

Research Proposal

“Validating the Feasibility of Developing the Perfect Translation of the Quran to any Language.”

Submitted to:

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Date:

The Goal

The overall goal of this project is to develop a methodology for translating the Quran into any language while preserving the full intent of Allah, thereby eliminating the deficiencies present in current translations that are based solely on the translator's understanding. The aim of this initial research phase is to validate whether the brain's neural signals are consistent across individuals regardless of their native language, just as those signals are understood to be language-neutral at the conceptual level.

Background:

Allah transmitted the Quran in the most refined Arabic language. The Quran contains dialogues between various prophets and their people, many of whom had non-Arabic backgrounds. This raises a significant question: how were those dialogues rendered into flawless Arabic while preserving the full intent of each speaker? A faithful translation of the Quran must meet the same standard, preserving complete original intent rather than reflecting only the translator's interpretation.

A foundational distinction in this proposal rests on a precise reading of the Quranic text itself. Allah does not describe the Quran as being revealed in the Arabic language (لغة عربية, lughah arabiyyah) but rather in a clear Arabic tongue (لسان عربي مبين, lisan arabi mubin). This distinction appears in multiple verses:

- **Surah Al-Nahl (16:103):** "This is a clear Arabic tongue (lisan arabi mubin)."
- **Surah Al-Shu'ara (26:195):** "In a clear Arabic tongue (lisan arabi mubin)."
- **Surah Al-Ahqaf (46:12):** " And this is a confirming Book in the Arabic tongue (lisan arabi mubin)."

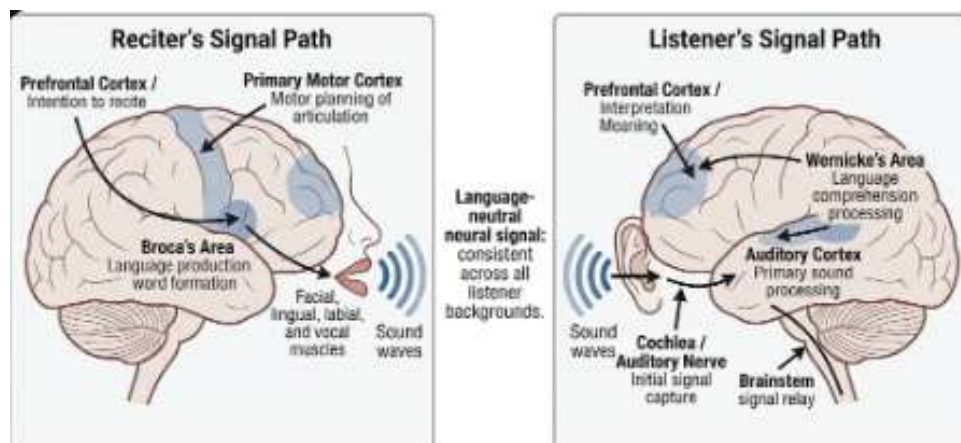
The word “lisan” in Arabic carries a dual meaning: it refers both to the physical tongue as an organ of speech and to the broader concept of speech and articulation as a physical, acoustic act. The word “lughah”, by contrast, refers to language as a system of signs, grammar, and meaning. The Quran consistently uses “lisan”, not “lughah”, when describing the medium of its revelation.

This is not a trivial distinction. “Lisan” roots the Quran's revelation in the domain of sound, vibration, and physical articulation rather than in the domain of linguistic convention and symbolic structure. A language (lughah) is a human construct: a socially agreed-upon system of signs that varies across cultures and changes over time. A tongue (lisan) describes the physical production of sound, which operates according to acoustic and physiological principles that transcend any single language.

This framing has a direct implication for the project's hypothesis. If the Quran were described as an Arabic language, then its meaning would be inseparable from the Arabic linguistic system, and translation would inherently involve loss, because no two linguistic systems map perfectly onto each other. However, because the Quran is described as an Arabic tongue, its primary medium is acoustic and physiological. The sound waves produced through proper recitation carry patterns and features that are not exclusive to Arabic phonology. As documented in Appendix 1, the rules of Tajweed produce articulation patterns, resonance qualities, and acoustic combinations that draw on the full range of human articulatory possibilities, many of which are shared across languages.

This leads to the proposal's core hypothesis: the electrical signals generated in the listener's auditory system by a correctly recited Quran are not Arabic-language-specific signals. They are acoustic signals of sufficient complexity and range to activate language-processing regions in any human brain, regardless of the listener's native language. The neural representation produced in the listener's brain is therefore closer to a pre-linguistic, meaning-bearing signal than to a language-specific phonological sequence.

This theoretical framing also connects to the neurological justification discussed later in the proposal. If the Quran's medium is fundamentally acoustic and pre-linguistic rather than language-specific, then the neural signals it produces in both the reciter's and the listener's brain should exhibit cross-linguistic consistency. That consistency is precisely what Phase 1 is designed to measure and verify.



[Figure 1: Neural signal pathways from intention to sound in the Quran reciter (left panel) and from sound to meaning in the listener (right panel). The language-neutral nature of the signal at both origin and reception points is the basis for Phase 1 measurement.]

