Unforeseen discoveries turn up unexpectedly and this is something I would like illustrate at this time. I would also wish to show that this counters what a number of people have written in that significant innovation and novelty in academia and science at present is nonexistent.
But then science does progress even if it slows down after major advances. Between significant contributions petty theories flourish and until new and substantive contributions arrive. Phlogiston and Neptunianism and ether filling space and more recently Skinnerism were the fashion until Lavoisier and Hutton and Michelson and Morley and others showed otherwise. At times new instrumentation and new methodologies are necessary to establish a new paradigm in some fields, and that seems to be the case now.
Before referring to three articles on the aforementioned topic I will describe what I wish to present.

My material covers several topics organized in a consistent system, reporting on so far unknown facts and processes. Controversies can arise: how will people react to the description of the oral biomechanism that works in a way no other biological machine has ever been known to operate. The readily testable presentation accounts for a number of things still unexplained and offers an invitation to disprove any of the statements.

The presentation reaches into several fields such as biology, psychology, physics, meditation, and especially language in great detail. Linguistics today is what alchemy was to chemistry or like astrology was to astronomy. Linguists know and teach only the most obvious things, like parts of the mouth, palatal contacts of consonants, what phonemes are voiced or not, measurements of air pressures, eccentric features of some tribal dialect, while the actual mechanism of speech production has never been known or even questioned. To serious students of language the current deluge of publications might seem as comical as the experiments satirized by Swift in his Gulliver's Travels.

Comments on problems with current sciences, which simply give evidence to the bell curve of natural distribution: the majority is mediocre.

**1. Science Is Getting Less Bang for Its Buck**

Despite vast increases in the time and money spent on research, progress is barely keeping pace with the past. What went wrong? By Michael NielsenPatrick Collison / https://www.theatlantic.com/science/archive/2018/11/diminishing-returns-science/575665/

"Today, there are more scientists, more funding for science, and more scientific papers published than ever before. On the surface, this is encouraging. But for all this increase in effort, are we getting a proportional increase in our scientific understanding? Or are we investing vastly more merely to sustain (or even see a decline in) the rate of scientific progress?" https://www.theatlantic.com/science/archive/2018/11/diminishing-returns-science/575665/

2. **What innovation is up against**

Hermanowicz, J.C. The Culture of Mediocrity. *Minerva* **51**, 363–387 (2013). https://doi.org/10.1007/s11024-013-9231-0
Select groups and organizations embrace practices that perpetuate their inferiority. The result is the phenomenon we call “mediocrity.” This article examines the conditions under which mediocrity is selected and maintained by groups over time. Mediocrity is maintained by a key social process: the marginalization of the adept, which is a response to the group problem of what to do with the highly able. The problem arises when a majority of a group is comprised of average members who must decide what to do with high performers in the group. To solve this problem, reward systems are subverted to benefit the less able and the adept are cast as deviant. Marginalization is a resolution of two tensions: marginalization of the adept for their behavior, and protection from the adept for the mediocre. The American research university is used as an example to describe the phenomenon and to formulate a theoretic argument...Marginalizing the adept illustrates an anti-meritocratic behavioral pattern which serves to sustain social systems on which all people, however able, depend.
https://sociology.uga.edu › directory › people › joseph-c-hermanowicz
Joseph C. Hermanowicz | Department of Sociology

3. **Why we haven’t had any major scientific breakthrough lately** / Astra Politics by Antonio De Santis May 16, 2024

*Scientific research plays a pivotal role in driving progress and fostering innovation. However, concerns have arisen regarding the diminishing occurrence of major breakthroughs and the prevalence of incremental advancements in recent years.*
*Diminished Major Breakthroughs*
Studies indicate a decline in significant scientific breakthroughs since the 1970s. This trend raises questions about the current trajectory of scientific advancement and its potential impact on innovation. There is a growing inclination towards modest, incremental progress in science rather than revolutionary leaps forward. This inclination may constrain the transformative potential of research endeavors and impede the emergence of groundbreaking discoveries.
*Funding Dynamics and Innovation*

https://antoniodesantis.medium.com/why-we-havent-had-any-major-scientific-breakthrough-lately-c2ebad424581

---

My material:

Language
(Lg) Proof of hard wiring of grammar (cf Chomsky) through the introduction of the General Lingual Matrix. This is the same matrix that has only been known as the vowel quadrilateral, but it is a device that systematizes many grammatical and cognitive features of speech. The fact that in the GLM all parts of speech in all languages belong in the same specific matricial cells substantiates the fact that this is not learned.

