PROSODY AS PROTO AND PARA LANGUAGE PERFUSION

*"Thus, the investigation of prosodic modulation of the voice provides an excellent, and surprisingly overlooked paradigm for a comparative approach addressing the adaptive features grounding the emergence of language." —* Pierra Filippi, Emotional and Interactional Prosody across Animal Communication Systems: A Comparative Approach to the Emergence of Language.

APPEAR!

Realization is pulsation; pulsation that was at first unconditioned. A runaway *adi para śakti* rubato. A beat that was yet far from raw phonology, as far as an infinitesimally dense dot was from hominin; and even further from metrics, the patterning of the pulse.

Hominin picked up the pulse, extracted the beat. Beat is not meter. Meter is variable, variegative, coarse-grained; palpating, palpitating the pulse; the pulse fantasizing its possible manifestations as it keeps the beat, stays seated as it at once dances to its delight, fluctuating across the floor, reveling in the fact that matter is awareness. The beat, on the other hand, is isochronous, more metronomic and musical, measurable, homeostatic and *no-nonsense*.

Poems are coalescences from coalesced prosody plasma. Prosody is the invisible scaffold for matter. Each poem a dawn that doesn't dim.

At the beginning of language, there was no convention — that was exhilaration itself, that there was no convention and that it could, at that point, be anticipated; an indeterminate tens-of-thousands of years exhilaration.

Whatever you call that which all arises out of what appears to be within, I am *that's* prosody. This is stress: stress that is not strong-and-weak but quality-and-color. The eternal is simply suspense. Well up! Timing is everything. (The subtlest of subjectivities: *kiñciccalana*.)

Prosody is timeless. (I've already stated that prosody is proto-phenomenal, now I'm relocating the phenomenon of prosody in evolutionary dynamics.) That's how it works. It is perfectly word and song — i.e., either way, happiness is up-tempo, medium-high intensity and frequency; a rising, expanding fundamental pitch-contour quick to intone its fullness and attack and attract. Prosody is perfectly just as unbegun as it is this instant becoming what it is. The phenomenal fact that matter ever patterned (will wonder ever cease?)! Pressure wave metering material. Light beat (the *sphuratta*, pulsing radiance of consciousness, of Kashmiri Śavism's *SpandaKārīka* school.) Everything always inceptive. Recurrence in which our moments never repeat (especially with regard to those things we do over and over again) and our lives come and go. We're the actuality that can never be traced. Perfectly a dream, not a dream and not. The rhythm of that.

Pulsation as the intimate experiencing of all of creation. Vast space of the heart lighting up as sensation. A drop of "I" and "I am." The disturbance of the Unperturbed we call *existence*. The deeply asleep speaks. It's grave to waste having come all this way to be a body. Nothing but manifestation. Free thought thought-free. Every act a mudra. Each thought God's thought. Why should science be unconsciousness?

"In the infancy of language, we spoke poetry." Do we now also speak writing, speaking as we have learned to read? Do we speak digital content and texting? Or, for that matter, would we ever, have we ever, danced speech?

I would say "all is ancillary to prosody" (now that you see prosody is merely all movement necessarily, molecularly, scored) — though I won't.

INTEGRATIVE BECOMING-LANGUAGE

*"The prosodic protolanguage hypothesis harmonizes with the “holistic protolanguage” model."* — Pierra Filippi

*"... that we need to put emotion, prosody, and communicative intent front and center in our evolutionary thinking, leading me to propose a “prosodic scaffold” perspective. This is the idea that the production of speech is embedded in prosody, rather than prosody being an add-on to the compositional and combinatorial levels of speech after the symbolic level of sentence formation has been completed."—* Steven Brown, A Joint Prosodic Origin of Language and Music.

Let's keep it simple, at least at the start: prosody is pitch, tempo, timbre and intensity, capable of conveying emotion, conducting subjectivity, cueing conversation, and entraining group cohesion and cooperation.

The focal point of communication is our shared amazement that we're able to speak. Correct? Or are we just checking off items on our lists of things to do before we turn cold? Perhaps we're more often confused than enthused by language and its purported limitations. How did language come about, and how is that question related to the awareness of language arising in us as we speak today.

