Perception of Space & Dementia

Paul T E Cusack  
BScE, DULE, 23 Park Ave., Saint John, NB E2J 1R2, Canada

Corresponding Authors: Paul T E Cusack, BScE, DULE, 23 Park Ave., Saint John, NB E2J 1R2, Canada.

Received Date: September 01, 2020; Accepted Date: September 07, 2020; Published Date: September 10, 2020


Copyright: © 2020. Paul T E Cusack. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

This paper is mainly a mathematical paper on how human perception of space is altered from the normal brain to the dementia brain. The results of all the calculations are summarized in Table 1. We see that there are 7 layers of consciousness in normal humans. The Dementia patient slowly loses it layers of consciousness yet the mind continues to function at a rudimentary, unconscious way.

Keywords: Space; AT Math; Energy; time; Mass; Dementia; Brain.

Introduction

In this paper, we consider the mathematics behind what humans call three-dimensional space. We begin by considering the normal brain; then we shift to the abnormal (Dementia) brain. The paper results are summarized in Table 1 where we see the results compiled from the mathematical analysis above. We begin with the normal brain.

1. Normal Brain

$s=1$

The window of Consciousness runs from $t=1-\pi$ from AT Math.

$E=1/1=1; E=1/\pi$

$=1; 0.3183$

$s=Et \sin \theta$

$=1(\sqrt{3}) \sin \theta$

$=114.77=\sqrt{3} \sin \theta$

$0=6.626=h=\text{Planck’s Constant}.$

$s=Et \sin \theta$

$=114.77=(1/\pi)(\sqrt{3}) \sin \theta$

$0=208$

$0=0.2095$

$\Delta \theta=724-208=514.4=\text{Energy of the window}.$

$TE=M(1592)$

$514.4=M(1592)$

$M=323$

$M=\ln t$

$M=1/209$

$t=1.381$

$E=724$

$Cf \ 0$

$v=d/t$

$1/7=125/t$
2. Planck’s Constant

\[ E = h \times \text{freq} \]
\[ h = E_t \]
\[ 6.626 = \sin \theta = E_t \]
\[ 6.626 = 724t \]
\[ t = 915 \]
\[ s = E \cdot t \cdot \sin \theta \]
\[ (724 \cdot 915) \cdot 6.626 = 4389 \]
\[ = 1/2278 \]
\[ 1/228 \]
\[ s = t \]
\[ t^2 - t - 1 = E \]
\[ 4389^2 - 4389 - 1 = 926 \]
\[ E = (1 - \ln t)^7 \]
\[ = (1 - \ln 0.4389)^7 \]
\[ = 67.0 \]
\[ = 1/149 = 1/G \]

For the mind:

\[ y = y' \]
\[ y^2/2 = y = G \]
\[ y^2 = 2G \]
\[ t = 115.41 = 1/\sin 60^\circ = E \]
\[ E = (1 - \ln t)^7 \]
\[ E^{1/7} = 1 - \ln t \]
\[ 1 - E^{1/7} = \ln t \]
\[ e^{1 - E^{1/7}} = t \]
\[ s/(4/3) - e^{1/3} = t \]

Aside:

\[ s = E \cdot t \cdot \sin \theta \]
\[ = (0.00925)(-0.614) \sin 60^\circ \]
\[ = 0.00495 \]
\[ = 4.95 \text{ msec} \approx 5 \text{ msec} \]
\[ 5/413 \cdot 1.15356 = t \]
\[ t = 4.282 \text{ delay} \]
\[ x_2 (\text{Up and down}) = 0.856 = R \]
\[ V = iR \]

