

Solutions to unanswered questions in science

(Many of these are listed and linked in bio at

[https://www.garystong.com/GST-RESUME/GST Bio&Work 2022.pdf](https://www.garystong.com/GST-RESUME/GST%20Bio&Work%202022.pdf))

1. Why we yawn (not for oxygen),
2. the source (not running) of human bipedality,
3. How native language mechanism (and not culture) creates many ethnic behaviors, e.g, why our “goodbye” gesture in China means “come here”,
4. Why the deaf can’t speak normally and how they could easily learn it,
5. How children automatically learn speech (not by imitation)
6. How three lingual centers of mass produce all phonemes through permutations of agonist/antagonist roles
7. The physical source of differences between male and female body motions and perceptions, e.g., why in relaxed standing women bring knees together while men separate them.
8. I have located the long sought basis of articulation of languages and can demonstrate many; in my own recordings of the native pronunciation of ten languages, cf. <https://www.garystong.com/Pronunciation/Samples>
9. Why Western, Middle Eastern and Oriental writing, or American and European book title on spines run in different directions
10. The system of vertebrate limb movements (not placements of foot prints), cf. [https://www.garystong.com/Vertebrate Motion/CoordinationModes.pdf](https://www.garystong.com/Vertebrate%20Motion/CoordinationModes.pdf)
[https://www.garystong.com/Vertebrate Motion/Legend.pdf](https://www.garystong.com/Vertebrate%20Motion/Legend.pdf)
11. The dual bodies of vertebrates as described by A. S. Romer of Harvard
12. The origin of the insect flight motor
13. The climate based consonant richness in languages (not due to vegetation as advocated by I. Maddieson <https://doi.org/10.1121/2.0000198>)
14. Structural elements connecting the body and mind as seen in the introspective researches of William James,
15. The accidental discovery of the wheel – derived from jewelry craft [https://www.garystong.com/Wheel/the invention of the wheel.pdf](https://www.garystong.com/Wheel/the%20invention%20of%20the%20wheel.pdf)
16. Magnetic alignment in animals – correct kinesiological orientation increases efficiency of muscular movements –with applications in human ergonomics
17. How to sense the geomagnetic field and perceive magnetic directions
18. Tongue breakers: the key to fundamental phonetic fluency and, therefore a factor in the evolution of grammar
19. Vowel harmony in Hungarian – the physiological explanation
20. Phase relationship between rates of limb movement and respiration – rate of limb motion increases linearly, while respiration rate accompanying this motion speeds up and slows down cyclically (can be verified using an exercise bike)
21. The larynx as the regulating interface of respiration, and therefore, of all somatic and mental actions - a fundamental process so far unrecognized
22. Support for Noam Chomsky's theory of the hard wiring of language, manifesting in sinusoidal pitch flow in orolingual myology, i.e., in phonetic mechanics; grammatical parts have physiological manifestation in tongue tension map, i.e., verbs, adjectives, etc., have specific discrete pitches final syllables. Thus without looking in dictionaries students learn-

ing English, etc. can tell the stress placement of gender of definite articles in German, French, Spanish and other languages. Cf. so far unpublished paper G. S. Tong, *Cymatics*.

23. The fundamental /i/ anchor in Mandarin Chinese phonetics – statistically supported

24. The physio-myological factors of musical perception and musical structures – its biological mechanism never before considered

25. Mirror anatomic structuring between a) pectoral and pelvic girdles, b) facial and phrenal musculatures, c) parts of the larynx, d) parts of the branchiomic system

26. The interfacial role of the ancestral the gill basket in the evolution of directed vertebrate locomotion

27. The explanation of the ambiguous figure-ground optical illusion

28. The myological image and mechanism of the "mirror neuron" effect