At the outset, the one generalization I am willing to make with regard to the origin of language is that the emergence of aesthetic, symbolic culture and the emergence of language were coeval, and that the originating was multi-modal. Granted, the most insightful among evolutionary linguists tend to favor a divide and conquer strategy along the phylogenetic trajectory of glossogenesis, proposing the prominence of one aspect of language emergence over the others. Even the prosody-precursor proponents tend to focus on an a partial facet of prosody: whether emotional, phonological, intonational, interactional or lexical. I have no need to argue for the preeminence of prosody, only to show the extent to which it is constitutive of who we are. With regard to the totality of modes and factors generative of language both originally and currently, I will say that prosody is uniquely holistic and integrative, capable of embracing the adaptive, affective, neuroanatomical, motor-vocal moment of speech production.

The list of competing language origination theories is quite long. Language evolved from **gesture** to which sounds were eventually attached. Vocal and motor share the same neural regions, like song and dance. Gestures pantomime meaning. **Charades** is early, acted-out syntax. In sign language the phonemes are "exteriorized." Speech and facial expression are indivisible. Language evolved from **mimesis**: imitation of natural sounds or mimicry of tool-use sounds. **Onomatopoeia** is acoustic pantomime. **Cross-modal sensory-motor integration** entrained to an acoustic pattern facilitated the ability to speak. **Laryngeal muscles controlled directly by forebrain laryngeal motor cortex** enabled fine-tuning of phonemes. Language was subsequent to **sound iconicity**, words same as things. A **single genetic mutation** implanted a perfectly operative mid-brain language module. **Emotional outcry** and exclamation led to speech. The **larynx descended** in Early Homo allowing greater range of formants in the throat. **Impetus**. The **expression of emotion through voice modulation and intonation** facilitated the emergence of language. At one point it was possible to voluntarily **repurpose the breath** for vocal production. The desire to **gossip** about others (vocal-grooming.) **Divine gift**. Evolution of the **ability to associate arbitrary vocalizations with specific meanings** opened the lexicon. There is the hypothesis that Homo could vocally attune to the **natural resonance** of all things. For the purpose of the **synchronization of manual labor**, *heave-ho*. Language is an adaptation intrinsic to the emergence of **symbolic culture** as a whole. **Irrealis awareness**: high on hypotheticals, inference, subjunctivity and the optative. **Cryptophasia**, the isolated-twins-working-a-code-out-on-their-own theory. The **recursive epiphany** of the infinite use of finite means made language irresistible. Mirror neuronal vocal imitation, **echolalia**. The need to stay in contact (after putting-down-the-baby to do chores and errands) through **contact calls**. **The recursive ability** to

embed constituents within constituents of the same sort, led to syntactical competence. Evolutionary pressures selected human **vocal tract flexibility** in order to permit speech. The cause of language is irrepressible **creativity**, as applied to the play of phono-lexical phonotactics and composition. There is the **Language-First** theory; thinking without knowing how to speak. **Bipedalism and hand versatility** led directly to the disposition to speak. **Number cognition** spurred words. Or the need for **pro-social vocal synchronization** for cohesion, whether for ritual, workforce, warfare or fun. And the most intimate language origination theory of all, **motherese**: infant-directed cooing and communication, including facial expressions, laughter, caressing, tickling, comforting and the need to stay in vocal contact in the home to allay the fear abandonment.

Prosody created an Early Homo pidgin of all of the above mutually adaptive, interdependent modes. What did it sound like? How does it sound now (it's still evolving under the remarkably similar condition known as *nature*)? The selective pressures of cosmogony and phylogeny still apply in our baby talk. That audiovocal baby is burgeoning faster than we can feed, because prosody, language, gesture, song, neuromotor and emotion are one.

HIGH

Let's speak at the same time regarding unrelated matters. This never happened, evolutionarily. Perhaps we do it now, in these uncivil times. Skip listening. Start singing your conversation out of nowhere and every pitch will be off. Birds will always put us to shame.

Our makeup is ontological, phylogenetic and cosmogenic. It's not possible that we'd be constitutionally incongruent or inconsonant with these phases. We are manifestation's homophony, realized in our diverse tongues.