3. Abnormal Brain

\[ V = iR \]
\[ = 4/3(0.85) \text{ increasing resistance in Alzheimer’s patients.} \]
\[ = 113.333 \]
\[ \Delta V = 0.8333 = 1/12 \]

\[ E = (1 + \ln t)^7 \]
\[ 1/12 = (1 - \ln t)^7 \]
\[ t = 1.4244 = \sqrt{2} \]
\[ v = d/t \]
\[ 12.5/\sqrt{2} = 8.838 \]
\[ 1/v = 113.73 \]
\[ 1.1373/105 = 935 \approx 1/106.9 = 1/V^* \]
\[ \Delta t = 945 - 935 = 10 \]
\[ t = (1 - \ln 10)^7 = 251.5 = \text{Period T} \]
\[ 945/7 = 1.350 \times 2 \text{ (down and back)} = 270 = 10e^3 \]
\[ L = [\ln (t + e^3)]x \]
\[ \ln (945 + 27)x \]
\[ x = 0.00588 \]
\[ = 5.88 \text{ msec} = t \]
\[ E = (1 - \ln t)^7 \]
\[ 0 = (1 - \ln t) \]
\[ t = 2.71828 = e^1 \]

\[ E = \frac{1}{t} = e^{-1} \]

\[ i = t^2 = e^2 = 7.389 \]

\[ V = iR \]
\[ = 105 = 7.389R \]

\[ R = \sqrt{2} = \frac{t}{2} \]
\[ R = \frac{\sqrt{2}}{7} \]

202 per layer of consciousness in the Multiple Draft model of the brain.

\[ \sqrt{2}/14 = 2.886 \]

\[ L = \ln t + c^3 \]
\[ = \ln (202) + 27 \]
\[ = 27.202 \]

\[ L = 2\chi = 27.202 \]
\[ \chi = 136.01 \]

\[ E = 136e^{-202} = 111.12 = 1/9 = M \]

\[ E = M \]

\[ \Delta t = \Delta R = 0.8 - \sqrt{2} \]
\[ = -0.614 - 0.618 \]

\[ \text{root of the Golden Mean.} \]

\[ t^2 = i \]
\[ R = s = t \]

\[ R = \sqrt{2} \]

\[ V = iR = 105 = t²(1/114) \]

\[ t = 1.09407 \]

4. Abnormal vs. Normal

\[ s = E t \sin \theta \]
\[ = (0.00925)(-0.614) \sin \theta \]
\[ = 492 \]

\[ \frac{(4/3)/492 = 271}{e^1} \]

\[ \ln 0.271 = 150 = 1/G \]

\[ \frac{\sqrt{2}/7 = 202}{1/495} \]

\[ 8/7 = 114.28 = 1/875 \]

\[ \Delta R = 202 - 114.28 \]
\[ = 0.8772 \]
\[ = 1/114 \]

\[ V = iR = 105 = \frac{e^1}{(1/114)} \]
\[ t = 1.09407 \]
### TABLE 1

<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Abnormal</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal</td>
<td>$1/\sqrt{3}=0.5773$</td>
<td>$2.3147$</td>
<td>$4$ (Sense of Touch)</td>
</tr>
<tr>
<td>Delta V</td>
<td>105</td>
<td>$1/12=0.0833$</td>
<td>$0.11428x765=0.011438$</td>
</tr>
<tr>
<td>Window $t=1$</td>
<td>$\text{sqrt3}\sin 60=150=1/G$ (taste)</td>
<td>$270=10c^3$ (Pi) rads</td>
<td>$180=\text{Pi}$ (sight)</td>
</tr>
<tr>
<td>Window $t=\text{Pi}$</td>
<td>6.626</td>
<td>$1/e=368$</td>
<td>$180=\text{Pi}$ (sight)</td>
</tr>
<tr>
<td>M</td>
<td>323</td>
<td>945</td>
<td>$2.93x117.8=402=Re$</td>
</tr>
<tr>
<td>M</td>
<td>323</td>
<td>945</td>
<td>$2.93x117.8=402=Re$</td>
</tr>
<tr>
<td>R</td>
<td>0.85</td>
<td>202 x $\sqrt{2}$</td>
<td>$6.01x126.9=473$</td>
</tr>
<tr>
<td>SUM</td>
<td>23479-Ln $\text{Pi}$ (mass)</td>
<td>$21.067/3=1332$ (Mind)</td>
<td>$1332$ Cf $1333=4/3=s$ (Space)</td>
</tr>
<tr>
<td>PRODUCT</td>
<td>42=TE</td>
<td>44.781</td>
<td>1.0962</td>
</tr>
</tbody>
</table>