(Lg) The basis of articulation in general and in specific languages can be described for the first time. Exactly why pronunciations differ has never been known.
Method for manipulating the basis of articulation is now available, i.e., how to produce any native accent. This may be difficult for many but can be approximated and even reached by some. I have made audio files to show this. See https://

(Lg) What is a syllable? Defining the syllable has been claimed to be impossible till now and the highly interesting and surprising explanation is utterly different from what has been supposed.

(Lg) Most remarkable is the way nature has ingeniously engineered the creation of all phonemes in speech. The source involves triplicity. There are three basic nodes which are centers of mass of muscular forces in the tongue and are labeled h, n and m.
They are so named because while in various orolingual functions these nodes play different roles in speech they produce the phonemes /h/, /n/ and /m/. Within speech these nodes merge in different conformations in a three by three matrix. With the m node in the center combining with h and n nodes positioned in the outer cells mergers made in various permutations produce the basic three vowels as illustrated in **Fig. 1**. With h centrally and n and m outside all the consonants are generated. And with n centrally a sufficient number of mergers are possible to give rise to the numerous phonemes in languages. Unaware of it starting from infancy we all perform these actions in speech. Linguists have never been aware with this.

/i/

| | | |
|---|---|---|
| | h | |
| | **m** | |
| | | |

/a/

| | | |
|---|---|---|
| | | |
| | **m** | |
| | h | |

/u/

| | | |
|---|---|---|
| | | |
| | **m** | |
| | | h |

Fig.1.

(Lg) (Physics) Physics has never been properly employed linguistics. The use of center of mass in speech movements has been unknown and therefore oral mechanics could not be rigorously analyzed. They are observable when applying glottoregulation. The importance of the center of mass is that it shows the forces targeting it so that these can be readily identified. For example, the centers of mass of the phoneme /s/ or /a/ or /g/ demonstrate the specific muscular forces creating it.

(Lg) The lingual matrix: is a so far undiscovered functional structure in linguistics—a universally applicable tool for the corporal grounding of grammar and for the cognitive aspects of language.

(Lg) The effect of climate on speech articulation, an improvement over the insignificant paper by linguist Ian Maddieson.

(Lg) The origins of language—not the predictable paper or book, forced to exist by "publish or perish" nor MacNeilage's Frame and Content theory, but a well reasoned presentation.

Physiology

(Physio) (Lg) **Glottoregulation** is an axiomatic function in all body movements whose existence has never been considered. In a nutshell, any body movement to various degrees distorts the laryngeal apparatus, which contains the glottis, and the distortion, i.e., glottal closure must be corrected to maintain the best possible state of respiration. Hence the body must constantly adjust the muscular frame to optimize glottal conditions. Even small changes like tilting the head require rebalancing some part of the body.

(Physio) (Biology) (Monosoma) Bodily kinetic differences between the major racial divisions: variations in body movement, in temperament, in food preferences, modes of eating, gesticulation, manipulation of feet, dance, musical intervals and harmony, all of which are neither understood nor studied. E.g., why Chinese way of writing is unique, why Chinese chopsticks are much longer than Japanese ones, why gesticulation is determined b ethnic groping, why North Europeans have deep voices, why Arabs and Indians dance flat footed while Europeans feature the tip of the feet (cf. Irish dance), and much more.

(Physio) (Mind) The center point and its surrounding field (or the center of mass and its manifold) is a basic device in physics, astronomy and engineering but has never seen application in linguistics or in the study of the mind. A practical example: why going through a door immediately alters mental contents or why something forgotten tends to be recalled by returning to the place, or what brings the spiritual effect of gazing at the horizon or the open sky, why things appear attractive or repulsive, etc.