We entrain even when we disagree. We entrain even when we do not. Leap somewhere that is not somewhere. You cannot. No one "decided" that minor key would be more depressing.

Unpitched is most expressive of all. It lays on you. Lays you down. You're so much more attractive when you're not advertising. The seclusion that knows it's not in isolation from full orchestration. Go to bed with my fable.

There's no syllable pitch in a hailstorm. An intonational tongue can mutate any meaning. Intonation means. Prosody knows no arbitrary. Articulation is so concise, mother lions can pick up their cubs with their teeth.

A world might not happen. It might not have happened. Can only happen through these phones entirely at our discretion. Prosody is the generative mechanism of speech.

What is a word if what we dissolve back into not ashes but the uncreated word?

I *can* make a case for voice developing before body. It longed to be spoken. To be being's original happy birthday to you.

We're entrained and not entrapped only to the extent we realize we are entranced. High on body. Functionally overdosed on nothing other than what is. Not loving our mother is entombment.

To be with. While we can. There's something in being-with that destroys the limitation of can't. Let's agree that it's called *timing*, or that it's timing-dependent.

Entrain entrainment itself. And that is paradise.

We're entranced by entrainment. From the first hint of synchronization we inclined toward civilization — the miracle of laughter, traffic jam, brain hardware, Radio City Rockettes, et al.

Hominin's phonological play along the dorsal pathway from the posterosuperior temporal to the inferior frontal cortices and the semantic ventral path that runs from the temporal pole to the basal occipitotemporal cortex including anterior connections sparked language. Hominin *kotodama* empowered the words that empowered Hominin in return. It was super fucking *magical* — stay-up-all-night-ignite-connect-the-dots-externalized-internalization *mystical*. They called it "free-wiring." An intersubjective, totally virtual, iconicity-exhilarant; a ritual trip, as far as one could say. Had it not been fun, our tongues would still be tied. Had it not been freedom. (Rousseau would say *volupté*, *délicieux*.)

Hominini realized they were aliquots harmonized with existence. There was only the intrinsic. They also realized that language-becoming meant they were becoming subjects, and that they would be concealing as much as revealing their nature by means of their symbols and constructs. The captivation had begun. Harmony is how it all fits together. Human being is not having a clue. *Help me. Love me. Don't hurt me. Call me, don't name me. Where did you go? What do you mean? Beats me. At least we have each other.*

Stated more methodically: "It has long been clear that rhythm, and rhythmic synchronization of human pairs or groups, can play an important role in human society and social bonding. Recently, a number of studies have examined this phenomenon experimentally, showing that both adults and children show increased pro-sociality after engaging in joint rhythmic activities ... suggesting that this results from a release of endorphins caused by joint musical or rhythmic activity." (W. Tecumseh Fitch, Rhythmic Cognition in Humans and Animals: Distinguishing Meter and Pulse Perception.)

Is not meter which we now ignore primordial? Deities existed only in the rhythms that invoked them. The most extensive work ever written on rhythm and meter, by either composer or poet, is *Traité de Rythme, de Couleur et d'Ornithologie* by Olivier Messiaen. In Volume One of the *Traité*, Messiaen states that "music is not made of sounds." It is made "above all, with Durations, Impulses, Rests, Accents, Intensities and Densities, Attacks, and Timbres, everything that is grouped under a general word: *Rhythm*." This rhythm is the prosodic scaffold, tremoring through matter, pulsating in Hominin who picked up the beat and put all the sonic/semantic components together as speech. Poetry is that which is finally made of phonemes.

SPEECH AND SONG

*" If Darwin is correct, we should find that phonological and musical skills tend to co-occur in modern humans, share neural and genetic mechanisms, and that these mechanisms (both vocal learning and hierarchical parsing) were selected earlier than those involved in word learning, pragmatics, or skill at propositional expression."* — W. Tecumseh Fitch

*“The first languages were songlike and passionate before being simple and methodical.”* — Rousseau

Inability to speak the language of culture is isolating, while hearing its music is traversal. Songs with lyrics are living phonological fossils of glossogenesis. What was the utilitarian or adaptive function of prelinguistic song? A staging ground for word-learning and phrasal prosody? semantics syntax and conceptual compositionality? The properties shared by phonology and syntax (e.g. generativity, infinite use of finite means) would already be present at this stage, but complex syntax would not be.

