the lines of the electric field.

Now let me see how these two fields interact with one another.

LAW OF ELECTRICAL CHARGES:

To my knowledge at that time: the following are the basic laws of nature, it describes the action of electrical charges.

It is termed Coulomb's Law after Charles A. de Coulomb 1736 – 1806 French physicist; I believe he was who discovered this relationship.

Which appears quite simply, Coulomb's Law states that:

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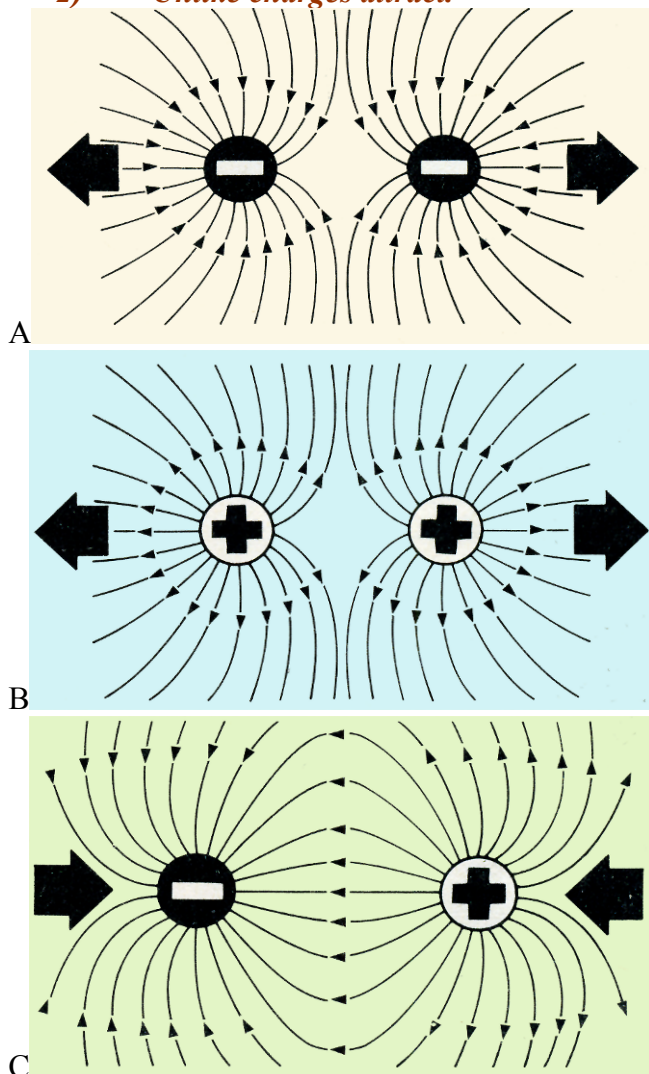**2) Unlike charges attract.**

A

B

C

Figure A – B – C action of like and unlike charges.

A = Electrons repel.

B = Protons repel
C = Electron and Proton attract

Because: like charges repel, two electrons repel each other as do two Protons.

Figure A: illustrates how the lines of force interact between two electrons.

The directions of the lines of force 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 B: illustrates that the same is true of two protons.

In Figure C: 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. Whereas: the S.E.G. has many such charged particles.

However, Coulomb's Law holds true for concentrations of charges as well.

In fact, it holds true for only two charged bodies.

An important part of Coulomb's Law is an equation which allows us to determine the force of attraction or repulsion between charged bodies.

All S.E.Gs are charged bodies regardless of its application functions.

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.

While I need not work actual problems to determine the force between charges, I can see some interesting relationships by examining the equation.

It I experiment with the equation by substituting some simple arbitrary numbers for q_1, q_2, and d^2, I can determine how the force changes as the quantities change.

For example, if the value of either charge doubles, the force also doubles.

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

On the other hand, increasing the distance between charges decreases the force.

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

Figure D: Hydrogen atom.   The boys: who do the research and development work?

The magnitude of the negative charge on the electron is exactly equal to the magnitude of the positive charge on the proton.

Figure D is a diagram of a hydrogen atom H.1: 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.

Atoms which are electrically neutral have no net 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

And, since neutrons add no charge, all atoms are normally neutral as far as their electrical charges are concerned.

