

Methodical Applications of Quantum Physics to the Classical Arabic Syntactic Course - Readings on the New Arabic Linguistic Conception -

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Abstract:

This modest academic research can provide new Arabic linguistic visions in the interpretation of Arabic linguistic material, which concerns some classical syntactic themes, including Horouf el-Maani, because it is based primarily on the projections of quantum philosophy on the ancient Arabic syntactic course, with an interdisciplinary linguistic approach that makes quantum physical methodological procedures a flexible tool at the service of modern Arabic linguistic course, to move it from the circle of humanities to the circle of exact sciences, in terms of organic and methodological treatment, and to open new horizons of Arabic linguistic research, based on the projections of precise scientific methods on ancient and modern linguistic themes. in a bold attempt to analyze the constituent elements of its linguistic subjects and explain its phenomena in a way different from what was previously presented in the ancient Arabic linguistic course in terms of study and approach, and to interpret it with what it provides the sources of modern science, including a strict methodology and sound logic, and can be interpreted even when there is no clear evidence, with the presence of logical and solid clues. This modern interdisciplinary linguistic conception is not necessarily an epistemic break with classical Arabic linguistic studies, as much as it represents a civilizational continuity between two linguistic generations, and as much as it represents an obsolescence in the linguistic visions presented in linguistic theory, from Al-Khalil to Sibawayh to Ibn Jinni.

Keywords: Arabic linguistics; interdisciplinarity; quantum; phonology; function; syntax; signification; amma

Applications méthodiques de la physique quantique au cours classique de syntaxe arabe

- Lectures sur la nouvelle conception linguistique de l'arabe -

Résumé :

Cette modeste recherche académique peut fournir de nouvelles visions linguistiques arabes dans l'interprétation du matériel linguistique arabe, qui concerne certains thèmes syntaxiques classiques, y compris Horouf el-Maani, parce qu'elle est basée principalement sur les projections de la philosophie quantique sur l'ancien cours syntaxique arabe, avec une approche linguistique interdisciplinaire qui fait des procédures méthodologiques de la physique quantique un outil flexible au service du cours linguistique arabe moderne, pour le faire passer du cercle des sciences humaines au cercle des sciences exactes, en termes de traitement organique et méthodologique, et pour ouvrir de nouveaux horizons à la recherche linguistique arabe, basée sur les projections des méthodes scientifiques précises sur les thèmes linguistiques anciens et modernes. Cette conception linguistique moderne et interdisciplinaire est une tentative audacieuse d'analyser les éléments constitutifs de ses sujets linguistiques et d'expliquer ses phénomènes d'une manière différente de ce qui a été présenté auparavant dans le cours de langue arabe ancienne en termes d'étude et d'approche, et de l'interpréter avec ce qu'elle fournit les sources de la science moderne, y compris une méthodologie stricte et une logique solide, et peut être interprétée même lorsqu'il n'y a pas de preuves claires, avec la présence d'indices logiques et solides. Cette conception linguistique interdisciplinaire moderne n'est pas nécessairement une rupture épistémique avec les études linguistiques arabes classiques, autant qu'elle représente une continuité civilisationnelle entre deux générations linguistiques, et autant qu'elle représente une obsolescence dans les visions linguistiques présentées dans la théorie linguistique, d'Al-Khalil à Sibawayh à Ibn Jinni.

Mots-clés : *linguistique arabe ; interdisciplinarité ; quantum ; phonologie ; fonction ; syntaxe ; signification ; amma*

Introduction

An Arab linguistic researcher may find, in a careful diachronic reading, that classical Arabic linguistic studies were largely based on the morphemic aspect, aligned with the lexical linguistic elements "les monèmes arabes" (noun, verb, and particle) in the conception of André Martinet. This is clearly evident in grammatical studies that organized their topics according to this classification, with their explanations and interpretations centered on the linguistic word, without delving into the lower linguistic components "les formants linguistiques finales," which are quantitatively fewer, particularly the Arabic phonological elements "les éléments phonologiques arabes," starting with the phoneme in both its consonantal and vocalic aspects.