A cadence is not a musical scale. It falls short of truly tiered tonality. So some say. I stand corrected, as I so love to do! The syllables sing, not the singer. How did that come about? The ingrain. Sing is not a metaphor. Metaphor is singing.

Both melody and speech are specializations of precursor prosody. Music and language are each other's pitch imprecision. Speech is less neat. Closer, quieted listening reveals that consciousness itself often takes the form of cantillation, recitative and parlando. Can such referents be brought into linguistics? Our organic nature is the joy from which all things arise. Therefore joy is the origin of language. You couldn't not sing if you tried.

Inability to speak the language of culture is isolating, while hearing its music is traversal. Songs with lyrics are living phonological fossils of glossogenesis. What was the utilitarian or adaptive function of prelinguistic song? A staging ground for word-learning and phrasal prosody? semantics syntax and conceptual compositionality? The properties shared by phonology and syntax (e.g. generativity, infinite use of finite means) would already be present at this stage, but complex syntax would not be.)

"I can affirm that all I know about melody has been taught to me by birds." — Olivier Messiaen

AUTAPOMORPHIC ARROGANCE

(Autamorphy: a derived trait found in only one taxon. The defining feature of a group not found in any outgroup taxa.)

*"This method, which assumes that core mechanisms underpinning language are broadly shared across nonhuman animals (hereafter, animals), sheds light on the evolutionary link between language and other animal communication systems and thus on the biological foundations of language."* — Piera Filippi

*"Overall, auditory perception appears to be based on mechanisms shared with other species, and the traditional hypothesis that speech perception is special to humans is not well supported. Rather, it seems that the basic circuitry required for auditory speech perception was already present in our mammalian ancestors long before speech evolved."* — Fitch

*"The hypothesis that the principal phenotypic changes required for the evolution of speech were neural, rather than anatomical components of the periphery, is becoming more widely accepted."* — Fitch

*"In summary, a considerable amount of comparative data is consistent with the direct connections hypothesis. Direct monosynaptic connections from the motor cortex onto the primary motor neurons controlling phonation, absent in other primates, thus constitute a key human autapomorphy for vocal control that evolved in hominins sometime after our divergence from chimpanzees." — Fitch*

*"Humans appear to be unique among primates in possessing direct, monosynaptic connections from motor cortex to the laryngeal motor neurons in the medulla that control the laryngeal muscles controlling phonation." This direct, voluntary motor control over speech-stream modification, along with enhanced intracortical connections from the auditory cortex to the motor cortex that are involved in speech planning and audio-vocal matching are unique to our species. Aside from these vocal-motor pathways, our brain is more or less homologous to that of monkeys. — Fitch*

Phonation drove human. Phoneme drove articulation.

If you want to understand complex vocal learning, look into the eyes of our homologues.

We all communicate, but that doesn't distinguish us from noncommunicators or others that communicate in other ways. Somewhere along the path of the last six million years, "I" lost track of how words arise.

How did Hominin think? We are holding ourselves accountable, though not for *our own* actions, as though understanding others were license to behave any way we pleased.

We've been under the same neural-sexual pressure as our feathered friends — only their song arrangements are unsurpassable.

We must not say "paved the way" with regard to any impetus we believe led to the emergence of language. That would be terribly inapt.

I don't know my ABC's I just know how to speak.

A chinchilla can tell when I'm voicing my t's and unvoicing my d's.

Sorry, the source of sound in not the larynx. (Perhaps it's the pelvic cavern.)

Oops, we forgot about consciousness, again. I keep pleading ... not to leave consciousness out of impetus, much less learning about it.

It's not the anatomy, it's the forebrain leverage, stupid. It's the ready-anytime-you-are aspect of adaption.

Dear Motor Cortical, a melody is not a sentence, it's a life story. Just as a mimicked birdcall is not melody, a mimicked sentence is not a sentence.

An *Elephas Maximusi* brought home a human joke to impress the herd and was soundly laughed at, losing many friends and neural connections.