For the Abnormal Mind in comparison to the Normal mind, we have the following equations:

**Abnormal Mind**

$t^2-t-1=
\begin{align*}
(-0.614)^2 & =(-0.614)-1=0.009004 = \text{Mass M} \\
(\sqrt{3})^2 & =3 \text{ (taste)} \\
(\sqrt{3})(\sqrt{3}) & =27 \text{ (taste)} \\
(t^2-t-1) & =7^2-7-1=41 \\
\text{int} & =234^3 \\
\text{R} & =5.475 \\
\end{align*}

**Abnormal -Normal=1.628-0.5775=105.1 mV (Human Nervous Signal)**

$t^2=i$ \rightarrow i=\sqrt{150,000}=387

**Normal**

$V=iR$ =387(0.85) =329 \text{ Cf. 323} =1/304

**Abnormal**

$V=iR$ 105=387(R)

$R=3.686=1/2.713-1/e$

As the resistance of the brain dropped, when it reached 0.85, then Consciousness happened since $E=1/7$.  

From Table 1:

<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Abnormal</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum:</td>
<td>23479-Ln $\text{Pi}$ (mass)</td>
<td>$21.067/3=1332$ (Mind)</td>
<td>$1332$ Cf $1333=4/3=s$ (Space)</td>
</tr>
<tr>
<td>$\text{PRODUCT}$</td>
<td>42=TE</td>
<td>44.781</td>
<td>1.0962</td>
</tr>
</tbody>
</table>
\[
\ln 44.781 \times 1.0962 = 416.626 = 2\pi \]

\[
416 = 125/3 = d/v = t
\]

\[
FV = PV(1+i)^t = 1/984
\]

\[
E = (1 - \ln 984)^7 = 1
\]

We have space and energy. Now let us obtain time

\[
E = (1 - \ln t)^7 = 1
\]

\[
e = Et \sin 60^\circ
\]

\[
= 1396 \times 14
\]

\[
e = E \sin 60^\circ
\]

\[
= 4/3 \sin (0.866)
\]

\[
t = 153.9
\]

\[
1.539 \times h = 153.9 \times 6.626 = 43 = R
\]

\[
v = R
\]

\[
106.1 = 2.4673
\]

\[
R = 43
\]

\[
\Delta t^2 = i
\]

\[
t = \sqrt{i} = \sqrt{\pi/2} = 2467
\]

\[
E = 1353 \text{ Mass of Brain}
\]

\[
t = \sqrt{2}
\]

\[
E = (1 - \ln t)^6 \text{ (Note power 6 for Alzheimer's; not 7)}
\]

\[
1353 = (1 - \ln t)^6
\]

\[
t = 2862
\]

\[
e = Et \sin 60^\circ
\]

\[
= (1353)(2.862) \times 0.866 = 353
\]

\[
\Delta s = 1396 - 353 = 1061 = V^+
\]

\[
t = L + V^+
\]

\[
= 2 + 1.061 = 3.06
\]

\[
M \times v = L = P = \cos \theta
\]

\[
1400 \times 1/7 \times (416.67) = L = P = \cos \theta
\]

\[
\theta = 2.98 = c
\]

\[
v = d/t
\]

\[
1/v = d/t = 7
\]

\[
M/v \times L = L \times n + c^3
\]

\[
M = Lnt
\]

\[
M/v - M + c^3 = L
\]

\[
7M - M + c^3 = L
\]

\[
E = 14.00 \times 7 \text{ Down and back.}
\]

\[
s = E t \sin \theta
\]

\[
= 1/7 \times 14(102 \sin \theta)
\]
\[ \theta = \pi/2 \]

\[ s = 1 \Rightarrow s = R \]

\[ V = iR \]

105 = (4/3)R

\[ R = 0.7875 = 1/126.9 \]