While some early indications of critique toward this approach appeared in the classical morphological course "le cours morphologique arabe classique," which relied on the Arabic letter to explain morphological phenomena – a part of the Arabic morphemic elements "les éléments morphologiques arabes" – especially in topics like substitution, transformation, assimilation, similarity, and dissimilarity, it treated the Arabic letter in isolation from its quantitative physical properties, such as airflow from the lungs, point of articulation, and movement dynamics. These precise physical descriptions hold the key to understanding linguistic phenomena, as they relate more to the features resembling the letter than the letter itself, forming the "final quantitative counterparts" of the Arabic letter.

Even though further critiques came through the Arabic phonetic course "le cours phonétique arabe," particularly in the phonetic-semantic discussions recorded by Sibawayh in

parts of his *Kitab*, by Ibn Jinni in *Al-Khasa'is*, and by other Arab linguists in this refined and noble field, they remain relatively limited. This is because they did not adopt the lower and quantitatively fewer phonological elements as a foundation for analyzing Arabic linguistic phenomena as a whole, nor did they use them consistently to explain or interpret phenomena when phonological explanations were insufficient. This was neither a focus nor practically accessible at the time. Ibn Jinni (d. 392 AH) might be an exception, as his methodology in addressing Arabic linguistic issues – including grammatical, morphological, and even literary and artistic – employed procedural Arabic phonological tools to interpret grammatical and morphological subjects, proposing interpretations widely accepted due to their rigorous methodology and sound logic.

Since language represents the human voice and man is the physical, natural image in terms of his organic composition, alongside psychological, spiritual, intellectual, and cognitive characteristics, language may follow the path of human composition. Thus, linguistic components would align naturally and physically with the linguistic elements, which are then linked to communicative, social, psychological, and cultural functions – linguistic phenomena governed more by function than substance. This applies to all human tongues, including Arabic. Therefore, the path to explaining and interpreting linguistic phenomena and proposing interpretations – especially when direct evidence is lacking – aligns with academic methodologies used to describe human physiology, especially those dominated by quantum physics and parallel sciences like natural sciences, mathematics, chemistry, etc. This suggests that quantum physical philosophy could be a procedural approach to handling Arabic linguistic material, as it looks at the lesser and

more quantifiable linguistic elements with their physical and mechanical properties to interpret grammatical and morphological materials and related linguistic content. Such interpretation, preceded by clear analysis and sufficient explanation of physical and mechanical characteristics, yields richer explanations than those found in classical linguistic studies – due to the advancement of modern science and technology, which makes this approach not only logical but necessary.

This pursuit does not intend to declare an epistemological break with classical Arabic linguistic heritage, with all its strengths and weaknesses. Rather, it represents a civilizational continuity between two generations of linguistic scholarship. Al-Khalil initiated this with a linguistic-mathematical approach in *Kitab al-'Ayn* and *Al-Jumal fi al-Nahw*, a tradition continued by his student Sibawayh, who viewed Arabic linguistic phenomena as relative rather than absolute. Many grammarians followed this path until linguistic leadership reached Ibn Jinni, who introduced a specialized approach to interpreting Arabic linguistic and literary phenomena by focusing on the lowest levels of linguistic elements, even if not considered part of those levels. His methodology resembles quantitative linguistic interpretation, reflecting the scientific capabilities of his time.

All this should encourage the modern Arab linguistic researcher to elevate Arabic linguistic studies from their place among the humanities – which have benefited more from linguistic studies than vice versa – into the realm of the exact sciences, which is their rightful domain. This transition is justified by the nature of linguistic material and its compositional elements, the analytical methodologies that deconstruct it, and the application of formal mathematical logic –

long present in this field – particularly in the foundational linguistic principles established by Al-Khalil and expanded by Sibawayh, which aim to find logical "images" that match their syntactic "antecedents."