However, this **normal condition** can be easily upset by external forces.
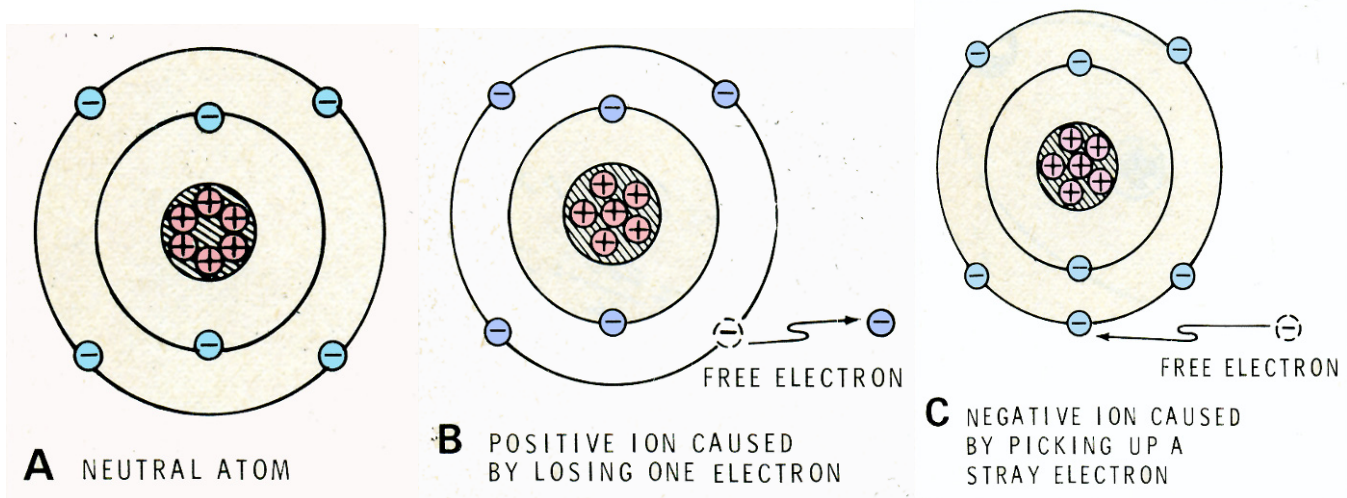
Figures A – B - C: Carbon atom and ions.

THE ION:

Atoms are affected by many different types of outside forces such as that of heat, light, electrostatic fields, chemical reactions and magnetic fields.

The S.E.G. functions because we interfere with its electrical neutral state, through magnetic fields interaction, which in turn is further upset by the movement of electrons through the material – in plain language there is no hiding place for electrons.

Quite often, one or more of these forces upset the balanced state of the atom.

As a result, an atom can lose or gain an electron.

That is the S.E.G. game – losing and gaining at a set time rate relating to voltage pressure movement demanded by outside operations, like switching on lights etc.

When this happens, the number of positive charges no longer exactly offsets the number of negative charges.

Thus, sadly to say that the atom end up with a net charge.

An atom that is no longer in its neutral state is termed an ion.

The process of changing an atom to an ion is termed ionization.

There are both negative and positive ions.

Figure A – B – C compares a neutral atom of carbon with negative and positive ions of carbon.

Figure A: shows the balanced or neutral atom.

NOTICE: that the six negative charges (electrons) exactly offsets by the six positive charges (protons).

The neutrons ignored in this example since they contribute nothing to the electrical charge.

If you found it hard to understand – please keep reading review it until you understand.

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Figure B: shows the condition which exists when the carbon atom loses an electron.

There are many forces in nature beside Prof. Searl 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 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.

I call this a positive ion.

Figure C: shows a carbon atom which 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 net negative charge.

This is called a negative ion.

The ion still has all the basic characteristics of carbon because the nucleus of the atom has not been disturbed.

Can I put that in another way to help you to understand what I am saying here – if I give your bare bottom a spanking: I am disturbing the blood supply – but because of that you do not cease being you – you still have all the characteristics of you – the only difference being that you now have a red bum instead of a white bum I would class that as rather a positive state.

Therefore, an atom can give up or pick up electrons without changing its basic characteristics.

Just like your bum being spanked it gives up electrons, thus turns red; but will slowly pick up again electrons from the atmosphere or clothing and thereby return to white again; but amazing you still have all the characteristics of you regardless.

Thus, changing atoms to ion 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 very large number of free or stray electrons.

