♦♦♦ Chapter 7 ♦♦♦

Porphyrin Mediated Bose-Einstein's Condensates Mediate Conscious and Quantal Perception and Functions as Observer for the Quantal World – Generating the Macroscopic Universe

Introduction

Dipolar porphyrins have a wave-particle existence and can mediate quantal and conscious perception by forming Bose-Einstein condensates. Actinidic archaea can synthesize porphyrins by cholesterol catabolism. Actinidic archaea by inducing ferrochelatase and heme oxygenase can produce heme depletion and porphyrin synthesis. Porphyrins can modulate the NMDA/GABAergic thalamocorticothalamic pathway mediating conscious perception. Porphyrins being dipolar can generate Bose-Einstein's condensate in the setting of porphyrin induced sodium potassium ATPase inhibition mediated paroxysmal depolarisation shift in neuronal membrane. This mediates quantal perception. These objectives are studied with regard to conscious and quantal perception in subjects with disorders of consciousness-schizophrenia, seizure disorder and autism. The results are presented in this report and a hypothesis formulated[1-5].

Materials and Methods

The following groups were included in the study: – schizophrenia, seizure disorder and autism. There were 10 patients in each group and each patient had an age and sex matched healthy control selected randomly from the general population. There were also 10 normal people with right hemispheric dominance, left hemispheric dominance and bihemispheric dominance included in the study selected from the normal population. The blood samples were drawn in the fasting state before treatment was initiated. Plasma from fasting heparinised blood was used and the experimental protocol was as follows (I) Plasma+phosphate buffered saline, (II) same as I+cholesterol substrate, (III) same as II+rutile 0.1 mg/ml, (IV) same as II+ciprofloxacine and doxycycline each in a concentration of 1 mg/ml. The following estimations were carried out: – Cytochrome F420,

free RNA, free DNA, polycyclic aromatic hydrocarbon, hydrogen peroxide, pyruvate, ammonia, glutamate, succinate, glycine, delta aminolevulinic acid and digoxin. Cytochrome F420 was estimated flourimetrically (excitation wavelength 420 nm and emission wavelength 520 nm). Polycyclic aromatic hydrocarbon was estimated by measuring hydrogen peroxide liberated by using glucose reagent. The study also involved estimating the following parameters in the patient population – digoxin, bile acid, hexokinase, porphyrins, pyruvate, glutamate, ammonia, acetyl CoA, acetyl choline, HMG CoA reductase, cytochrome C, blood ATP, ATP synthase, ERV RNA (endogenous retroviral RNA), H2O2 (hydrogen peroxide), NOX (NADPH oxidase), TNF alpha and heme oxygenase[6-9]. Informed consent of the subjects and the approval of the ethics committee were obtained for the study. The statistical analysis was done by ANOVA.

Results

Plasma of control subjects showed increased levels of the above mentioned parameters with after incubation for 1 hour and addition of cholesterol substrate resulted in still further significant increase in these parameters. The plasma of patients and those with exposure to low level of EMF showed similar results but the extent of increase was more. The addition of antibiotics to the control plasma caused a decrease in all the parameters while addition of rutile increased their levels. The addition of antibiotics to the patient's plasma and those with exposure to low level of EMF caused a decrease in all the parameters while addition of rutile increased their levels but the extent of change was more in patient's sera as compared to controls. The results are expressed in tables section 1 – 1-6 as percentage change in the parameters after 1 hour incubation as compared to the values at zero time. There was upregulated archaeal porphyrin synthesis in the patient population and those with exposure to low level of EMF which was archaeal in origin as indicated by actinide catalysis of the reactions. The

cholesterol oxidase pathway generated pyruvate which entered the GABA shunt pathway. This resulted in synthesis of succinate and glycine which are substrates for ALA synthase.

The study showed the patient's blood, those with exposure to low level of EMF and right hemispheric dominance had increased heme oxygenase activity and porphyrins. The hexokinase activity was high. The pyruvate, glutamate and ammonia levels were elevated indicating blockade of PDH activity, and operation of the GABA shunt pathway. The acetyl CoA levels were low and acetyl choline was decreased. The cyto C levels were increased in the serum indicating mitochondrial dysfunction suggested by low blood ATP levels. This was indicative of the Warburg's phenotype. There was increased NOX and TNF alpha level indicating immune activation. The HMG CoA reductase activity was high indicating cholesterol synthesis. The bile acid levels were low indicating depletion of cytochrome P450. The normal population with right hemispheric dominance had values resembling the patient population with increased porphyrin synthesis. The normal population with left hemispheric dominance had low values with decreased porphyrin synthesis.