1. The Research Problem:

The reader of this presentation might encounter some academic ambiguity, necessitating clarification due to the unfamiliarity of the proposed interconnection between linguistics and quantum physical philosophy. Many scholars view these as two distinct fields – one among the humanities and the other within the precise sciences. Thus, questions arise regarding the academic legitimacy and efficacy of applying quantum philosophical projections to Arabic linguistics:

1. Some Arab linguists may see ambiguity in the proposed connection between linguistics and quantum physical philosophy. What justifies this academic association and the philosophical projections onto linguistic inquiry?
2. Even if one accepts this link, what is the level of interdisciplinary efficiency achieved? How beneficial is it for Arabic linguistic studies?
3. What is the degree of responsiveness of classical linguistic topics – especially classical Arabic grammar – to this methodological projection?
4. Does this inter-disciplinary link facilitate civilizational knowledge continuity between generations of Arab linguists?
5. Can it open new theoretical linguistic horizons while preserving Arabic linguistic specificity?
6. Does it establish an epistemological link between Ibn Jinni's linguistic thought and the emerging quantita-

tive linguistic theory derived from this interdisciplinary connection?

7. Finally, can it lead to theoretical advances in modern Arab linguistics without relying on Western linguistic practice?

2. Regarding: “cvc-cvv” (2-3):

This structure entails condition, detail, and emphasis. It features three linguistic forms:

1. With a fatha and tashdid (gemination), which is the most common and dominant form.
2. With the first *mīm* changed to *yā'* for ease and to avoid the heaviness of gemination – as in the line of Ibn Abi Rabi'ah:
"She saw a man, ayma – when the sun appears, he shines; and ayma in the evening, he's present."
3. As a dialectal variant of *immā*.

It is possible that *ammā* is a compound of (أ + م), with *an* being the lightened form of *anna* for emphasis, thus conveying assertiveness, possibly even conditionality. Or it may be composed of (أ + م), based on the vocalized reading of *immā*. Though this view is weaker, it's plausible enough to consider. In this case, *in* would be the lightened form of *inna*, also expressing emphasis and possibly condition – if *in* is considered a conditional particle. Since this phonological composition supports both possibilities, the indicators of emphasis and condition are strengthened accordingly.

Perhaps what explains both of them is what the syllabic closure in the first segment [(أ):(3)"cvc"] indicates – the connotation of cutting, closing, and sealing; such as what is found among the signs of emphasis in severing suspicion with certainty, and sealing the domain of doubt in the inci-

dents of matters. A similar thing occurs in the conditionality, in that the syllabic closure refers to the meaning of cutting and its indicators, due to the interruption of indication of condition in what is concluded between the two parties – both in reality and supposition – so that neither of them breaches what was set as a condition, which became a restriction leading both parties and restraining them from surpassing what was agreed upon. As for the segmental openness in the second [(ما):(2)"cvv"], it may be explained by what the indication suggests – openness and expansiveness – that attach the meaning of elaboration in the context where it comes with “amma,” thereby exceeding what was previously limited in the immersion of a thing in one meaning after it was segmented and its parts were separated, so that elaboration emerges from it, expanding it with specification and textual declaration, and its counterparts from the signs of clarification. Thus, the syllabic construction in “amma” may imply that the explosive glottal hamzah or the first syllabic closure [(أ):(3)"cvc"] refer to the connotations of emphasis and conditionality, by what it suggests from the quantitative physical properties – which are characteristics of the ascending breath – and the mechanical kinetic properties that pertain to the phoneme’s homology at its point of articulation, and the movement it takes in its pronunciation. The syllable does not depart from what concerns the phoneme in terms of quantitative physical and mechanical kinetic characteristics...

It has become clear that the phonemic closure that attaches to the “nun” at the end of the closed syllable is what seals it; it aligns with the connotation of cutting, closing, and sealing in what the syllable suggests of emphasis and conditionality – both being indicators of confinement, severance, and their counterparts. In this way, the second syllable

[(لأ):(2)"cvv"] may suggest the grammatical connotation of elaboration, by what it suggests of quantitative physical and mechanical kinetic characteristics of expansiveness and length, thereby matching the indication of increasing elaboration in what the context brings, after the thing had been limited to one meaning – as emphasis and conditionality were confined in the first syllable...

