



Big Bang, Life, Humans, Brain/Mind Roles, Life Creation, and Mind-controlled Robots

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Abstract: Using creative approaches, this paper focuses on (a) evolution of the world from the beginning up to the birth of the solar system, (b) condition of the early earth before the beginning of life on it, (c) before Alcmaeon’s discovery of brain, emotions and intelligence were believed to be in the heart, (d) development of stress-anxiety controlled LEGO robot started in 2023, and (e) current development of MUSE-2-controlled LEGO robot and (f) use of diamond neural probes to study complex life forms and (g) possible creation of new life forms.

I. INTRODUCTION

Resulted from big bang, evolution of the world from the beginning up to the birth of the solar system, and condition of the early earth before the beginning of life on it [1]. How the life emerged on earth [2] is shown in Fig.1. It is important to know the evolution of the world from the beginning to birth of the solar system and discuss the beginning of life on earth after formation of earth [3]. Using creative approaches, this paper focuses on (a) evolution of the world from the beginning up to the birth of the solar system, (b) condition of the early earth before the beginning of life on it, (c) before Alcmaeon’s discovery of brain, emotions and intelligence were believed to be in the heart, (d) development of stress-anxiety controlled LEGO robot started in 2023, (e) current development of MUSE-controlled LEGO robot, (f) use of diamond neural probes to study complex life forms and (g) possible creation of new life forms.

II. CREATION OF EARTH AND LIFE

As shown in Fig. 1, although the brain size increased from 450 cc (Lucy) to 1550 cc (Neanderthals) its role was not clear to ancient Egyptians, Chinese and other old cultures until the brain’s role was identified by Alcmaeon (470-399 BC). Before Alcmaeon’s discovery, emotions and intelligence were believed to be in the heart although heart has only 40,000 neurons as compared to 86 billion neurons in the brain. Many cultures, including the three major religions, use phrases such as “I like you from the bottom of my heart” which is incorrect.

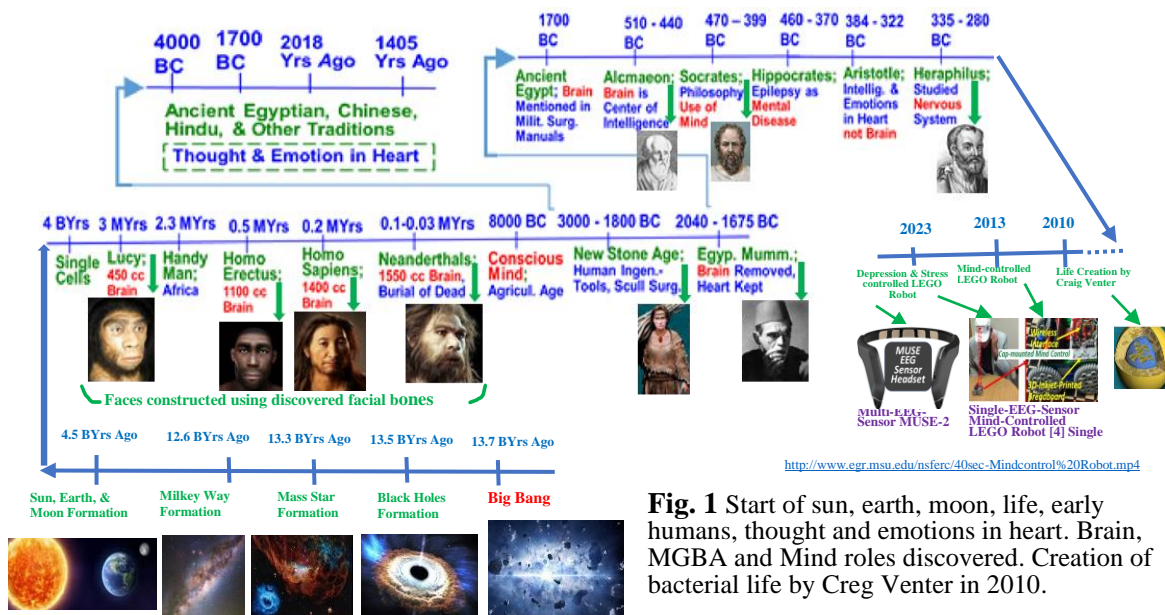


Fig. 1 Start of sun, earth, moon, life, early humans, thought and emotions in heart. Brain, MGBA and Mind roles discovered. Creation of bacterial life by Creg Venter in 2010.