Section 1: Experimental Study

Table 1 *Effect of rutile and antibiotics on cytochrome F420 and PAH.*

Group	CYT F420 % (Increase with Rutile)		CYT F420 % (Decrease with Doxy+Cipro)		PAH % change (Increase with Rutile)		PAH % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.48	0.15	18.24	0.66	4.45	0.14	18.25	0.72
Schizo	23.24	2.01	58.72	7.08	23.01	1.69	59.49	4.30
Seizure	23.46	1.87	59.27	8.86	22.67	2.29	57.69	5.29
Autism	21.68	1.90	57.93	9.64	22.61	1.42	64.48	6.90
Low level EMF	22.70	1.87	60.46	8.06	23.73	1.38	65.20	6.20
	F value 306.749 P value < 0.001		F value 130.054 P value < 0.001		F value 391.318 P value < 0.001		F value 257.996 P value < 0.001	

Table 2 *Effect of rutile and antibiotics on free RNA and DNA.*

Group	DNA % change (Increase with Rutile)		DNA % change (Decrease with Doxy+Cipro)		RNA % change (Increase with Rutile)		RNA % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.37	0.15	18.39	0.38	4.37	0.13	18.38	0.48
Schizo	23.28	1.70	61.41	3.36	23.59	1.83	65.69	3.94
Seizure	23.40	1.51	63.68	4.66	23.08	1.87	65.09	3.48
Autism	22.12	2.44	63.69	5.14	23.33	1.35	66.83	3.27
Low level EMF	22.29	2.05	58.70	7.34	22.29	2.05	67.03	5.97
	F value 337.577 P value < 0.001		F value 356.621 P value < 0.001		F value 427.828 P value < 0.001		F value 654.453 P value < 0.001	

Table 3 *Effect of rutile and antibiotics on digoxin and delta aminolevulinic acid.*

Group	Digoxin (ng/ml) (Increase with Rutile)		Digoxin (ng/ml) (Decrease with Doxy+Cipro)		ALA % (Increase with Rutile)		ALA % (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	0.11	0.00	0.054	0.003	4.40	0.10	18.48	0.39
Schizo	0.55	0.06	0.219	0.043	22.52	1.90	66.39	4.20
Seizure	0.51	0.05	0.199	0.027	22.83	1.90	67.23	3.45
Autism	0.53	0.08	0.205	0.041	23.20	1.57	66.65	4.26
Low level EMF	0.51	0.05	0.213	0.033	22.29	2.05	61.91	7.56
	F value 135.116 P value < 0.001		F value 71.706 P value < 0.001		F value 372.716 P value < 0.001		F value 556.411 P value < 0.001	

Table 4 *Effect of rutile and antibiotics on succinate and glycine.*

Group	Succinate % (Increase with Rutile)		Succinate % (Decrease with Doxy+Cipro)		Glycine % change (Increase with Rutile)		Glycine % change (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.41	0.15	18.63	0.12	4.34	0.15	18.24	0.37
Schizo	22.76	2.20	67.63	3.52	22.79	2.20	64.26	6.02
Seizure	22.28	1.52	64.05	2.79	22.82	1.56	64.61	4.95
Autism	21.88	1.19	66.28	3.60	23.02	1.65	67.61	2.77
Low level EMF	22.29	1.33	65.38	3.62	22.13	2.14	66.26	3.93
	F value 403.394 P value < 0.001		F value 680.284 P value < 0.001		F value 348.867 P value < 0.001		F value 364.999 P value < 0.001	

Table 5 *Effect of rutile and antibiotics on pyruvate and Glutamate.*

Group	Pyruvate % change (Increase with Rutile)		Pyruvate % change (Decrease with Doxy+Cipro)		Glutamate (Increase with Rutile)		Glutamate (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.34	0.21	18.43	0.82	4.21	0.16	18.56	0.76
Schizo	20.99	1.46	61.23	9.73	23.01	2.61	65.87	5.27
Seizure	20.94	1.54	62.76	8.52	23.33	1.79	62.50	5.56
Autism	21.91	1.71	58.45	6.66	22.88	1.87	65.45	5.08
Low level EMF	22.29	2.05	62.37	5.05	21.66	1.94	67.03	5.97
	F value 321.255 P value < 0.001		F value 115.242 P value < 0.001		F value 292.065 P value < 0.001		F value 317.966 P value < 0.001	