Clearly, there is much energy around you that could be use to your benefit – it is our failure to be able to collect this spare energy in a manner to which it can be converted into useful energy.

Wind power, solar cells, water are just a few products; which are today actually being used to our advantage; yet the sea offers a great amount of free energy but not yet put to full use. The source that S.I.S.R.C. complex researching is magnetism; yet to be expended to more efficient mode of collecting energy to convert to useful energy that will benefit mankind.

Unfortunate, one needs to spank a dozen bottoms at the same time to generate enough energy to light a bulb. In reality, your body loses electrons every second of the day, but it picks up quite a few to replace them.

These electrons having escaped from the atom makes the atom a positive ion.

As I will show later, largely the number of free electrons and ions within the material determines the electrical characteristics of different types of material.

ACTION OF ELECTROSTATIC CHARGES:

At one time or another, I have seen or felt the effects of electrostatic charges.

A most spectacular effect sight to see is lightning.

Less spectacular examples when we 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.

Again, the law of the squares is upheld.

This is due to one of the bodies giving up a large number of electrons to the other.

The body that gives up the electrons is positive charged, while the body receiving the electrons becomes negatively charged.

When I comb my hair vigorously with a hard rubber comb, my hair gives up electrons to the comb; that is why I am going bald.

Thus, the comb becomes negatively charged, while my hair becomes positively charged.

That is, the comb collects a large number of free electrons from my hair.
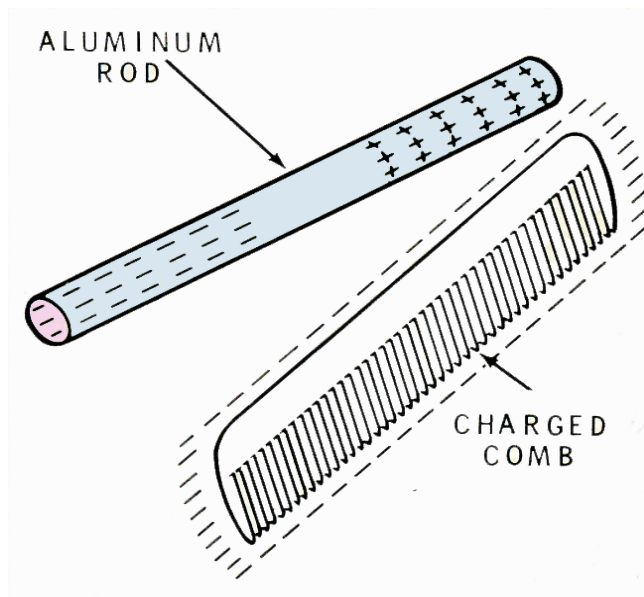
This is an example of charging by friction.

Figure 1. Charging by induction.

There are several other ways in which an object can be charged; without being spanked!

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For example, the charge on the comb can be partially transferred to another body simply by touching the comb to an 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 us to charge an object without actually touching it with a charged body.

Figure 1, shows the negatively charged comb place close to an aluminium rod.

The excess electrons in the comb repel the free electrons in the rod.

Consequently, the free electrons gather at the end of the rod away from the charged comb.

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.

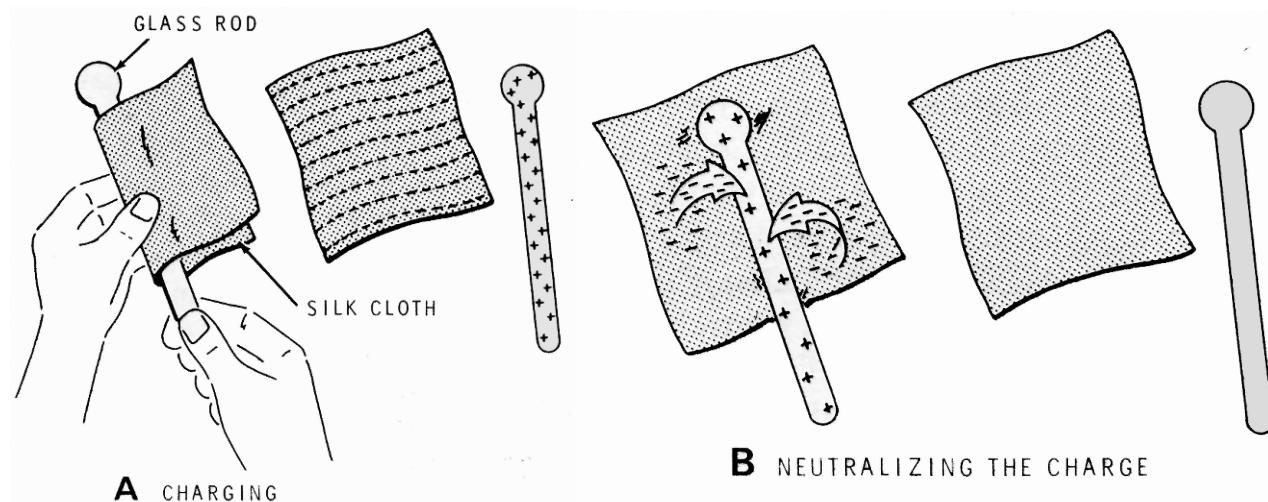Thus, I have induced a positive charge into the rod without touching it with a charged body.