126.9/\pi = 404 = Re

Re = IF/\sqrt{VF} = Mv/Ma = 1/7/\sqrt{2} = 202 = Re/2 = Re/L

\[ 202/126.9 = 1/2\pi = 1 \text{ rad.} \]

\[ FV = PV((1+i)^N) \]

\[ = 0.866(10209)^N \]

\[ N = \sqrt{3} = \text{eigen vector} \]

\[ i = 0.20109 \]

\[ i^2 = 1329.6 \sim 1330 \text{ Internal clock.} \]

\[ 0.020109 \times 7 = 14.07 \sim 14 = 2 \times 7 \text{ Down and back.} \]

\[ FV = PV(1-i)^N \]

\[ = 0.866(1-0.020109)^N \]

\[ = 0.866(965) \]

\[ = 0.836 = E \]

\[ t = 1/E = 1.19608 \]

\[ t^2 - t - 1 = E \]

\[ E = 765 \]

\[ t = 1.306 \]

\[ E = (1 + \text{Ln} t)^7 
\]

\[ (2.669)^7 = \text{S.F.} \]

\[ = 965 = (1+i)^N \]

\[ t^2 - t - 1 = 2t - 1 \]

\[ t = 3 \]

\[ v = d/t = 125/3 = 416 \]

416 msec is in the range of 300-500 msec reaction time.

The Soul:
Consider:
Let Soul = Mind

SE = Soul Energy = Mind

\[ t^2 - t - 1 = L = \text{Ln} t + c^3 \]

\[ 2t - 1 = C = 1/t + N \]

\[ 2t - 1/t + N = C \]

\[ [2t^2 - 1]/t + N = 2C \]

\[ 2t^2 - 1 + N = 2t C \]

\[ t^2 - 0.5t + N/2 = Ct \]

Let \[ N = 1 \] \& \[ C = 0.5 \]

\[ t^2 - t - 1 = 0 = SE \]

So \[ SE = SE' \text{ = Mind} \]

\[ \text{The 7 Layers of Consciousness} \]

\[ = 12th / (31/Ln 31) = 133 = s \]

\[ v = 7X222 = 1555 \times 2 = 31.08 \]

\[ = 0.222 \]

\[ 1/c^2 \]

\[ V = iR \]

\[ 1/c^2(7 \times 2) \]

\[ = 1551 \]

\[ t = 1/642 \]

\[ L = 2 \times 7 = 14 \]

\[ h = \text{freq} \times E \]

\[ = 6.626 = 1/\pi \times 1555 \]

\[ = 0.495X \]

\[ X = 75 = 1/s = 1/(4/3) \]

\[ \text{Figure 1 Seven Inductors model the 7 layers of consciousness.} \]

A person with Dementia is gradually losing consciousness. They still have a brain and reaction, although lessening every day, but they lose their consciousness mind.

The nervous system began with a sodium chloride pump. The sodium is a positive ion; the chloride ion is a negative ion. This is the underlying mechanism of how electrical signal travel alone a nerve axon.

So the mass of NaCl (Salt) is:

\[ Na = 23 \]

\[ Cl = 35.4 \]

\[ \Sigma 58.44 \]

\[ PE = Mv^2 \]

\[ = 58.44c^2 = 518.7 \]

\[ KE = 1/2Mv^2 \]

\[ = 1/2(58.44)(1/\sqrt{2})^2 \]

\[ = 141.6 \]

\[ TE = 518.7 + 146.1 = 66.5 - G \]

\[ V = 155 = 0.85 = i \]

\[ i = 0.788 \]

\[ \rho = i^2 \]

\[ t = 0.8876 - 0.888 \Rightarrow \text{working memory}. \]
So we've gone from NaCl to a working memory.

t²-t-1=E

(0.888)²-0.888-1=-10.99--11

E=(1-ln t)²
=11²/(1-Ln t)
t=1335=Space s

This is how the working memory perceive space. In Alzheimer’s patients, they are not cognitive of space. There memory cells are dying.

3.

Conclusion

We have seen a mathematical comparison of space as perceived by Dementia patients and healthy people.

References

1. Cusack PTE One Cause of Alzheimer’s Disease: Gonorrhea and HSV-1 (Submitted)