Table 6 *Effect of rutile and antibiotics on hydrogen peroxide and Ammonia.*

Group	H_2O_2 % (Increase with Rutile)		H_2O_2 % (Decrease with Doxy+Cipro)		Ammonia % (Increase with Rutile)		Ammonia % (Decrease with Doxy+Cipro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
Normal	4.43	0.19	18.13	0.63	4.40	0.10	18.48	0.39
Schizo	22.50	1.66	60.21	7.42	22.52	1.90	66.39	4.20
Seizure	23.81	1.19	61.08	7.38	22.83	1.90	67.23	3.45
Autism	23.52	1.49	63.24	7.36	23.20	1.57	66.65	4.26
Low level EMF	23.29	1.67	60.52	5.38	22.29	2.05	61.91	7.56
	F value 380.721 P value < 0.001		F value 171.228 P value < 0.001		F value 372.716 P value < 0.001		F value 556.411 P value < 0.001	

Section 2: Patient Study

Table 1

Group	RBC digoxin (ng/ml RBC Susp)		Cytochrome F 420		HERV RNA (ug/ml)		H_2O_2 (umol/ml RBC)		NOX (OD diff/hr/mgpro)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	0.58	0.07	1.00	0.00	17.75	0.72	177.43	6.71	0.012	0.001
RHCD	1.41	0.23	4.00	0.00	55.17	5.85	278.29	7.74	0.036	0.008
LHCD	0.18	0.05	0.00	0.00	8.70	0.90	111.63	5.40	0.007	0.001
Schizophrenia	1.38	0.26	4.00	0.00	51.17	3.65	274.88	8.73	0.036	0.009
Seizure	1.23	0.26	4.00	0.00	50.04	3.91	278.90	11.20	0.038	0.007
Autism	1.19	0.24	4.00	0.00	52.87	7.04	274.52	9.29	0.036	0.006
Exposure to EMF	1.41	0.30	4.00	0.00	51.01	4.77	276.49	10.92	0.038	0.007
F value	60.288		0.001		194.418		713.569		44.896	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 2

Group	TNF ALP (pg/ml)		ALA (umol24)		PBG (umol24)		Uroporphyrin (nmol24)		Coproporphyrin (nmol/24)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	17.94	0.59	15.44	0.50	20.82	1.19	50.18	3.54	137.94	4.75
RHCD	78.63	5.08	63.50	6.95	42.20	8.50	250.28	23.43	389.01	54.11
LHCD	9.29	0.81	3.86	0.26	12.11	1.34	9.51	1.19	64.33	13.09
Schizophrenia	78.23	7.13	66.16	6.51	42.50	3.23	267.81	64.05	401.49	50.73
Seizure	79.28	4.55	68.28	6.02	46.54	4.55	290.44	57.65	436.71	52.95
Autism	76.71	5.25	68.16	4.92	42.04	2.38	318.84	82.90	423.29	47.57
Exposure to EMF	76.41	5.96	68.41	5.53	47.27	3.42	288.21	26.17	444.94	38.89
F value	427.654		295.467		183.296		160.533		279.759	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 3

Group	Protoporphyrin (Ab unit)		Heme (uM)		Bilirubin (mg/dl)		Biliverdin (Ab unit)		ATP synthase (umol/gHb)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	10.35	0.38	30.27	0.81	0.55	0.02	0.030	0.001	0.36	0.13
RHCD	42.46	6.36	12.47	2.82	1.70	0.20	0.067	0.011	2.73	0.94
LHCD	2.64	0.42	50.55	1.07	0.21	0.00	0.017	0.001	0.09	0.01
Schizophrenia	44.30	2.66	12.82	2.40	1.74	0.08	0.073	0.013	2.66	0.58
Seizure	49.59	1.70	13.03	0.70	1.84	0.07	0.070	0.015	3.09	0.65
Autism	47.50	2.87	12.37	2.09	1.83	0.16	0.072	0.014	2.67	0.80
Exposure to EMF	50.59	1.71	12.36	1.26	1.75	0.22	0.073	0.013	3.39	1.03
F value	424.198		1472.05		370.517		59.963		54.754	
P value	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	

Table 4

Group	SE ATP (umol/dl)		Cyto C (ng/ml)		Lactate (mg/dl)		Pyruvate (umol/l)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	0.42	0.11	2.79	0.28	7.38	0.31	40.51	1.42
RHCD	2.24	0.44	12.39	1.23	25.99	8.10	100.51	12.32
LHCD	0.02	0.01	1.21	0.38	2.75	0.41	23.79	2.51
Schizophrenia	1.26	0.19	11.58	0.90	22.07	1.06	96.54	9.96
Seizure	1.66	0.56	12.06	1.09	21.78	0.58	90.46	8.30
Autism	2.03	0.12	12.48	0.79	21.95	0.65	92.71	8.43
Exposure to EMF	1.37	0.27	12.26	1.00	23.31	1.46	103.28	11.47
F value	67.588		445.772		162.945		154.701	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 5