Figure 2:   *Charging and discharging a glass rod.*

Now, let's see how electrical charges can be neutralized.

When a glass rod is rubbed with a silk cloth, the glass gives up electrons to the silk.

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Therefore, the glass becomes positively charged, while the silk becomes negatively charged.

This is shown in Figure 2A.

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 charges of the materials neutralize as shown in Figure 2B.

Thus, if two objects having equal but opposite charges are are brought into contact, electrons flow from the negative charged object into the positively charged object.

That is how the S.E.G. functions in this domain of reality.

The flow of electrons continues until both charges have been neutralised.

That is precisely the same with the Searl Effect Generator (S.E.G.) the electrons continue to flow until the demand for them stops: upon which the S.E.G. continues loading until its fully neutralised; upon which the movement of electrons stops and the S.E.G. is said to be at ideal speed.

I guess that it is time to check how well you have been really studying this report; so let's have a programmed review.

17) *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 the proton.

The proton is said to have a positive charge, while the electron has a ----------- charge.

18) *ELECTRON:*

While the electron and proton have electrical charges, the third particle found in the atom does not.

That is, the ------------ has no electrical charge.

19) *REPEL:*

According to Coulomb's Law, and not Searl's Law, two electrons should ----------- each other.

20) *NEGATIVE:*

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 ------------.

Due to lack of space here to complete the next question, I had to answer and will leave it to the next page.

Keep in mind this was for a boy of 14 years who experts claim had no formal education.

21) *PROTONS:*

A law which describes how charged particles behave is called Coulomb's Law.

The action described in this law which states that unlike charges --------------.

22) *REPEL:*

However, a negatively charged body should be attracted by a ----------- charged body.

23) *NEUTRON:*

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

24) *REPEL:*

Also, any two positively charged bodies should --------------.

25) *ATTRACT:*

This law goes on to say that like charges behave in the opposite manner.

It states that like charges ---------------------.

26) *NEGATIVE:*

On the one hand, an atom which loses an electron becomes a ----------- ion.

27) *POSITIVELY:*

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 ---------.

28) *POSITIVE:*

This is called charging by contact.

Objects can also be charged by induction without actually touching: as in the S.E.G. the roller sets do not touch the ---------------------.

29) *POSITIVELY:*

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

The few questions left out will appear on the next page.

Here, we are still discussing a 14-year-old boy with no education, according to those expert's statements. This book is produce by this boy to show what he had to be able to answer for the job he was to train. So lets us continue to see what he actually did.

30) *ELECTRONS:*

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.

31) *NEGATIVELY:*

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.

32) *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.

Yes, these questions are easy to answer and I did it without any problems whatsoever; then I never had much choice did I, if I wanted a job.

The bulk of Searl's education arrives from the Law of the Squares, and still that presently applies.

The game of hopscotch held an arrow that pointed him to the course to take to win. He followed or maybe more precisely was pushed to follow a set course from which in the end created the Searl Effect Technology; and boy what technology it is. It has upset those who believed that they were experts; but I fail to understand in what subject other than sarcastic bullshit.

CURRENT FLOW:

In electronics, current is defined to my knowledge as the flow of electric charge from one point to another; which to me makes sense.

I have already seen some samples of this.

I was successful in converting my pocketknife into a hacksaw blade in a flash – powerful stuff this electric!