As for the three grammatical forms of “amma,” they are interpreted by what grammarians have observed of syntactic and semantic properties, and their counterparts in phonetic, syllabic, structural, and phonemic aspects were as follows:

First case: a conditional particle:

What may explain the condition of necessitating the presence of the “fa” after it, when “amma” denotes conditionality; such as in His saying, Exalted be He: (Quranic verse), is the phonemic lightness of the “fa” that increases the connection of the answer to its condition, being at the beginning of the response. It has become clear that the “fa” is among the “thalaq” phonemes through which Arabic words that exceed the trilateral root are lightened, due to the “fa” carrying phonemic clarity and purity, enabling it for phonetic fluidity which enters phonological constructions, thus producing phonological lightness. This does not differ in grammatical constructions from lexical units of lesser rank. What may further support this interpretation is the assumption that the “waw” could be placed instead of the “fa” in the answer to the condition, whereby the phonological heaviness of the “waw” becomes evident compared to the lightness of the “fa.” Grammarians have stated that the “fa” at the beginning of the answer is not for conjunction, as it serves phonological consistency and thus linguistic consistency at the level of

syntactic and textual constructions. If it were for conjunction – with “waw” being the principal letter for conjunction – it could have taken its place, as it did in numerous instances; among them is the saying:

"Stop and let us weep over the memory of a beloved and a dwelling, ÷ At the low ground between Dakhol and Hawmal."

If the “fa” were for conjunction, it would not be valid to enter upon the predicate, for one does not conjoin the predicate to its initiation; similar to this in assuming the “fa” as redundant – if it were so, it would be permissible to dispense with it. However, this is generally not accepted by grammarians in the case of its entering the answer, except in cases of poetic necessity – in classical grammatical analysis – such as in the line:

"As for fighting – there is no fighting with you ÷ But rather marching through the ranks of the processions."

It was previously shown that the “fa” is among the “thalaq” phonemes with phonetic lightness, which explains the ease of omitting it without dispensing with it. This may be indicated by its evocation in the tone that dominates the structure containing it even if it is not pronounced. The peak of intonation occurs when uttering “la” in “la qital,” to allude to it upon its omission. If it were not deleted, the “fa” would have taken the peak of intonation, which traverses the structure in which it is contained, due to the tone carrying quantitative physical and mechanical kinetic properties that allude to the “fa” at the beginning of the answer even if not explicitly mentioned. Nonetheless, the phonological aspect invoked in this linguistic structure functions as an explicit mention in the place of deletion. The same applies to the line by Ka'b ibn Malik:

"Whoever does good, God will reward him ÷ And evil with evil, God does the same."

Where the "fa" with phonological lightness and its phonemic properties is omitted – one of the clearest Arabic phonemes with the least quantitative properties in ascending breath and the mechanical kinetic properties at the bilabial limit, explaining its precedence at the beginning of the answer and the ease of omitting it without neglecting it – the matter is the same in considering it a semantic particle [(fa)(1)"cv"] and a single syllable, which supports its omission in linguistic structure, with indication of its presence by the tonal element when invoked in the intonation that traverses the linguistic structure, assuming it included the "fa," so that the peak of intonation occurs on the word "yashkuraha" that follows the "fa" after it was expected before its omission. The physical and kinetic properties of the tone enable the implication of the deleted "fa".

The second condition: A letter of specification (حرف تفصيل):

A letter of specification elaborates on a general statement, which is typically the case. An example of this is the saying of Allah (Y):

"... and the ones who believe and do righteous deeds, they will be in the Garden of Bliss."

This is a detailed explanation of His general statement:

"... those who believe and do righteous deeds, and the ones who disbelieve and reject the truth, they will face their reward accordingly."

In some cases, the specification replaces the need to repeat the "amma" (as for), by mentioning one of the two specified categories and leaving out the other, such as in the verse: *"And as for those who disbelieve, they will have such and such..."*