When you say evolutionary pressures, at what point do you mean social pressures? If you want to say that it's alarming but not harming, drop the "h." If you want to say it's not only alarming but harming and need help drop all the letters and *yhelp*, in order to not impair signal perception. Repeat. If researched outside of exuberance you won't understand. If context-free grammar is not the same as grammar-free context, please demonstrate.

Almost everything we can do is phylogenically widespread. The one difference, as evolution's chosen ones, *we choose* (with a little training.) Parse, parse, parse, parse. Others aren't inclined. Cats never copy. While "higher levels of vocal complexity typically co-occur with the predisposition to learn to articulate a signal by imitating and modifying someone else’s signal." Blah, blah, blah. The indicators of the body-size is the size. High-frequency front vowel anger is less likely to strike fear into the heart of the enemy. Huge picture of a rat, tiny picture of a rhinoceros. If I say snake, look up! The arbitrary can kill you.

Word equals meaning. Ohhhh! I hadn't thought of that in that way. It's associated. I thought it just *was*.

I forgot to favor survival. Now look at me. Go attack yourself. Only you would call social "inter-*personal*."

DYING TO SHARE OR SCARED OF OTHERS: AFFECTIVE PROSODY

*"Here, I suggest that the ability to modulate prosody in emotional communication and within turn-taking contexts (rather than the ability for music), as enough to describe the emergence of vocal utterances in the early Homo. "* — Piera Filippi

*“I cannot doubt that language owes its origin to the imitation and modification, aided by signs and gestures, of various natural sounds, the voices of other animals, and man’s own instinctive cries. [...] we may conclude from a widely-spread analogy that this power would have been especially exerted during the courtship of the sexes, serving to express various emotions, as love, jealousy, triumph, and serving as a challenge to their rivals. The imitation by articulate sounds of musical cries might have given rise to words expressive of various complex emotions.” —*(Darwin 1871, p. 56)

*"... the hypothesis that the ability to process emotional content through voice intonation is older than phonetic processing, and might have favored its emergence. Within this research framework, (Aryani and Jacobs) addressed the interaction between semantic content and phonemes iconically associated with high emotional arousal, for instance plosives or hissing sibilants. The authors found that words where semantic content and constituent phonemes (e.g., the plosive consonant /k/ in “Krieg” [war]) are congruent in the expression of arousal are processed faster and more accurately."* — Piera Filippi

*"Taken together, these studies are consistent with Darwin’s hypothesis that emotional communication in animals is produced through mechanisms underpinning voice production that are conserved across phylogenetically distant species. This hypothesis is in line with a growing body of studies attesting to the human ability to identify vocal emotions across widely different cultures. Emotional communication might, therefore, be biologically ancient and immune to the influence of cultural dynamics."* — Piera Filippi

Changes in emotional states create muscular tones in the same muscles involved in phonation. The black-capped chickadee encodes the degree of threat by predators by higher or lower frequencies. It's conserved across distant species, safe from new developments. We're nonhuman taught.

Emotion breeds cognition. It keeps in mind. Makes salient. Intelligibility has emotion to thank. One day a week we should all speak as though we're only talking to babies. Expansive contours, tempos that roll like undulating meadows. There are countless words we're not recognizing. The rule of soothing. Commands enfolded in questions. Nothing *has* to end, exaggerating happiness.

I had been paying attention to everything in particular until you started to cry. I will remember you. I will learn to not make you cry.

Replace vowels with consonants and consonants with vowels and tell me how you feel.

Say "happy hating" and you'll see what I mean, to you.

Intonation means more than content. Again you're forgetting to be empty. Detach from the results.

Language was born of *nurture*. Circumstances are there to point out our emotions.

Did I recognize first how you felt, what you meant, or which words you chose?

The nerves yield only insofar as they are disposed by *l’esprit.* “For it is not so much the ear that bears pleasure to the heart as the heart that bears it to the ear.”

Exactly one century prior to Darwin (Rousseau): "With the first voices, the first articulations or the first sounds formed themselves according to the type of passion that dictated the one or the other. Anger wrenches menacing cries that the tongue and the palate [or palace] articulate; but the voice of tenderness is more gentle—it is the glottis that modifies it, and this voice becomes a sound.