(Physio) The physiological function of **alternation**
This is new to biology and medicine. Serial alternation in states and processes is a pervasive characteristic in the biological mechanism found in human and other creatures. It parallels the on/off clocking action of a computer. It is fundamentally present, as in walking with left and right legs and arms exchanging, in blinking, heart beat, etc., and hidden in all of our actions, it connects to **glottoregulation**. An often seen and practiced alternation happens when one looks left sideways with a 90 degree turn of the head and then immediately turns right in the contrary direction. This is also a demonstration of glottoregulation, q.v., whereby significant left side distortion of laryngeal apparatus is corrected by movement to the left.

(Physio) (Mind)  Monosoma: all parts of body and mind connect to constitute a single mechanism. This has been established in the East and was worked on by William James in the West; it is not related to monism or monosomy. There are countless examples of monosomatic behaviors, just a few instances: looking up opens the eyes, looking down narrows them. However small further movement respectively closes or opens the eyes illustrating alternation. Looking to the right in scanning a street and then immediately looking to the left is constantly seen in persons standing on the street. Walking with arms on the sides the right and left arms swing forward and backward. Walking with both arms holding a tray in front creates sideways swinging of the arms. Holding palms facing

down decreases nasal breathing, palms facing up increases it. Rubbing a smooth surface with finger tip moves the tongue forward, doing the same with coarse surface moves tongue backwards. Rotating or crossing the eyes stops thinking. For speakers of English and for those of related languages, the eyes focus backward inside the head, whereas in thinking of the future the mental gaze is directed forward. Eye movements are inseparable from mental events, they are tied together as integral components of thoughts.

(Physio) Perception of the geomagnetic fields by humans– something widely researched mostly in insects and in some animals is readily available and demonstrable with the application of regularization. Magnetic orientation in cows and horses has been studied without success in explaining it, nevertheless it can be explained – apparently identical with human version. So far I have found neither researchers nor discoverer's clubs to show an interest.(Physio) Triplicities in body – it was never pointed out that a great many (at least 150) organs, behaviors and cognition possess three layers or three components including three visual ranges, three vowel spaces, three genders, three divisions of time, the three ages of man, the Catholic trinity, etc. **LINKS!**

(Physio) (Monosoma) (Evolution) When the arms are fully stretched upward up the palms opens, when the arms press down the palm closes. This behavior shows that reaching up is connected to grabbing a tree branch or a fruit or a parent, while reaching down aims at holding a branch for support and also prepares for knuckle walking seen with gorillas and chimpanzees. When the arms are fully stretched forward with palms facing the ground the palms close and when with the same arms fully stretched the palms are turned facing up they open. Hearing rhythms deeply affects the mind and the body. A constant beat hypnotically locks the mind. Marches make for ordered steps, waltzes invite turning, popular trends in music brings people to indulge in quasi obscene bodily twisting. Concert pianists or violinists engage in facial expressions and body movements, eyes focus better if one stands and stretches upwards, when jaws move in chewing olfactory channels are opened, if toes are moved facial muscles react, etc.

(Physio) (Bio) The kinetic aura – There is a projection of the body at a distance outside the actual body. It is the setup frame for muscular projection of the body. It exists for any conscious movement and is outside the body, being the projection of the musculature. Its position relates to how far the action is outside the body and varies with age. When engaged in thinking we do not perceive it because it is blocked by the thought. Most ahead is fr children, in growing up it comes closer and appears in the back when aging. (This is one reason for loss of balance in the old).

This aura anticipates actual movement exerting preparatory force on the muscles about to come into action. Ordinarily seeing it is covered by visual attention; it is perceived by the eyes when not focusing. It may bee connected with body projections of other types and instance

(Physio) (Monosoma) (Mind) The three dermatomes of the head/face relate to mental actions. When they are isolated the superior one deals with the outer world, the middle one with attention, awareness, the lower one with the sense of self. This serves not only in meditation but in normal living it can be useful in the physiology of will power, self-awareness, self discipline in interviews, job applications, etc., It can dispose of the imprecise verbiage given in courses and articles.

(Physio) (lg) The ontology of speech in infants, technically detailed, supplanting the unduly emphasized and for lack of anything else the overly discussed MacNeilage's Frame and Content theory. (MacNeilage & Davis, 1990, CITE!

(Physio) Why do we enjoy rhymes? This process is automatically activated by monosoma and glottoregulation, which I can describe. Rhymes cause lateral extension of the lips and so generate a smiling position of the oral structure.

