

## The Genetic Code: A Classic Example of Substitution Phenomenon in Science

Bozegha WB\*

Development Research Project, Yenagoa, Bayelsa State, Nigeria

\*Corresponding author: Bozegha WB, Development Research Project, Yenagoa, Bayelsa State, Nigeria, Tel: +2348068029860; E-mail: wbbozegha@yahoo.co.in

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### Introduction

Substitution phenomena abound in human experience in Science and Scripture making the two sides of the coin of Creation. Some natural, some man-made, but all are aimed at enhanced profitability or improvement of performance or simplification of process of minimification of labour, etc. Examples of man-made substitution.

phenomena include Panama Canal and Suez Canal in voyaging concerns and many others in sporting encounters. The natural include the navel as substitute to the mouth in pre-natal feeding of humans (fetuses) in mother's womb, and before we come to the genetic code, our classic example in protein synthesis, there is yet to be mentioned the supreme example of substitution phenomenon in Scripture involving the death of Jesus Christ on the Cross of Calvary in place of sinners upon divine intervention for the salvation of man, hitherto doomed to die because of death inherited from Adam and sins committed [1,2].

The search for genetic code was prompted by Molecular Biologists' observation in 1953 that the sequence of the RNA four bases A,U,G,C (Adenine, Uracil, Guanine, Cytosine) in the nucleus of a cell influenced the sequence of the 20 amino acids of protein in the surrounding cytoplasm of the cell as they desired to know what governed the correlation between 4 bases and 20 amino acids in the cell. It consequently defined the interaction between the two entities incidental to protein synthesis. Protein synthesis of course with a goal to protein type proliferation and diversification is geared to meeting the stupendous need of proteins for sustenance of plants and animals throughout nature since creation (Figure 1). Ordinarily, the set of 20 amino acids constituting a protein type could be used as input set in the combinatorial input/output multiplicative replication system to achieve astounding proliferation and diversification of proteins. It would be permutation of 20 from 20 i.e.,  $20P_{20}=20!$ . And by tower multiplication we have  $20 \times 19 \times 18 \times 17 \dots 4 \times 3 \times 2 \times 1 = 2,432,902,008,176,640,000$  protein types [3,4].

2	432	902	008	176	640	000
				176	000	Thousand
					640	
					Million	
				008	Billion	
					902	Trillion
				432	Quadrillion	
2	Quintillion					

Figure 1: Metric Count Gravimetiser.

A 19-digit count denominated in metric system by the metric count gravimetiser Figure 1 is 2 quintillion, 432 quadrillion, 902 trillion, 8 billion, 176 million, 640 thousand. It is astounding in proliferation and diversification of proteins but obviously unwieldy for human intellectual capacity, so the all-wise Creator opted for the 4 RNA bases A,U,G,C (Adenine, Uracil, Guanine, Cytosine) as substitute input set of 4, instead of the set of 20 amino acids in the input/output multiplicative replication system. It becomes permutation of 4 from 4 i.e.,  $4P_4=4!=4 \times 3 \times 2 \times 1=24$  quadruplets representing the true genetic code as derived in Appendix 1 being engaged in protein synthesis throughout nature since creation [5].

This genetic code of 24 quadruplet codons affords collinearity with the 20 amino acids of protein on one to one correspondence with 4 spare codons for four place and time based start/stop control signals in protein synthesis.

### Conclusion

Thus, the 24 quadruplet genetic code is the primary workforce of strength 24 engaged in protein synthesis. The protein type proliferation and diversification is drastically cut down from the 19-digit unwieldy figure to a mere 2-digit number, 24 through divine grace and initiative of substitution phenomenon for human intellectual operational capacity. By this substitution phenomenon moderate, nevertheless adequate, protein type proliferation and diversification is now realized, to the end that one set of RNA four bases A, U, G, C as input set gives an output sequence of genetic code of 24 quadruplets for the formation of one protein type of 20 amino acids in a sequence corresponding to that of the genetic code codons. The cycle of engagement of the 24 quadruplet codons as input set continued and with their potency the proliferation and diversification of protein types is seen to be effected and maintained throughout nature since creation.

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## Recommendation

Let this 24 quadruplet genetic code be widely publicized to attract experimental experts in genetics to spell it in order to render it fit for coding application in protein synthesis studies.

## References

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