Historically, community-living is found to promote longevity. Brain size and community-living have strongly affected longevity in the past. Lucy's life span, 3 million years ago, was less than 25 years because, as shown in Fig. 1, Lucy's brain size was just 450 cc. Homo sapiens, around 200,000 years ago, had a life span of 30–35 years with a brain size of 1400 cc. Neanderthals, with a brain size of 1550, lived in a high-stress environment with high trauma rates, and about 80% of them died before the age of 40. Ancient Egyptians who survived childhood, had a life expectancy of 30 years for women and 34 years for men.

III. MIND-CONTROLLED LEGO ROBOT USING MINDWAVE MOBILE 2

As shown in Fig. 1, a single-EEG-sensor mind-controlled LEGO robot was developed in 2013 [4] After it was recorded and promoted by IEEE (Institute for Electrical and Electronics Engineers), it was the focus of attention internationally and Dean Aslam was part of 84 multimedia reports and interviews [5] by world media with 57 reports and interviews alone in 2014.

This robot, unique in the world, is now being used for creative new research on self-study of stress and anxiety as a function attention and meditation levels. The development of stress-anxiety controlled LEGO robot was started in 2023 [5]. An early version has been used for self-study of cancer reoccurrence stress [6]. As shown in Fig. 1, this paper started initial experimentation with seven sensor MUSE 2 using an android smart phone.

IV. BRAIN PARTS AND FUNCTIONS

As shown in Fig. 2 (a)-(d), the brain parts and their roles make the brain a very complex part of the human body. The brain is a very important part of MGBA (Microbiome-Gut-Brain-Axis). When three major religions were being introduced the presence of brain was unknown.

However, today, it is important to consider how religious beliefs can (i) alter the economic behavior of individuals, (ii) impact economies, (iii) explain neoclassical and psychological economics, and (iv) explain the influence of religion on happiness [7]. To study the complexity of brain parts, as shown in Fig. 2, in an exciting way this study is developing a MUSE 2 controlled LEGO robot.

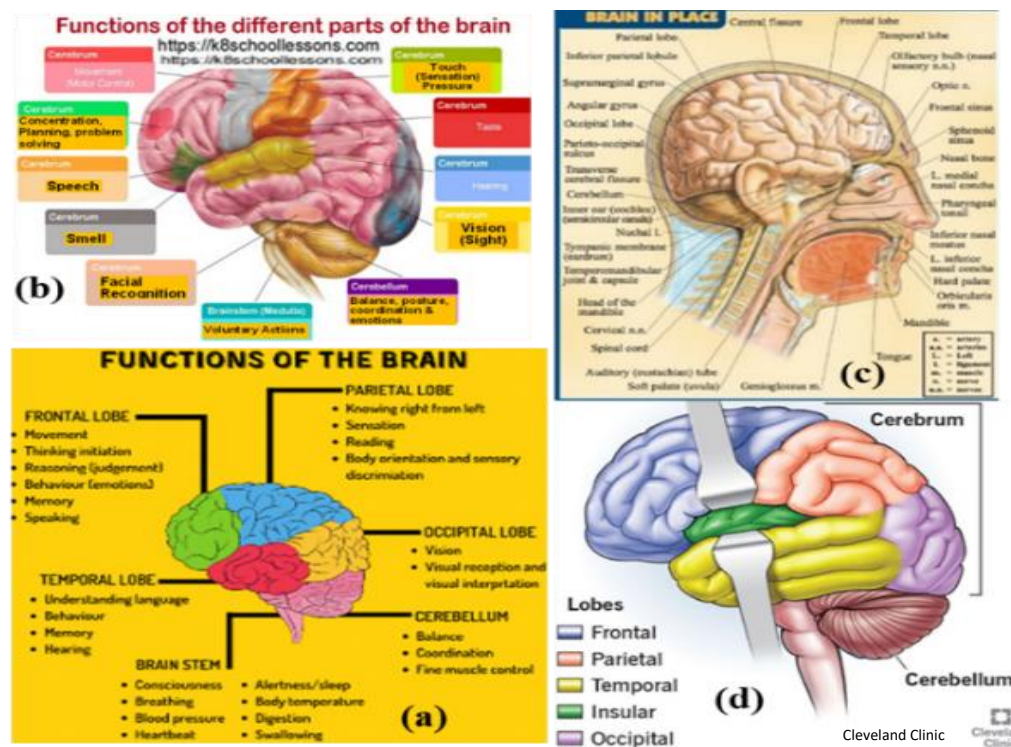


Fig. 2 Brain parts; (a) brain functions, (b) parts of brain, (c) brain in place, and (d) brain lobes.