With regard to the origin of language, Rousseau went so far as to say that we do not first sense things as they are, but through our own sentiments. If we are afraid, we don't see strangers we see giants.

Apes find it extremely difficult to produce vocalizations in the absence of the corresponding emotional states. In a nutshell: prosodic modulation of the voice within emotionally charged interactions is the crux that might have favored the production and perception of the constitutive elements of phonemes and morphemes and the ultimate evolution of language; just as prosody continues to facilitate language learning in infants and species survival as group-coordinators and emotion-processors. It keeps us from stepping on each other's toes and cutting off each other's sentences (and avoiding awkward gaps) by cueing oscillatory turn-taking with lowered pitch and word-lengthening, in rhythmic counter-phased conversation.

MOTHERESE

This David Haskel quote as placeholder for this section on Motherese (Infant Directed Speech) as the only living evidence of language evolution:

"When I’m speaking, what I’m doing is using a very sophisticated set of muscles in my mouth and my tongue and the back of my throat. Between the vertical part of the throat and the forward horizontal part of the mouth there’s a hyoid bone, a horseshoe-shaped bone, where all these muscles are attached. We need that apparatus in order to make sophisticated and nuanced sounds. Why do we have a mouth like that? It didn’t evolve first to make speech—certainly not human speech, because we’re very recent arrivals on the scene compared to most other mammals. We have sturdy bones, and muscular throats, and sophisticated and well-controlled muscles to suckle. As youngsters we need mouths like that to feed on the gift of milk. So the evolution of lactation by proto-mammalian mothers around two hundred million years ago put selective pressure on youngsters to have stronger, better-coordinated mouths. The gift of milk, which is an extraordinary gift from mothers, is one of the defining features of mammals. Part of my response to hearing a human voice and thinking about its evolution is one of gratitude to our great-great-great-great-grandmothers who started this process of a nutritive connection between mothers and their offspring, an evolution then put to work in the service of making complex sounds."

CHIME IN THEORY OF LANGUAGE ORIGIN

Desire to belong to the living earth. To chime in with the sound-making — not only birds and animal calls, but the rushing of rivers, wind blowing through the leaves and across rocks, insect communication. To take part in the sonic diversity, to sense a niche in the frequency spectrum. Neither competition or cooperation, rather orchestration.

IN THE WORDS OF HOMININ

*"These studies highlight that animal calls do not “carry” information on the basis of an arbitrary association between sounds and meanings, as in the case of human words. On the contrary, in primates, vocalizations are genetically determined and are triggered by emotional and cognitive states of the signalers, which are reflected in specific acoustic features of the signal."* — Piera Filippi

*"For if men had need of speech in order to learn to think, they had indeed still more need of knowing how to think in order to find the art of speech."* (Rousseau again)

(If Dante can interview Adam. I can speak for Early Human.) What was thought before words?

I don't define the boundaries of my body. I see what you call "energy" because I don't call it anything at all. Silent from the inside. No chatter. A stroke space. No baggage, none of the stressors you've said define me neurohormonally. Brain without language incessance. What is there to understand? Not matching things up, nothing to remembering with.

I couldn't know that I'm not speaking even if I tried. Would sensory experience be pain? Life force with manual dexterity, this is paradise. Far less solid than you think.

(It was probably possible to process language before it was possible to produce speech.)

No forebrain motor hookup to speaking muscles. It's just not there. Can't make that happen. A mouth won't do what I'd want it to, nor can I know what I'd want it to do, nor that I one day would. That it would.

Because we were not trying to deceive ourselves...there was no arbitrary. Nothing is easy to fake if you don't know what fake is. It didn't keep me from not using words in order to trust others the old fashioned way.

High pitch fear alarm excited; low pitch aggression. Some things have never changed. Call it prosody without language. All's intonation.

It was impetus. That's what happened. That's all.

I am aware that the symbolic is more powerful than its thing (or I wouldn't be here in this essay.)

Everything is congruent. The sensorium is meaning, i.e., meaning is the same as what it is. I know what stands for what. Id est.

Said without syntax.

I'm as social as anyone.