(Physio) The mechanism of feeding. Going to fundamentals this paper reveals and explains the role of rotation by nodes in the tongue with the n center—expanding the academic study by Hiiemai and Palmer 2003 which states that the intricate behaviors of speech derive from the complex movements in feeding. **CITE**

(Physio) (Speech) (Lg) The General Lingual Matrix, a significantly extended and unexpected application of the vowel quadrilateral, that up to date has been thought of only as a phonetic device whereas it has a much more expansive role in systematizing grammar and vocabulary and which also indicates hard wiring of speech
(Physio) Perception of the geomagnetic fields by humans– something widely researched mostly in insects and in some animals is readily available and demonstrable with the application of regularization. Magnetic orientation in cows and horses has been studied without success in explaining it, nevertheless it can be explained – apparently identical with human version. So far I have found neither researchers nor discoverer's clubs to show an interest.(Physio) Triplicities in body – it was never pointed out that a great many (at least 150) organs, behaviors and cognitions possess three layers or three components including three visual ranges, three vowel spaces, three genders, three divisions of time, the three ages of man, the Catholic trinity, etc. ***LINKS!***

(Physio) The h n m nodes are three lingual nodes, i.e., centers of mass which connect to physical and mental functions. In articulation they supply the three phonemes /h/, /n/, and /m/. They are also the automatically articulated phonemes in respiration, mastication and swallowing. Cognitively, h belongs to the perception of the outside world, n to attention and m to the sense of self

(Physio) Gesticulation – why it exists: its function and origin in the evolution of speech and its connection to the Upper Visceral Body, see below

(Physio) (Ergonomics) (Cognition): movements and energy spending are minimized if we employ the glottoregulation. Using the geomagnetic field also assists: facing poles decreases energy used, likely caused by geomagnetic perception.

(Physio) A/T or abdominal/thoracic respiration – their coaction and isolation, **not** covered here, just to mention that crossing the legs while sitting creates abdominal respiration with better body balance and mental equanimity hence it is preferred when sitting, mostly by men. This is the reason for the common advice "take a deep breath" to calm the mind. This topic also connects to the Upper Visceral Body

Biology and Mind

(Biol) (Mind) Music and art – the synesthetic mechanism—how sounds and sights engender feelings. Relate this to… The genetic connection is not certain although intermarriage in musical families of the Bachs may lead to this conclusion, while great musical talent can spring without obvious sources.

(Bio) (Cognition) The tongue is both horizontally and axially divided into three parts, cf. "A Three-Dimensional Atlas of Human Tongue Muscles" (https://doi.org/10.1002/ar.22711). This reaches into a number of body and mind functions and cognitions. For instance, With words of positive value the superior layer is engaged, cf. "yes", "sweet" good, "bright". With negative connotation the inferior layer is used, cf. "no", "bad", "bitter" "dark" and with neutral content it is the middle layer that becomes primary, cf. "and", neither, so-so, gray. Apparent here is the monosomatic connection of the oral mechanism with cognition. Another easily verifiable connection is how musical major and minor modes respectively employ the superior versus the inferior lingual layers or anterior and posterior sections.

(Bio) (Mind) (Physio) Upper Visceral Body (UV): (which goes back to the ancestral vertebrate contrasting with the lower visceral body recognized today ), where it is not consciousness itself that is experienced, but what manifests in consciousness. Evolved from an ancestral form of vertebrates,(perhaps related to Ascidiae-sea squirt / cf. A. S. Romer). Except for segment of the diaphragm and a large number of oral, laryngo-hyoid and upper back parts are evolved from the gills and muscles under the gills of the fish ancestor. Importantly in the UV cranial nerves directly connect to brain, unlike other nerves which enter the spinal cord. Moreover, all the sensory organs reside in the UV.

(Mind) (Biol) Combining elements of Western and Eastern sciences.
Both Eastern and Western sciences have lacked each others' capabilities but the two can combine through the techniques which I would like to present as a new paradigm in research. The means for this lies in visualizing any location in the body in detail; learning this is not difficult. As we stand today introspection, as William James called it and advanced to the extent of his available information has been understandably set aside in

the West in favor of instrumentalism. Extending and furthering James's technique by introducing Eastern inner visualization opens a body of knowledge new to both Eastern and Western body and mind sciences. Introspection is not altogether unknown in the West. It is to a degree part of muscle building, it is introspection that powers prosthetic limb control and it is also a tool applied in learning the pronunciation of second languages.

