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Jochanan E. Naschitz

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Case Report

Physics of Stuttering II

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

This paper provides a mathematical investigation of the physics of stuttering. We see that the stutter's frequency of the operation of his mind is 10x' that of a normal frequency. Adrenalin makes things worse for stutters because it contains nitrate ions which upset the chemical balance of a normal electrical potential of 105 mV.

Keywords: stuttering; adrenaline; nitrate

Introduction

I had a friend in university who stuttered. Most of the time, his speech was fluent; but when he was under stress, he would get stuck on one syllable. If I reassured him with a nod, he would speak smoothly. When he was under stress he stuttered. This indicates to me that there was nothing mechanically wrong with his speech apparatus because it worked fine when he was not under stress. So what was it about stress. It is the release of adrenaline.

The chemical formula for adrenaline is C_9H13NO$_3$ Take note of the nitrate ion. In the nerve cell , there are neurotransmitters Cl- Na+ K+ and Pr- The Pr- includes the Gasotransmitter NO. See figure 1.

I theorize that this NO causes too much negative charge in the Intercellular fluid, thus causing a hyperpolarization. The regular resting state is -70mV. We will use -90 mV. The discharge of the potential goes up to +35mV. Which is a difference of 105mV. These numbers appear in what follows.

Chlorine Cl- is also a negative ion. Too much chlorine would have the same affect on the discharge of a nerve fibre having excessive negative charges. Chlorine is in our tap water. Chlorine is also absorbed by the body in the shower -up to 1 litre. It is injected in salt, however this is balanced by sodium in the NaCl molecule.

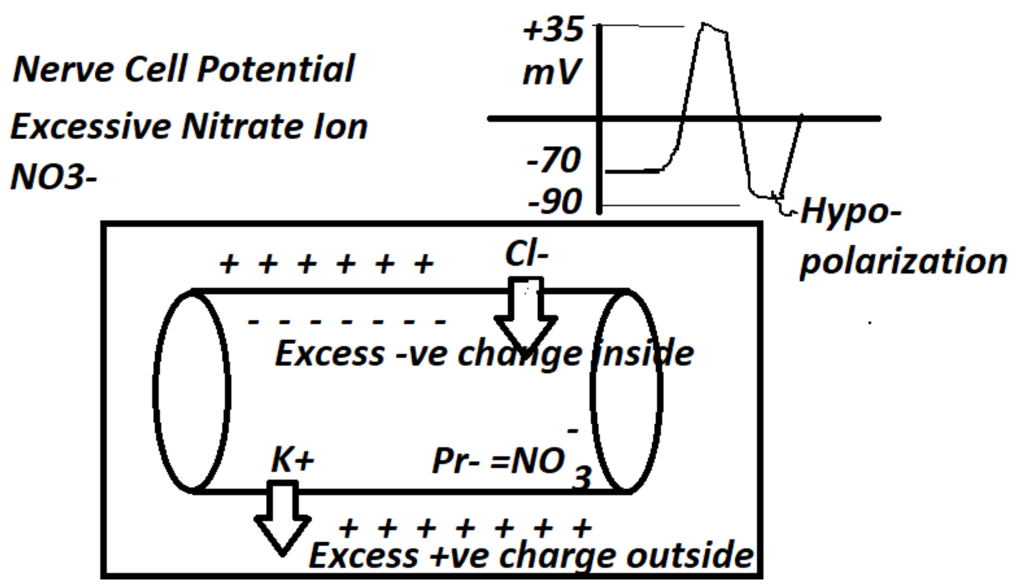

Figure 1 Nerve Cell Potential

I have determined that the human mind has an internal clock that runs at t=1330.