V. MUSE 2 USED IN EXCITING NEW RESEARCH

As shown in Fig. 3, the EEG headset MUSE 2 is being used to study day-to-day individual alpha frequency variability that relates to anxiety and depression [8]. Can the stress levels of different groups of people be measured? Do very religious people today have parts of the brain less used because they don't question the parts of brain related to religious beliefs? This may reduce the stress levels of religious people affecting their longevity positively. Do they have more/less alpha, delta, and theta waves (the EEG waves that can help reduce stress) as compared to non-believers? Religious people may have/generate more questions if one questions their religion. A stress and anxiety controlled LEGO robot being developed by the current research using MUSE 2 can help investigate the above questions.

Is cerebrum of a non-religious person more active than the one for a religious person? Recent research has commented on religion, the social brain, and the mystical stance [9] Childhood memories (Amygdala scripts) of religious vs. non-religious people are different. The factors affecting stress may be environment, amygdala scripts, technology usage, stress, diet, etc. Economics, religion, and happiness can also affect stress [7]. As shown in Fig. 3, MUSE has been used to study EEG alpha and other waves. The individual alpha frequency (IAF) has previously been identified as a unique neural signature within the 8–12 Hz alpha frequency band. However, the day-to-day variability of this feature is unknown. To investigate this, healthy participants recorded their own brain activity daily at home using the Muse 2 headband, a low-cost consumer-grade mobile electroencephalography (EEG) device [8].

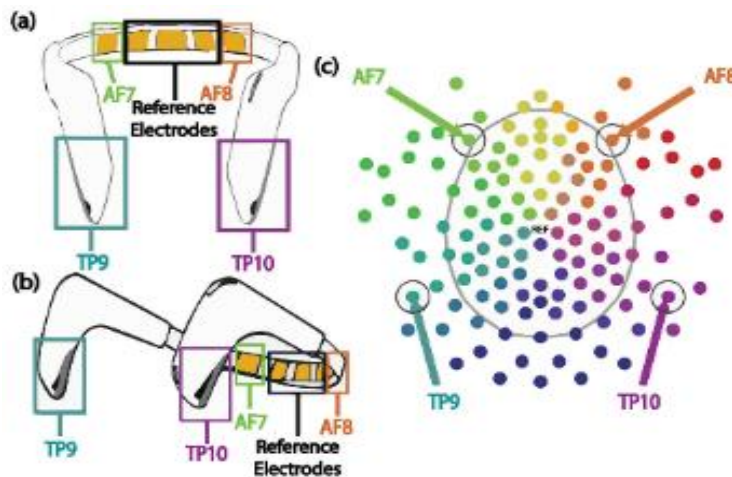


Fig. 3 Study of alpha wave variability using MUSE [8].

VI. MIND-CONTROLLED LEGO ROBOT USING MUSE 2

Fig. 4 shows a mind-controlled LEGO robot being built using a MUSE 2 headset. The goal is to study the presence/change of delta, theta, and alpha waves. This study should help investigate human stress, anxiety, and depression as a function of environment (human and non-human) and diet.

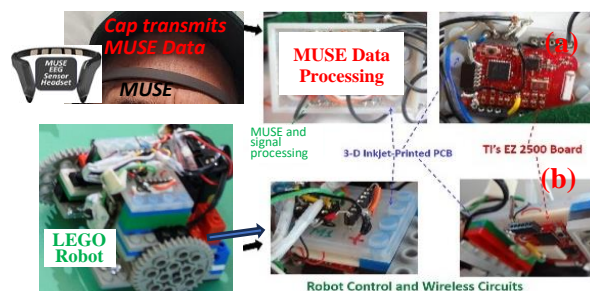


Fig. 4 Stress-, anxiety- and depression-controlled LEGO robot being developed using MUSE. EZ 2500 boards in cap (a) and robot (b) are connected wirelessly using 2.4 GHz.



As shown in Fig. 4, one EZ 2500 board, mounted in the cap, transmits 2.4 GHz signal that is received by another EZ 2500 board mounted in the LEGO robot along with a microcontroller that is programmed to control the robot [10].

Originally, as shown in Fig. 5, this study was used to develop/build a mind-controlled LEGO robot. This technology is being modied for MUSE controlled LEGO robot as shown in Fig. 4. The microcontroller is programmed to compute the MUSE data for stress, anxiety and depression. The details will be subject of future publications.