Group	RBC Hexokinase (ug glu phos/ hr/mgpro)		ACOA (mg/dl)		ACH (ug/ml)		Glutamate (mg/dl)	
	Mean	± SD	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	1.66	0.45	8.75	0.38	75.11	2.96	0.65	0.03
RHCD	5.46	2.83	2.51	0.36	38.57	7.03	3.19	0.32
LHCD	0.68	0.23	16.49	0.89	91.98	2.89	0.16	0.02
Schizo	7.69	3.40	2.51	0.57	48.52	6.28	3.41	0.41
Seizure	6.29	1.73	2.15	0.22	33.27	5.99	3.67	0.38
CJD	8.81	4.26	2.42	0.41	50.61	6.32	3.30	0.32
Exposure to EMF	7.58	3.09	2.14	0.19	37.75	7.31	3.47	0.37
F value	18.187		1871.04		116.901		200.702	
P value	< 0.001		< 0.001		< 0.001		< 0.001	

Table 6

Group	Se. ammonia (ug/dl)		HMG Co A (HMG CoA/MEV)		Bile acid (mg/ml)	
	Mean	± SD	Mean	± SD	Mean	± SD
NO/BHCD	50.60	1.42	1.70	0.07	79.99	3.36
RHCD	93.43	4.85	1.16	0.10	25.68	7.04
LHCD	23.92	3.38	2.21	0.39	140.40	10.32
Schizophrenia	94.72	3.28	1.11	0.08	22.45	5.57
Seizure	95.61	7.88	1.14	0.07	22.98	5.19
Autism	94.01	5.00	1.12	0.06	23.16	5.78
Exposure to EMF	102.62	26.54	1.00	0.07	22.58	5.07
F value	61.645		159.963		635.306	
P value	< 0.001		< 0.001		< 0.001	

Abbreviations

NO/BHCD: Normal/Bi-hemispheric chemical dominance

RHCD: Right hemispheric chemical dominance

LHCD: Left hemispheric chemical dominance

Discussion

There was increase in cytochrome F420 indicating archaeal growth. The archaea can synthesize and use cholesterol as a carbon and energy source[2, 10]. The archaeal origin of the enzyme activities was indicated by antibiotic induced suppression. The study indicates the presence of actinide based archaea with an alternate actinide based enzymes or metalloenzymes in the system as indicated by rutile induced increase in enzyme activities[11]. The archaeal beta hydroxyl steroid dehydrogenase activity indicating digoxin synthesis[12]. The archaeal cholesterol oxidase activity was increased resulting in generation of pyruvate and hydrogen peroxide[10]. The pyruvate gets converted to glutamate and ammonia by the GABA shunt pathway. The pyruvate is converted to glutamate

by serum glutamate pyruvate transaminase. The glutamate gets acted upon by glutamate dehydrogenase to generate alpha ketoglutarate and ammonia. Alanine is most commonly produced by the reductive amination of pyruvate via alanine transaminase. This reversible reaction involves the interconversion of alanine and pyruvate, coupled to the interconversion of alpha-ketoglutarate (2-oxoglutarate) and glutamate. Alanine can contribute to glycine. Glutamate is acted upon by Glutamic acid decarboxylase to generate GABA. GABA is converted to succinic semialdehyde by GABA transaminase. Succinic semialdehyde is converted to succinic acid by succinic semialdehyde dehydrogenase. Glycine combines with succinyl CoA to generate delta aminolevulinic acid catalysed by the enzyme ALA synthase. There was upregulated archaeal porphyrin synthesis in the patient population which was archaeal in origin as indicated by actinide catalysis of the reactions. The cholesterol oxidase pathway generated pyruvate which entered the GABA shunt pathway. This resulted in synthesis of succinate and glycine which are substrates for ALA synthase. The archaea can undergo magnetite and calcium carbonate mineralization and can exist as calcified nanoforms[13].

The generation of the Warburg phenotype can produce porphyrinogenesis. An actinide dependent shadow biosphere of archaea and viroids in autism, schizophrenia and seizure disorder is described. The archaea can synthesize porphyrins and induce porphyrin synthesis. Porphyrins have been related to autism, schizophrenia and seizure disorder. Porphyrins can mediate the effect of low level electromagnetic fields inducing the Warburg phenotype leading to the above mentioned disease states. The Warburg phenotype results in inhibition of pyruvate dehydrogenase and the TCA cycle. The pyruvate enters the GABA shunt pathway where it is converted to succinyl CoA. The glycolytic pathway is upregulated and the glycolytic metabolite phosphoglycerate is converted to serine and glycine. Glycine and succinyl CoA are the substrates for ALA synthesis. The