Freq=1/1330= 0.75=3/4=1/s
$E=(1-\text{Ln }\pi)^7$
=0.00001330
0.000001330/t=0.000001330/1330=0.00001~1=E

Mind =($1-v_s/v_L$)
=(12-343/2.99792458)
=113.3

Mind=($1-t_s/t_L$)
=113.3=$1-t_S/t_L$
113.3=$1-t_s$/2.99792458
t_N=337
v=d/t
343=d/337
d=1.0403
1/d=1/s=961

E_N=(1-Ln 0.337)^7
=172.83
~√3

Freq=t=KE=1/2P v²
=1/2 (4/Pi)(1/√2)²
$Freq_N$=1/Π
Freq $_{AB}$=t=KE $_{Ab}$=1/2(40/Π)(1/√2)²
Freqab=10/Π
tAb=Freq Ab=3.183

$E=(1-\text{Ln } t)^7$
$=(1-\text{Ln } 3.183)^7$

E_{AB}=243.9~244

Mind=($1-t_s/t_L$)
=(1-3.183/299792458)
=-0.6173

Mind ~-0.618 Root of the /Golden Mean Parabola

V=d/t
343=d/3.183
d=1.0917
1/s=916

S=|E||t|sin theta
10917=244t sin 60°
T=5166~517

V=d/t
=10917/517
=V_{ab}=2113

v_N/ V_{Ab}=343/211.3
=1623~1.618 Root of the Golden Mean Parabola

V_{Ab}/V_N=0.618

Adrenalin.
$C_9H_{13}N + Ca^{++}$==> CaO +$C_9H_{13}N$==>
$C_9H_{13}N$+ 2 H_20 +O ==> C_9H_{13}+NO +2H_2O==>

$8CH_2+CO_2$+NO + H+

Molecular mass=9.0058

M=9.00=Ln t
t=0.810

$E=(1-\text{Ln } t)^7$
$(1-0.810)^7$
=0.000008938
=c²

E=Mc²
c²=Mc²
M=1=M=Ln t
t=2.71828=e^1

$tS_{ST}=e^1$+3.183=59.0
$t_N=e^1$+0.337
=305.5

t_{St}/t_N=519.305=1/517
t_N=0.5169~517

$E=(1-\text{Ln }\pi)^7$
=0.000001330
Internal Clock

t_N=KE=1/2 Mv²
=1/2(4)(1/√2)²
=1
t_N=1

E=[1-Ln (1/0.517)]
$=[1-\text{Ln } (193.4)]^7$
=105
=|-70|+35mV
=Nerve Signal

E st=(1-Ln t st)^7

E stuttering=105
E Norm=$(1-\text{Ln } t_N)^7$
$=(1-\text{Ln } (1))^7$

EN=1
v=d/t=2.113
v²=4.465
=1/2239
V_{ab}=1/ΔV=1/22.39
22.39=1/c²R

R=198.7~2=L
1/R=0.503=t_{min}

V=iR
22.39=1/c²R
R=2.49~2.5

2 syll/sec= x 2.5=5 syll/ sec
217.39/5 syll/sec=43.478 sec/syll =(1/23.00) sec /syll

Normal:

5 syll /sec x 1/23sec/syll =217

Stuttering
2 syll/sec x 1/23 sec/syll=217

Normal
$5xt_0$=5x 6.366=0.3183=1/π=freq.=t_{norm}

Stuttering
2 x 6.366=12.73=40/π=freq=t_{stut}

40/π=127.3 =10 x's density

K.E.=1/2 ρv²
t=KE=1/2(4/π)(1/√2)²
=3183

=10/π
=freq of the stuttering mind =10x's Normal.