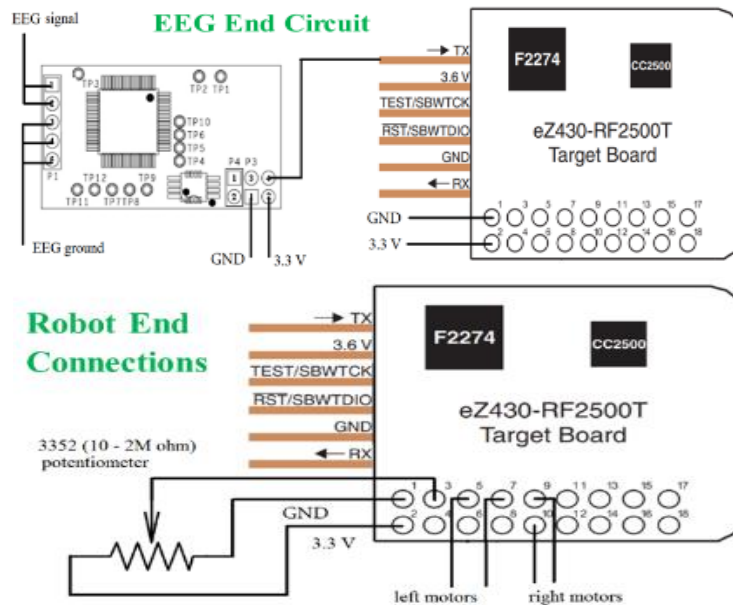


Fig. 5 EEG and Robot ends circuits [10].

VII. CREATION OF NEW LIFE

Fig. 6 shows how Creg Venter created bacterial life in 2010 [11]. Life forms more complex than bacteria need to be created before the creation of complex life such as a human.

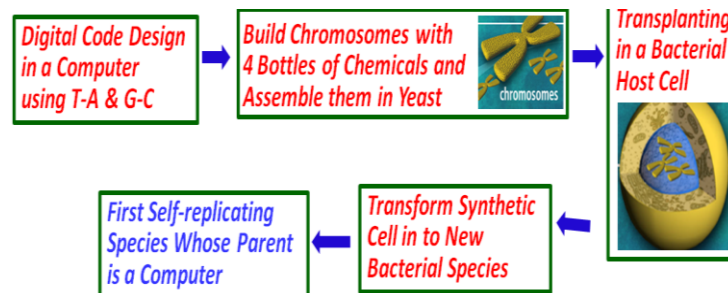


Fig. 6 Creation of bacterial life by Criag Venter [11].

VIII. NEURAL PROBES TO STUDY BRAINS

Human bodies (96 %) consist of four key elements: oxygen (65 percent), carbon (18.5 percent), hydrogen (9.5 percent) and nitrogen (3.3 percent). These elements are found in our body’s most abundant and important molecules, including water, proteins, and DNA. Creative approaches and complex neural probes are needed to study human brains before the creation of complex life forms. One possibility is to use very creative probes such as diamond neural probes as shown in Fig. 7 [12]. Recently, neural probes for simultaneous neural recording and modulation have been developed[11]



It would be better to use diamond neural probe, as shown in Fig. 7, as the diamond, being crystalline form of carbon, does not have any side effects when used to study new and existing life forms. Diamond, the hardest material, becomes flexible if it is very thin as shown in Fig. 7. It is interesting to note that diamond can be insulator, semiconductor and conductor [12].

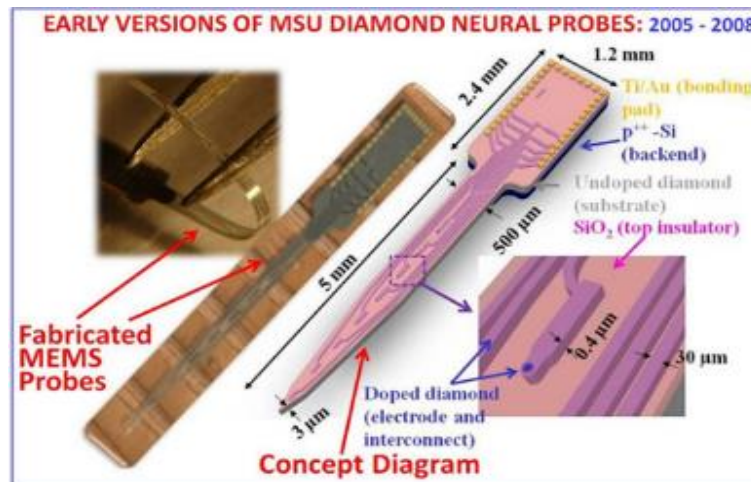


Fig. 7 All-diamond flexible neural probe [12].

IX. CONCLUSIONS

Using creative approaches, this paper focuses on (a) evolution of the world from the beginning up to the birth of the solar system, (b) condition of the early earth before the beginning of life on it, (c) before Alcmaeon's discovery of brain, emotions and intelligence were believed to be in the heart, (d) development of stress-anxiety controlled LEGO robot started in 2023, and (e) current development of MUSE-2-controlled LEGO robot and (f) use of diamond neural probes to study complex life forms and (g) possible creation of new life forms.

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