archaea induces the enzyme heme oxygenase. Heme oxygenase converts heme to bilirubin and biliverdin. This depletes heme from the system and results in upregulation of ALA synthase activity resulting in porphyria. Heme inhibits HIF alpha. The heme depletion results in upregulation of HIF alpha activity and further strengthening of the Warburg phenotype. The porphyrin self oxidation results in redox stress which activates HIF alpha and generates the Warburg phenotype. The Warburg phenotype results in channeling acetyl CoA for cholesterol synthesis as the TCA cycle and mitochondrial oxidative phosphorylation are blocked. The archaea uses cholesterol as an energy substrate. Porphyrin and ALA inhibits sodium potassium ATPase. This increases cholesterol synthesis by acting upon intracellular SREBP. The cholesterol is metabolised to pyruvate and then the GABA shunt pathway for ultimate use in porphyrin synthesis. The porphyrins can self organize and self replicate into macromolecular arrays. The porphyrin arrays behave like an autonomous organism and can have intramolecular electron transport generating ATP. The porphyrin macroarrays can store information and can have quantal perception. The porphyrin macroarrays serves the purpose of archaeal energetics and sensory perception. The Warburg phenotype is associated with autism and schizophrenia.

Porphyrin can regulate the brain mediating conscious and quantal perception. Porphyrin microarrays serve the purpose of quantal and conscious perception. The archaea and viroids via porphyrin synthesis can regulate the nervous system including the NMDA/GABA thalamo-cortico-thalamic pathway mediating conscious perception. Porphyrin photo-oxidation can generate free radicals which can modulate NMDA transmission. Free radicals can increase NMDA transmission. Free radicals can induce GAD and increase GABA synthesis. ALA blocks GABA transmission and upregulates NMDA. Protoporphyrins bind to GABA receptor and promote GABA transmission. Thus porphyrins can modulate the thalamo-cortico-thalamic pathway of conscious perception.

Consciousness involves three parameters – working memory, perceptual synchronization and focussed attention. Working memory is mediated by the reverberatory thalamo-cortico-thalamic circuit. Focussed attention depends upon projections from the thalamic reticular nucleus to the thalamocorticothalamic circuit which is gated by these NMDA/GABAergic fibers. Porphyrins can modulate the NMDA/GABAergic thalamo-cortico-thalamic reverberatory circuit and the gating thalamoreticular nuclear projections to the thalamo-cortico-thalamic pathway. Perceptual synchronization is a quantal phenomena depending upon the quasicrystal tiling effect mediated by contraction and retraction of dendritic spines. Porphyrins binding to dendritic spine proteins can modulate the contraction and retraction of dendritic spines. Porphyrin binding to dendritic spine proteins can also produce biophoton emission and a quantal state.

The brain functions as a quantum computer with quantum computer memory elements constituted of superconducting quantum interference devices – the SQUIDS which can exists as superpositions of macroscopic states. Bose condensation, the basis of superconductivity is achievable at room temperature in the Frohlich model in biological systems. The dielectric dipolar porphyrins are excellent electric dipole oscillators which exist under a steep neuronal membrane voltage gradient. The individual oscillators are energised with constant source of pumping energy from outside by porphyrin binding to membrane sodium potassium ATPase and producing a paroxysmal depolarisation shift in the neuronal membrane. This prevents the dipole oscillators from ever settling into thermal equilibrium with the cytoplasm and the interstitial fluid which is always kept at constant temperature. Bose condensed states produced by porphyrin mediated dielectric magnetite molecular pumped phonon system could be used to store information which might be encoded – all within the lowest collective frequency mode – by appropriately adjusting the amplitude and phase relations between the dipole oscillators. The external world sensory impression exists in

the dipole oscillators as probabilistic multiple superimposed patterns – the U phase of quantum mechanics. The part of the incoming quantal data maps of the external world built by subliminal perception in logical sequence and corollary to the external cortical world map built by conscious perception is chosen. Porphyrin by acting on neuronal membrane helps to magnify the chosen map to one graviton criteria and to the threshold required for the neuronal network to fire and consciousness. The porphyrin microarray sensed gravity can also produce the orchestrated reduction of the quantal possibilities to the macroscopic world. Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Cellular porphyrins photo-oxidation is involved in sensing of earth magnetic fields and low level biomagnetic fields. The comparison between subliminally perceived quantal maps and previous cortical maps stored in synaptic networks occurs by quantal non-local quasicrystal tiling effect which mediates the activation and deactivation of synapses through contraction and growth of dendritic spines. Porphyrin binding to sodium potassium ATPase can modulate lipid microdomains in neuronal membrane altering the conformation of dendritic spine proteins bound to neuronal membrane. This can contribute to contraction and growth of dendritic spines and the quasicrystal tilling effect. The R part of quantal subthreshold perception is not deterministic and it introduces a completely random element into the time evolution and in the operation of R, there might be a role of free will. In the quantal perception there is no past, present or future. All of them can exist together. This gives an explanation for the extrasensory perception and premonitions and visions of the past. Also in the quantal state, non-locality and action at a distance is possible. This can explain psychokinesis and mind travel. The information stored in one brain can be quantally transferred to another brain raising the possibility of reincarnative experiences. Quantal perception model of brain function can give an explanation for hypnosis. In the quantal state, depending on the observer function of consciousness matter can be created out of void. The quantal state comes to the