(Bio) The unexpected behaviors within the *mind*-body system as concepts and as articulations of the numbers 3, 6, and 9 can largely but not completely be explained by glottoregulation, q.v. For speakers of Western languages 3, 6 and 9 respectively pertain to sensing the left, right hands and the head. These numbers have special properties in mathematical series and were also claimed by Nikola Tesla to lead to mastery in the universe (https://www.33rdsquare.com/what-did-tesla-say-about-3-6-9/).
These numbers also relate to sensing the geomagnetic poles as 6= north, 3+south, 9=west, 6=east. Actually it is not the numbers themselves but the body-m***i***nd frames associated with them that are involved.
***Make file in GT webapge***
D:\Documents\GT DOCUMENTS\-EXPERIMENTS COLLECTED\3 6 9

(Bio) (Mind) The geometric base of the mind-body
Some of Eastern yogas and meditation are built on mental projections of circles and squares or axes in the body, cf. chakras, and Tantric axes, vases, in the more academically rigorous Tibetan tradition, and so on. In both the East and in the West visualization is taught in ambiguous terms, which should and can be replaced with clear technical descriptions. The reason for using circles and such is that the mind is organized in geometric configurations for this must be the simplest way for natural design to organize the world surrounding the mind to a controllable state. Starting with the earliest versions of the mind in primitive animals there are no better reference points than the geometrical sources of the body such as bisymmetry of the eyes, of left and right, of up and down and of front and behind., etc. These supply points connectable with lines giving further geometric forms. Focusing the mind on geometric shapes provides a frame that when held onto stops mental movements, which is the basis of mediation. Even in normal life during close attention both animals and humans freeze the body holding on to the muscular frame which is geometric: the two shoulders, the two hips, the two arms and legs or the two eyes or ears in their combinations form squares or rectangles, and so on. In normal circumstances these shapes are distorted and overlaid on each other, making them too complex to observe without careful introspection. Geometricity of the mind is supported by research that has shown that psychedelic drugs, such as LSD and psilocybin, can induce geometric visual hallucinations that are similar to those observed in conditions such as Charles Bonnet syndrome and migraine aura. These hallucinations often involve complex geometric shapes and patterns, as well as a high degree of symmetry. https://psychedelicspotlight.com/why-do-we-see-geometric-visuals-when-we-trip-on-psychedelics-heres-the-math/; https://www.psypost.org/psychedelic-use-linked-to-

increased-risk-of-unusual-visual-experiences/. This is consistent with the idea that the functional organization of the striate cortex may be responsible for generating these hallucinations. https://doi.org/10.1162/089976602317250861.

(Bio) (Mind) (Glottoregulation) The organization of body-mind, its mechanism and central organ of control is built on the laryngeally controlled system of body musculature. This is an entirely novel system which I would like to describe.

Bio) The reason for yawning is richly endowed with theories but so far was not rigorously explained although it is a surprisingly simple behavior; it is no more than a particular form of an otherwise  common body behavior performed by the Upper Visceral Body.

(Bio) (Physio) (Gender) The description and sources of differences in movements of males and females. Apparently once the single key muscular setting is engaged as the prime mover of body motions the appropriate types of movements of either gender are produced.

(Bio) When development disrupts the orderly pancake-like layering of the earliest division of body tissues these become rearranged and they mask certain systemic characteristics of the body. During gastrulation the layers of basic tissues exoderm, mesoderm and endoderm are distinct. Later on, each of the various layers undergo divisions that shift in relation to each other and to those in other layers, somewhat like those in the Rubik cube and the direct connections between certain parts are no longer discernible. For instance, the fish gill derived branchiomeric tissues in the head and heart muscles have identical origins. The common origin of the **jaw** and the hyoid bone and the bones in the middle ear are obscured. It is hard to imagine that the hypobranchial muscles (from below the gills in the bodies of fish) develop into our facial and shoulder muscles. But their connectivity can be found through glottoregulation and through yogic methods. Under normal conditions these connections are hidden but while they are basic in some type of Eastern meditation they are not usefully approached in Western psychology.