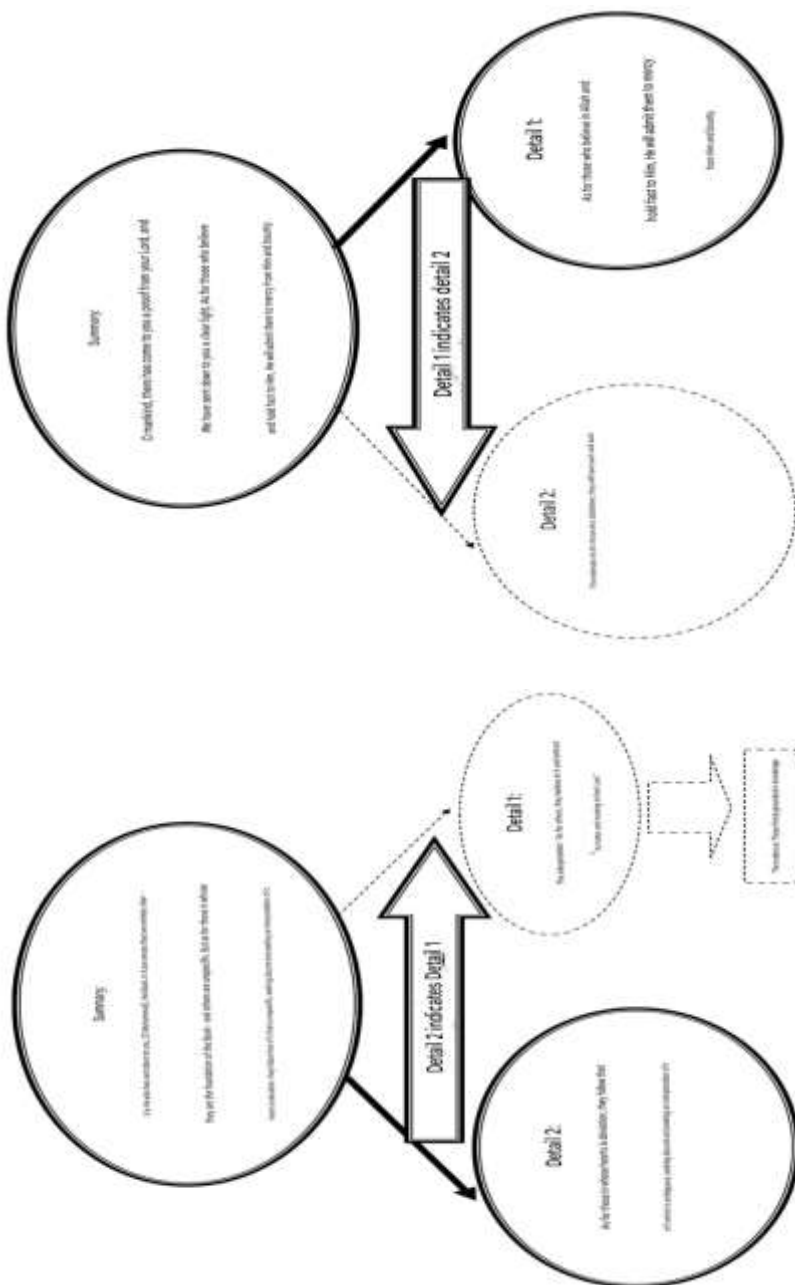
In this case, the second category is omitted, and the meaning is inferred as: *"As for those who disbelieve, they will have this and that."*

Moreover, the specification may replace the need to repeat "amma" by mentioning a statement afterward, which replaces the second category in words, but not in meaning, thus omitting it. An example is Allah's saying:

"And as for the others, they will believe in it and entrust its matter to their Lord..."

This substitutes the meaning of *"and as for others, they will believe in it and trust their Lord"* as an explanation for the belief in what is clear (المحكم) and what is allegorical (المتشابه).

Thus, it is clear that a phrase may carry two contrasting or divergent points, specified after a general statement. It is expected that "amma" might be repeated in meaning, but the words do not repeat it. Instead, the statement following it in the first specified part implies the second omitted part, and vice versa. The explanation could be found in this clarification.