particulate state only when there is a quantal observer. Consciousness depends upon quantal subliminal perception by cortical dipole magnetite oscillators. The external world comes into existence depending on the observer function of consciousness. Thus consciousness and the external world are interdependent and the external world exists because of the act of observation. The world is a mirage and is a reflection of the observer function of the consciousness[19].

Porphyrins have a wave-particle existence and can bridge the gap between the fermionic and bosonic world and function as the ubiquitous quantal observer. This can create a Higgs field of Higgs bosons which on interaction with subatomic electrons, protons and neutrons gives them mass and existence. The mass of the fundamental particles of nature are determined by the strength of their interactions with Higgs Bosonic field generated by dipolar porphyrin Bose-Einstein condensate. Without Higgs particle matter in the universe will have no mass. Without porphyrin microarray Bose-Einstein's condensate functioning as the quantal observer the macroscopic world would not come into existence. The biological macroscopic particulate universe comes into existence because of dipolar porphyrin bose-einstein's condensates functioning as quantal observer.

Porphyrins can modulate interactions between consciousness and extraneous low level electromagnetic fields and digital information storage systems. The dipolar porphyrins in the setting of digoxin induced sodium potassium ATPase inhibition can produce a pumped phonon system mediated Frohlich model superconducting state inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. ALA can produce sodium potassium ATPase inhibition resulting in a pumped phonon system mediated quantal state involving dipolar porphyrins. Porphyrins by auto-oxidation can generate biophotons and are involved in quantal perception. Biophotons can mediate quantal perception.

Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Cellular porphyrins photo-oxidation is involved in sensing of earth magnetic fields and low level biomagnetic fields. Porphyrins can thus contribute to quantal perception. Low level electromagnetic fields and light can induce porphyrin synthesis. Low level EMF can produce ferrochelatase inhibition as well as heme oxygenase induction contributing to heme depletion, ALA synthase induction and increased porphyrin synthesis. Light also induces ALA synthase and porphyrin synthesis. The increased porphyrin synthesized can contribute to increased quantal perception and can modulate conscious perception. The human porphyrin microarrays induced biophotons and quantal fields can modulate the source from which low level EMF and photic fields were generated. Thus the porphyrin generated by extraneous low level EMF and photic fields can interact with the source of low level EMF and photic fields modulating it. Thus porphyrins can serve as a bridge between the human brain and the source of low level EMF and photic fields. This serves as a mode of communication between the human brain and digital EMF storage devices like internet. The porphyrins can also serve as the source of communication with the environment. Environmental EMF and chemicals produce heme oxygenase induction and heme depletion increasing porphyrin synthesis, quantal perception and two-way communication. Thus induction of porphyrin synthesis can serve as a mechanism of communication between human brain and the environment by extrasensory perception. Porphyrin microarrays can function as quantal computers storing information and can serve the purpose of extrasensory perception. Porphyrins can serve as a two way communicating bridge between digital information storage systems generating low level electromagnetic fields and human systems. The low level of EMF produced by digital system enhances porphyrin synthesis and serves the purpose of two way extrasensory perception and communication. The human porphyrin

quantal computers can in turn by biophoton emission modulate digital information storage system.

Porphyrins can modulate the phenomena of biological reincarnation. The porphyrin microarrays can store all the world experiences in dipole oscillators serving as a store of biological quantal information. The archaea and porphyrins are eternal and never die. The archaeal porphyrin microarrays can carry all the biological information in the world for eternity. The cellular porphyrin microarrays can carry the biological information in the quantal porphyrin microarray computers to the embryonal cells mediating a form of biological reincarnation. The eternal porphyrin microarrays functioning as quantal computers can serve as a source of preexisting biological information of a previous life for the purpose of building up the present biological personality of a new individual in continuation with experiences in previous life stored in porphyrin microarray quantal computers. The quantal perception mediated by porphyrin microarray quantal computer also gives rise to the phenomena of the collective unconscious where the biological information stored archaeal magnetite quantal computers in different brains function as one single undivided whole[19].