V_N=1/ΔV=1/105
V=iR
1/105=(1/c²)R

R=0,.856
1/R=116.83

$ΔE=ΔV=(1-Ln\ t)^7$
$(1-Ln\ 1.330)^7$
=104.8~105
=|-70|+35 mV

105/22.39=1/213 Cf. 217

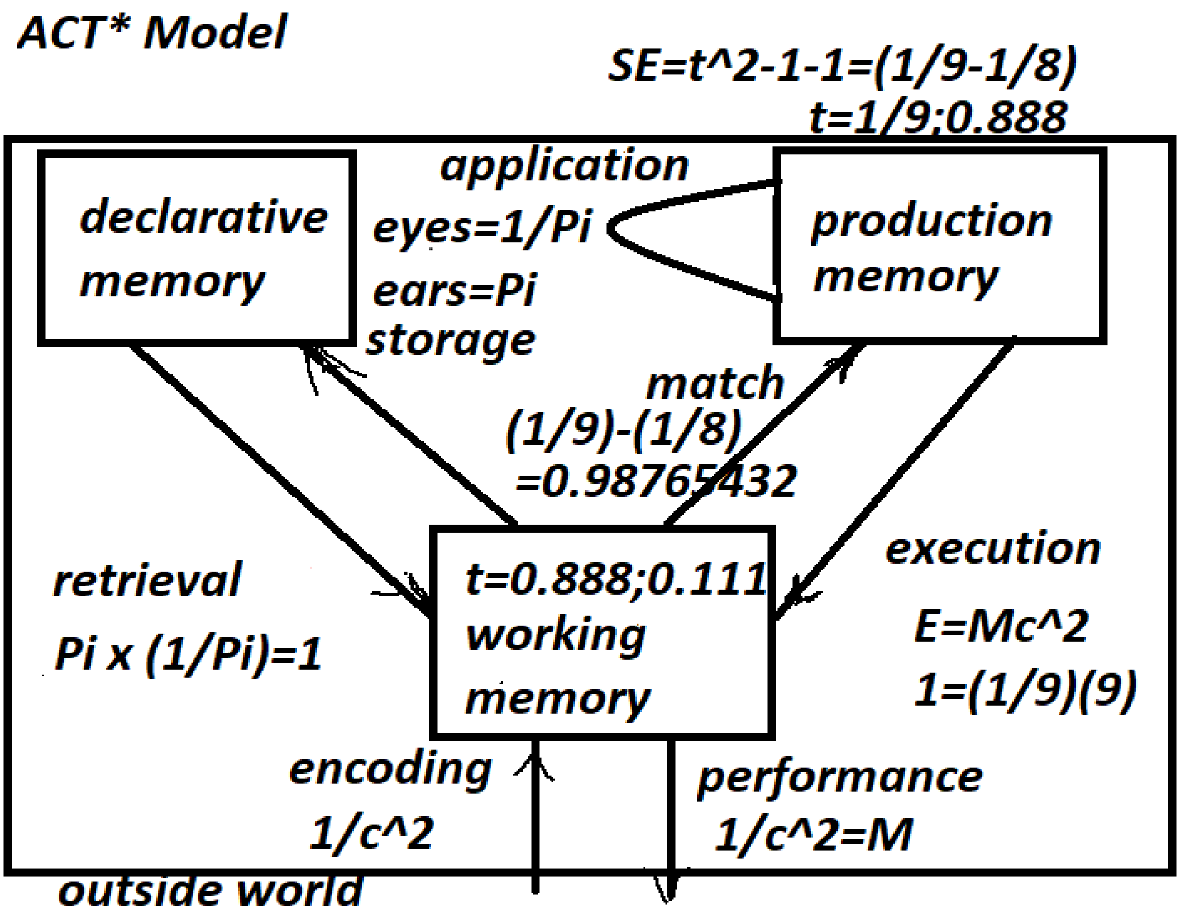

Figure 2 ACT* Model of the Brain with formulas

M=9.00
Normal Output=1/c²
M=1/c²

$9=1/c^2=E/81=E/c^4$
ΔV=iR

$105=1/c^4R$

R=85.05 Cf. 0.856
$E=(1-Ln\ t)^7$
$t_{stuttering}=10\ t_{Normal}$
$E=(1-Ln\ 10(517))^7$
E=0.04538
~0.454
t=1/E=220 =200+20 msec