17.098

I saw that when a negatively charged body is touched to a positively charged body, electrons flow from 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 free itself from the atom.

Therefore, let us take a closer look at the mechanism by which electrons dislodged from the atom.

FREEING ELECTRONS:

I have seen that electrons revolve around the nucleus at very high speeds.

Two forces hold the electron in a precarious balance.

The centrifugal force of the electron offset exactly by the attraction of the nucleus.

This balance condition can be upset very easily, so that the electron dislodges.

Not all electrons so easily freed from the atom with the same ease.

Some are dislodge more easily than others do.

To see why, I must discuss the concept of orbital shells.

It currently believed that electron orbits in an atom fall in a certain pattern.

For example, in all atoms of two or more electrons, two of the electrons orbit relatively close to the nucleus.

The area in which these electrons rotate is termed a shell.

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.
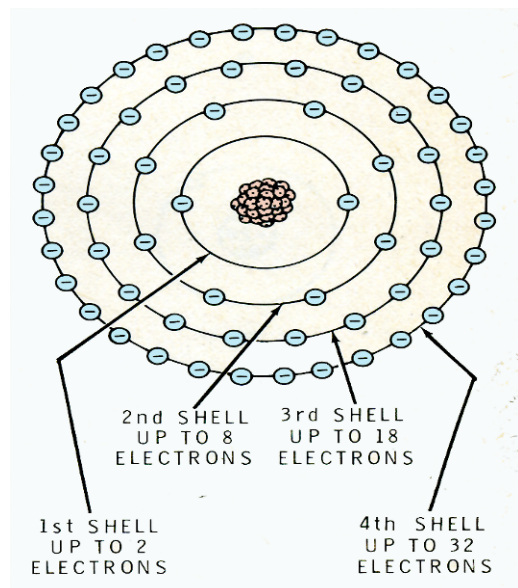

2nd SHELL
UP TO 8
ELECTRONS

3rd SHELL
UP TO 18
ELECTRONS

1st SHELL
UP TO 2
ELECTRONS

4th SHELL
UP TO 32
ELECTRONS

Figure 3:   Arrangement of orbital shells in Atom.

A second shell somewhat further from the nucleus can support up to eight electrons.

There is a third shell of which can contain up to 18 electrons.

The fourth shell can hold up to 32 electrons.

The first four shells shows illustrated by Figure 3.

Although not shown, there are also additional shells in the heavier atoms.

Of particular importance to electronics is the outer electron shell of the atom.

Hydrogen and Helium atoms have one and two electrons respectively.

In this case, the outer shell is the first – and only – shell.

With atoms having three to ten electrons, the outer shell is the second shell.

Regardless of which shell it happens to be, the outer shell is termed the *valence shell*.

Electrons in this shell are termed *valence electrons*.

Electrons are arranged in such a way that the *valences shell* never have more than eight electrons.

This may be confusing since I have seen that the third shell can contain up to 18 electrons.

But my dream one makes it clear that the outer shell can only hold 8 electrons as a valence shell.

An example shows why both statements are true – therefore Dream one is also absolute correct.
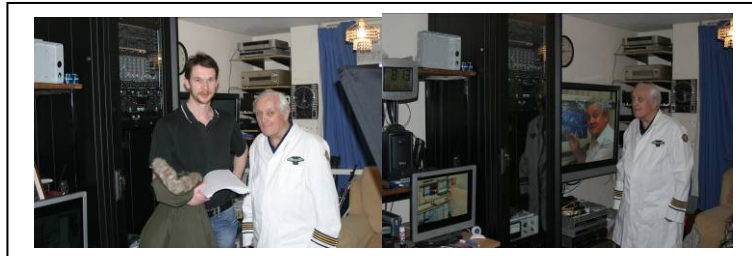
That is strange that a boy from age of 5 to 11 years should have been given such information that schools failed to give him and so precise in content.

An atom of argon – vital to store Nd in – contains 18 electrons, and it is a gas;

2 in the first shell.

8 in the second shell.

8 in the third shell.

It might seem that the next heavier element, potassium, would have nine 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 distribute in this manner:

2 in the first shell.

8 in the second shell.

8 in the third shell.

1 in the fourth shell.

NOTICE the valence shell contains only one electron.

On the next page, I shall point out why that is important issue in the design of the Searl Effect Generator.