The porphyrins can modulate hemispheric dominance. There is increased porphyrin synthesis and RHCD and decreased porphyrin synthesis in LHCD. The increase in archaeal porphyrins can contribute to the pathogenesis of schizophrenia and autism. Porphyria can lead to psychiatric disorders and seizures. Altered porphyrin metabolism has been described in autism. Porphyrins by modulating conscious and quantal perception is involved in the pathogenesis of schizophrenia and autism[3, 4, 16]. Thus porphyrins microarrays can function as a quantal brain modulating extrasensory quantal perception. Porphyrin microarrays can function as a quantal brain in communication with digital world and geomagnetic fields.

Porphyrin microarrays function as quantal computers mediating conscious and quantal perception. The porphyrins have contributed to abiogenesis and the origin of life as well as biological universe. The metal actinides provide radiolytic energy, catalysis for oligomer formation and provide a co-ordinating ion for metalloenzymes all important in abiogenesis[6]. The metal actinide surfaces would by surface metabolism generate porphyrins from simple compounds like succinic acid and glycine. Porphyrins can exist as wave forms and particulate forms and can bridge the dividing line between the quantal world and particulate world. Porphyrin molecules can self organize into organisms with energy transduction, ATP synthesis and information storage with replicating capacity. A self replicating porphyrin micro-organism may have played a role in the origin of life. Porphyrins can form templates on which macromolecules like polysaccharides, protein and nucleic acids can form. The macromolecules generated on actinidic porphyrins templates would have contributed to the actinidic nanoarchaea and the original organisms on earth. The data supports the persistence of an actinidic archaeal shadow biosphere which throws light on the actinide based origin of life and porphyrins as the premier prebiotic molecule[17, 18]. Porphyrins play an important role in the genesis of the biological universe. The porphyrin macroarrays can form in the interstellar space on its own as porphyrins can exist both as particles and waves. Porphyrins form the bridging connection between the quantal world and the particulate world. The self generated porphyrins from the quantal foam can self organize to form macroarrays, can store information and self replicate. This can be called as an abiotic porphyrin organism. The porphyrin template would have generated nucleic acids, proteins, polysaccarides and isoprenoids. This would have generated actinidic nanoarchaea in the interstellar space. The porphyrins have magnetic properties and the interstellar porphyrin organism can contribute to the interstellar grains and interstellar magnetic fields. The cosmic dust grains of porphyrin macroarrays/nanoarchaeal organism occupy the intergalactic space and are thought to be formed of magnetotactic bacteria

identified according to their spectral signatures. According to the Hoyle's hypothesis, the cosmic dust magnetotactic porphyrin macroarrays/nanoarchaeal organism plays a role in the formation of the intergalactic magnetic field. A magnetic field equal in strength to about one millionth part of the magnetic field of earth exists throughout much of our galaxy. The magnetic files can be used to trace the spiral arms of the galaxy following a pattern of field lines that connect young stars and dust in which new stars are formed at a rapid rate. Studies have shown that a fraction of the dust particles have elongated shape similar to bacilli and they are systematically lined up in our galaxy. Moreover the direction of alignment is such that the long axes of the dust tend to be at right angles to the direction of the galactic magnetic field at every point. Magnetotactic porphyrin macroarrays/nanoarchaeal organism have the property to affect the degree of alignment that is observed. The fact that the magnetotactic porphyrin macroarrays/nanoarchaeal organisms appear to be connected to the magnetic field lines that thread through the spiral arms of the galaxy connecting one region of star formation to another support a role for them in star formation and in the mass distribution and rotation of stars. The nutrient supply for a population of interstellar porphyrin macroarrays/nanoarchaeal organisms comes from mass flows out of supernovas populating the galaxy. Giants arising in the evolution of such stars experience a phenomenon in which material containing nitrogen, carbon monoxide, hydrogen, helium, water and trace elements essential for life flows continuously outward into space. The interstellar organisms need liquid water. Water exists only as vapour or solid in the interstellar space and only through star formation leading to associated planets and cometary bodies can there be access to liquid water. To control conditions leading to star formation is of paramount importance in cosmic biology. The rate of star formation is controlled by two factors: Too high a rate of star formation produces a destructive effect of UV radiation and destroys cosmic biology. Star formation as stated before produces water crucial for organism growth. Cosmic biology of