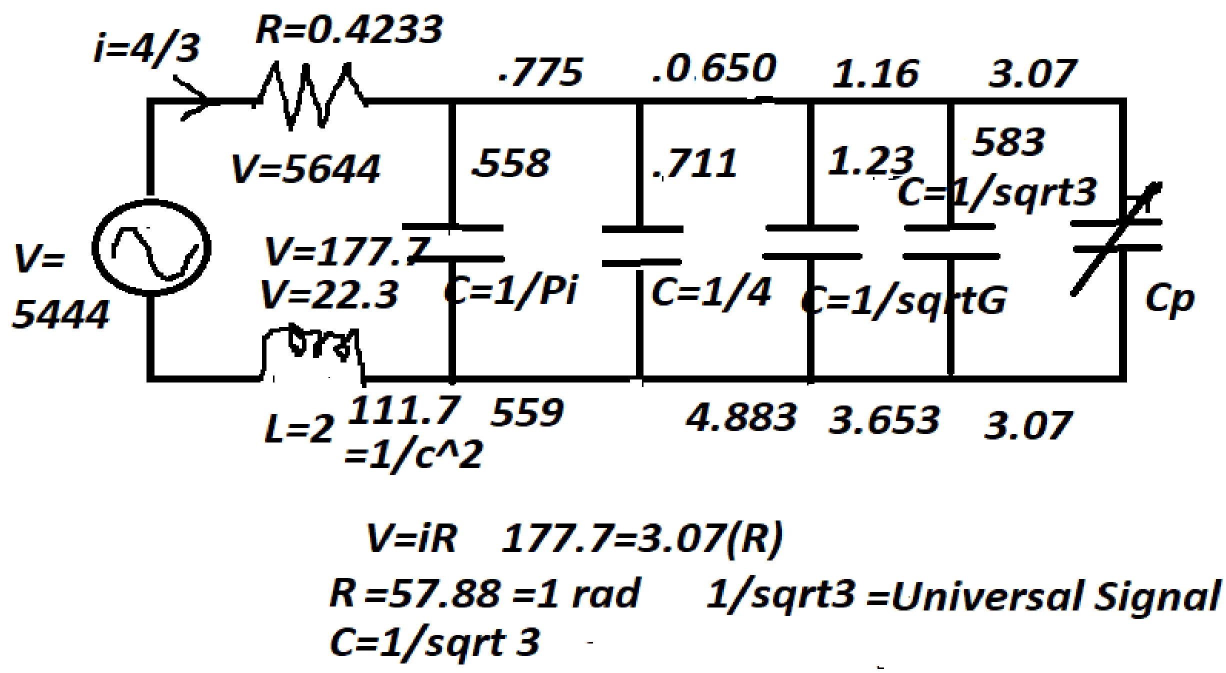

Figure 3 Plasticity of the brain.

V=iR
=(4/3)(0.4233+(1/π)-2))
=(4/3)(1/258)
=1/677=1/595
1/595 x 220=e^1

t=1

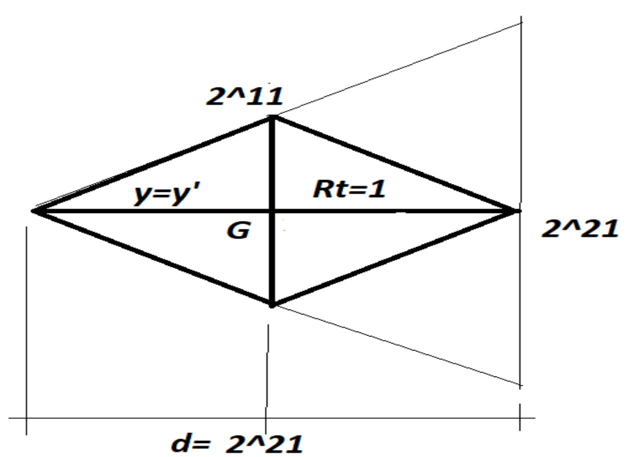

Figure 4 Binomial Decision Tree

2^{22}=419=1/238
10/9.00=1.11111…=1/105.4~1/105=1/V=1/E=t
t=10/9.0=1/11111
105+(|-7-|+35)

=125=1/8=E_{min}
SE=(1/8)+(1/9)=138.8=1/720

E=$(1\text{-Ln } 0.720)^7$
=$(1.327)^7$
~1.330^7=723.6=1=1/1358 Cf. 1330

Δt=594
SE=138.8=t^2-t-1
t=²-t-38.8
t=112.5;1.25
112.5^2-122.5-38.8=125
1/8=E_{min}
$(1/8)^2$-1/8-38.8
=389
=1257
2 x 1/257=514
V=iR
ΔR=1+10/ sqrt3
=6.773
ΔV=4/3(6.773)
=9.03~9.0
=molar mass

Conclusion

We see that stuttering can be modelled by a dysfunctional potential caused by too many negative ions in the cellular fluid, particularly Nitrate. The frequency of the stuttering mind is 10 x's that of a normal speaker.

References

1. Diamond, M. et al The Human Brian Coloring Book., Collins., USA 1985.