Justification for the Concept:

An Egyptian professor at an American university suffered a stroke that produced an instructive neurological outcome. When he attempted to deliver a chemical engineering lecture in English, he spoke in Arabic without awareness of the switch. This suggests that his underlying cognitive and neural processes remained language-independent. The stroke appears to have damaged the brain region responsible for converting neural signals into English speech output. As a result, those signals were rerouted to the area associated with Arabic, producing Arabic speech. This case supports the hypothesis that neural signals encoding meaning are not inherently bound to a single language.

Purpose of phase 1

The aim of this preliminary research phase is to determine whether the electrical signals generated when a listener hears a correctly recited Quran, and the neural signals produced in the brain of the reciter, share a consistent and distinctive pattern across individuals. "Distinctive" here means that these signals remain consistent regardless of the individual's background, educational level, or comprehension capacity.

To measure neural signals in the reciter's brain, researchers will use established neuroscientific techniques including electroencephalography (EEG), functional magnetic resonance imaging (fMRI), magnetoencephalography (MEG), and near-infrared spectroscopy (NIRS).

To measure the electrical signals reaching the listener's brain during Quranic recitation, researchers will primarily employ EEG. Additional techniques may be used to validate the concept and to better characterize the transmission of signals between the reciter and listener.

Proposed Methodology

This preliminary phase requires the measurement and recording of neural signals from four distinct subject categories:

1. **Professional Quran reciter with Arabic comprehension:** A subject who understands the semantic content of Arabic words and is skilled in proper Quranic recitation.
2. **Listener with Arabic comprehension:** A subject who understands the semantic content of Arabic and is tasked with listening to the proficient recitation.

3. **Professional Quran reciter without Arabic comprehension:** A subject who may be a non-native reciter or a child proficient in recitation rules but without comprehension of Arabic meaning.
4. **Listener without Arabic comprehension:** A subject who does not understand Arabic and listens to the proficient recitation.

Recorded neural signals from all four subjects will be analyzed to assess the degree of similarity across groups and to identify any meaningful differences.

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Appendix 1 The rules of proper Quranic recitation

Unlike the reading of general Arabic text, the recitation of the Quran follows specific rules rooted in the recitation practice of the Prophet Muhammad (PBUH). These rules include:

- **Makharij al-Huruf (Articulation Points):** Each Arabic letter originates from a specific point in the mouth or throat. Correct articulation from these points is foundational to proper recitation.
- **Ghunnah (Nasalization):** Certain letters require proper nasalization when followed by specific letters.
- **Madd (Lengthening):** Certain vowels or consonants are lengthened according to defined rules. There are two primary categories: Madd Asli (Natural Prolongation) and Madd Far'i (Compensatory Prolongation).
- **Ikhfa' (Concealment):** Certain letters are pronounced in a softened, partially concealed manner when followed by specific letters.
- **Idgham (Assimilation):** Certain letters are merged when they occur in sequence. There are two types: Idgham bighunnah (merging with nasalization) and Idgham bilaghunnah (merging without nasalization).
- **Iqlab (Conversion):** The sound of the letter Nun (ن) is modified to resemble the letter Meem (م) under specific phonetic conditions.
- **Qalqalah (Echo/Vibration):** Certain letters, when pronounced with a slight pause, produce a brief vibrating or echoing quality.

Appendix 2: Simplified Overview of the Process of Transforming Thought into Spoken Words

1. **Generation of Thought:** Thoughts originate from complex neural activity across multiple brain regions responsible for language processing, memory, emotion, and intention.
2. **Language Processing:** When the intention to speak arises, the brain activates language centers including Broca's area (associated with speech production) and Wernicke's area (associated with language comprehension). These regions convert abstract ideas and intentions into linguistic representations.
3. **Motor Planning:** Once a linguistic representation is formed, the brain plans the precise sequence of muscle movements required for articulation. This involves the primary motor cortex, which coordinates signals to the muscles of the face, tongue, lips, and vocal cords.
4. **Execution of Motor Commands:** The motor cortex transmits signals via motor neurons to the relevant muscles, initiating the movements required for speech.
5. **Sound Production:** As air passes through the vocal cords, they vibrate and produce sound. The articulators (tongue, lips, palate, and related structures) shape those sound waves into recognizable speech sounds.

6. **Auditory Feedback:** The auditory system monitors speech output in real time, enabling continuous self-correction to maintain accurate pronunciation and clarity.

The neural signals produced during thought are not bound to any particular language. They represent abstract concepts, intentions, and ideas that can subsequently be expressed through multiple languages. Neural activity during thinking occurs across regions associated with conceptualization and language processing, generating a representation that is not inherently language-specific.

When thoughts are expressed verbally, this language-neutral representation is translated into a specific language based on the individual's linguistic background and the communicative context. This translation activates the relevant language centers, which organize words according to the rules of the chosen language.

Current research in brain-computer interfaces (BCIs) and neuroimaging is advancing the ability to decode certain aspects of language from neural signals. Using machine learning algorithms trained on neural data collected during language tasks, researchers have successfully decoded simple words and phrases from brain activity patterns. However, decoding complex or naturalistic speech in real time remains a significant scientific challenge and has not yet been achieved.