magnetotactic organisms and star formation are thus closely interlinked. Systems like solar systems do not arise in random condensation of blobs of interstellar gas. Only by a rigorous control of rotation of various parts of the system would galaxies and solar system evolved. The key to maintaining control over rotation seems to lie in the intergalactic magnetic field as indeed the whole phenomena of star formation. The intergalactic magnetic fields owes its origin to the lining up of magnetotactic porphyrin macroarrays/nanoarchaeal organisms and the cosmic biology of interstellar organisms can prosper only by maintaining a firm grip on the interstellar magnetic field and hence on the rate of star formation and type of star system produced. This points to a cosmic intelligence or brain capable of computation, analysis and exploration of the universe at large – of magnetotactic porphyrin macroarrays/nanoarchaeal organism networks. The origin of life on earth according to the Hoyle's hypothesis would be by seeding of porphyrin macroarrays/nanoarchaeal organism from the outer intergalactic space. The porphyrin organism can also be generated on actinidic surfaces in earth. Comets carrying porphyrin organisms would have interacted with the earth. A thin skin of graphitized material around a single porphyrin macroarrays/nanoarchaeal organism or clumps of organism can shield the interior from destruction by UV light. The sudden surge and diversification of species of plants and animals and their equally sudden extinction has seen from fossil records point to sporadic evolution produced by induction of fresh cometary genes with the arrival of each major new crop of comets. The porphyrin macroarrays organism can have a wave particle existence and bridge the world of bosons and fermions. The porphyrin macroarrays/nanoarchaeal organism can form biofilms and the porphyrin organism can form a molecular quantum computing cloud in the biofilm which forms an interstellar intelligence regulating the formation of star systems and galaxies. The porphyrin macroarrays/ nanoarchaeal organism quantal computing cloud can bridge the wave particle world functioning as the anthropic observer sensing gravity which orchestrates the reduction of the quantal world of

possibilities in to the macroscopic world. The actinide based porphyrin macroarrays/nanoarchaeal organism regulates the human system and biological universe[19-21].

Porphyrins also have evolutionary significance since porphyria is related to Scythian races and contributes to the behavioural and intellectual characteristics of this group of population. Porphyrins can intercalate into DNA and produce HERV expression. HERV RNA can get converted to DNA by reverse transcriptase which can get integrated into DNA by integrase. This tends to increase the length of the non coding region of the DNA. The increase in non coding region of the DNA is involved in primate and human evolution. Thus, increased rates of porphyrin synthesis would correlate with increase in non coding DNA length. The alteration in the length of the non coding region of the DNA contributes to the dynamic nature of the genome. Thus genetic and acquired porphyrias can lead to alteration in the non coding region of the genome. The alteration of the length of the non coding region of the DNA contributes to the racial and individual differences in populations. An increased length of non coding region as well as increased porphyrin synthesis leads to increased cognitive and creative neuronal function. Porphyrins are involved in quantal perception and regulation of the thalamo-cortico-thalamic pathway of conscious perception. Thus genetic and acquired porphyrias contribute to higher cognitive and creative capacity of certain races. Porphyrias are common among Eurasian Scythian races who have assumed leadership roles in communities and groups. Porphyrins have contributed to human and primate evolution[3, 4]. The increased porphyrin synthesis in the Scythian races contributes to higher level of extrasensory quantal perception in this racial group. This contributes to higher level of cognitive and spiritual function of the brain in this racial group.

Porphyrins can mediate conscious and quantal perception. The porphyrins can modulate the thalamo-cortico-thalamic pathway of conscious perception. Porphyrins can undergo autooxidation generating biophotons and a quantal state. Porphyrins can intercalate in the neuronal membrane producing sodium potassium ATPase inhibition and a paroxysmal depolarisation shift in neuronal membrane. This can generate a pumped phonon system mediated Frohlich model superconducting state in dipolar porphyrins inducing quantal perception with nanoarchaeal sensed gravity producing the orchestrated reduction of the quantal possibilities to the macroscopic world. Porphyrins have a wave-particle existence and can bridge the boundary between the fermionic and bosonic world functioning as a quantal observer. This can create a Higgs field of Higgs Bosons which on interaction with subatomic electrons, protons and neutrons gives them mass and existence. Porphyrin auto-oxidation is modulated by low level of electromagnetic fields and geomagnetic fields. Porphyrin microarrays can function as quantal computers storing information and can serve the purpose of extrasensory perception. Porphyrins can serve as a two way communicating bridge between digital information storage systems generating low level electromagnetic fields and human systems. The low level of EMF produced by digital system enhances porphyrin synthesis and serves the purpose of two way extrasensory perception and communication. The human porphyrin quantal computers can in turn by biophoton emission modulate digital information storage system. Dipolar porphyrin mediated Bose-Einstein condensate forms the basis of quantal and conscious perception and is the ubiquitous quantal observer mediating the boundary between fermionic and bosonic world.

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