(Bio) (Physio) Mirroring is a tool active in many actions, not only in seeing and duplicating adult behaviors by infants, etc. “Mirroring behavior, also known as behavioral mimicry, is our innate tendency to imitate the actions, expressions, or mannerisms of those around us.” (https://neurolaunch.com/mirroring-behavior/). Yawning, smiling, in response to others doing this as well as many other behaviors belong to mirroring. It has not been recognized that learning to speak is mirroring of oral actions through hearing them, and not simply a matter of trial and error as it is supposed.

(Bio) A confirmable explanation of the evolution of human bipedality. The numerous theories offered overlook the simplest basis that it is derived from arboreal transport

combined with using branches as weapons, the latter seen in a primitive form in chimpanzees.

(Bio) The demonstrable and testable uniformitarian hypothesis for the origin of bird flight. Its derivation has nothing to do with wanting to be airborne, but rather from a leg action. (*Wing motion of the arms is obvious in particular types of gesticulations, which being so obvious has never been noted, e.g., breast stroke and butterfly stroke in swimming.)* Theories about the Archeopteryx, aerodynamics, Cursorial vs. Arboreal origins, the acrocoracohumeral ligament, which is a single ligament at the shoulder joint, (cf. https://www.sciencedaily.com/releases/2006/12/061218081421.htm) have missed the mark and have gotten no further than saying no more than that "Brown University and Harvard University scientists created a 3-D model of a gliding pigeon, put alligators on a treadmill, and examined rare Chinese fossils to better understand the evolution of flight." "What this means is that there were refinements over time in the flight apparatus of birds." Baier said. "Our work also suggests that when early birds flew, they balanced their shoulders differently than birds do today. And so they could have flown differently." This is hardly an explanation of the origin of bird flight. The origin of flight has nothing to do with flapping the arms, but with hind leg action, namely clawing, which is the chief weapon of birds. I am ready to demonstrate the real explanation of avian flight built on dinsosaurian and bid behavior.

(Bio) The artist's eye – what is it? How it can be obtain by with potential capability. When I found it for myself I suddenly understood the greatness of Cezanne. Persons with graphic sense can make good use of the method.

(Bio) The source of insect flight-- is simply a case of something common among insects, a mechanical vibrator for communicating which can be combined with attached wings. Existing theories cover genes, source of wings derived from gills but go no further into the flight behavior. The older hypothesis about tergal paranota or small extensions on the sides of insects for parachuting has today rightly, though not completely, fallen out of favor. Vibrators were and still are a chief communication device for insects. Kukalova-Peck's work provides for the source of wings, cf. (https://courses.washington.edu/danielab/labwiki/images/f/fe/Kukalova-Peck_1973.pdf) The paranotal people were much too academically oriented to test the idea. I did, with small models and found that immediately on release they fell rotating as any object would without a gyroscope. I also found that adding cerci would allow directed flight, although the paranotal theory had not mentioned this, nor was fossil evidence found.

(Meditation) In West we have at our disposal precise knowledge of anatomy and an exact description of the mechanical musculoskeletal structure of the body, and therefore we can join the two separate worlds, putting aside the usually vague instructions of the Eastern traditions, and replace them with rigorous scientifically supported explanations of yogic and meditative phenomena. This becomes possible when we carefully observe the connectivity between mind and muscular behaviors within the body. That it is not beyond

our abilities to understand the inner workings of the body was expressed by the yogist and scholar C. C. Chang in Evans-Wentz, W.Y.: Tibetan Yoga Oxford UP, 1958, p. xli. He wrote: "a master of yoga can project his consciousness to each of the various organs and parts of the body, and, independently of them, observe their innermost functionings. In this way, yoga can undoubtedly contribute greatly to psychology and physiology in the Occident, and ought therefore to receive scientific attention." In other words, exact analysis of the body in meditative, that is, tranquil states can precisely reveal bodily parts, locations and processes. This is supported by the fact that instructions in reflexology define points on the surface of the body and of appendages that correctly relate to internal organs. Knowledge of these connections could not have been simply guessed, they could only have been discovered by seeing into the body. We should emphasize that one does not necessarily need mastery of yoga to see the inner body, but only appropriate instructions.

History

(History) (Technology) The accidental invention of the wheel – the first credible and testable hypothesis, without tying it to the to the potter’s wheel or to transporting rocks over rollers.