The Qur'anic reference here lays the groundwork for another instance involving the omission of "أما" (*amma*) – while the second clause is explicitly mentioned and not dispensable – based on the anticipated meaning from the verse. The interpretation would then be: "As for those firmly rooted in knowledge, they say...", and so the *wāw* (و) in the verse: ﴿وَالرَّاسِخُونَ فِي الْعِلْمِ﴾ is considered conjunctive to the earlier statement: ﴿وَمَا يَعْزِمُ تَأْوِيلَهُ إِلَّا اللَّهُ﴾, and not conjunctive to the statement: ﴿هُوَ الَّذِي أَنْزَلَ عَلَيْكَ الْكِتَابَ﴾ – rather, it marks a new beginning of discourse. Based on this, the pause should be made at ﴿إِلَّا اللَّهُ﴾, and the phrase ﴿وَالرَّاسِخُونَ فِي الْعِلْمِ﴾ is not conjoined to it, due to its grammatical opposition to the earlier clause, as it appears in the second part; much like how in the structure involving "أما" we say: "Either speak good or remain silent" – meaning: "Or else remain silent", where the second clause is elided but understood from the first, to which it is structurally parallel.

Likewise, the verse in *Surah Al-Baqarah* involving the pause at: ﴿إِنَّ الَّذِينَ كَفَرُوا سَوَاءٌ عَلَيْهِمْ﴾ demonstrates this structure, where the first clause is detailed for the believers and the second for the disbelievers, exemplifying a rhetorical method in the Qur'an. The use of "أما" serves to present two balanced parts, clearly separated and paralleled – the first for the people of faith, and the second for the people of denial. Thus, the *fā'* (ف) in the verse: ﴿فَأَمَّا الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ﴾ is for initiating a new thought, not a conjunctive to what came before. This parallelism is intended to reinforce a doctrinal concept, as similarly observed in *Surah Aal-Imran*. It is not an intrinsic part of the sentence like in: "As for Zayd, he is leaving."

This understanding is further supported by linguistic analysis, especially when considering the phonemic presence in the speech wave, which becomes prominent on the

phrase: *(فَأَمَّا الَّذِينَ فِي قُلُوبِهِمْ زَيْغٌ)*, thereby suggesting – without direct textual mention – the presence of "أما" before *(وَالرَّاسِخُونَ فِي الْعِلْمِ)*, serving as the counterpart in the second clause to the first clause: *(فَأَمَّا الَّذِينَ فِي قُلُوبِهِمْ زَيْغٌ)*. What follows is a detailed exposition: the first part concerning those with deviation in their hearts, and the second concerning those firmly grounded in divine knowledge and faith. This detail follows an earlier general reference: *... (هُوَ الَّذِي أَنْزَلَ عَلَيْكَ الْكِتَابَ)*.

This interpretation also highlights the connection of *mutashabihat* (ambiguous verses) to those who harbor deviation and doubt, seeking discord and false interpretations not intended by God. On the other hand, it affirms the firm knowledge and faith of those whom God has granted deep understanding – they entrust the full meaning and purpose to God alone. Thus, the Qur'anic expression places the burden and responsibility upon the people of deviation, contrasting with the second group who are unburdened, symbolizing their spiritual purity and divine favor.

This results in a balance of opposites: one group bears the blame for sowing discord and misinterpreting, and is accompanied by the structural tool "أما" for conditional emphasis and clarification. The other group is lightened of their burdens because of their deep-rooted divine knowledge and unwavering faith. The omission of "أما" in the condition, and the presence of the *fā`* in the response, still reflects the equivalence between the two clauses – albeit in contrast.

Third case: "أما" as a particle of emphasis

This usage is rare, and it is likely that Al-Zamakhshari was among the first to point out that "أما" can serve an emphatic function. He explicitly stated: "Its benefit in speech is to add an extra layer of emphasis. You might say: 'Zayd is

leaving', but if you intend to reinforce it—confirming his certainty and resolve—you say: 'As for Zayd, he is definitely leaving'." That's why Sibawayh interpreted it as: "*Whatever happens, Zayd is leaving*". This interpretation points to two functions: its emphatic nature and its implied conditional structure.

There are six ways in which something may come between "أما" and the *fā'*:

1. **A subject (مبتدأ),** as in:

- ﴿فَأَمَّا مَنْ أُوتِيَ كِتَابَهُ بِيَمِينِهِ﴾
- ﴿فَأَمَّا مَنْ ثَقَلَتْ مَوَازِينُهُ﴾
- ﴿فَأَمَّا مَنْ أَعْطَى وَاتَّقَى﴾

2. **A predicate (خبر),** as in: "As for in the house, Zayd is there."

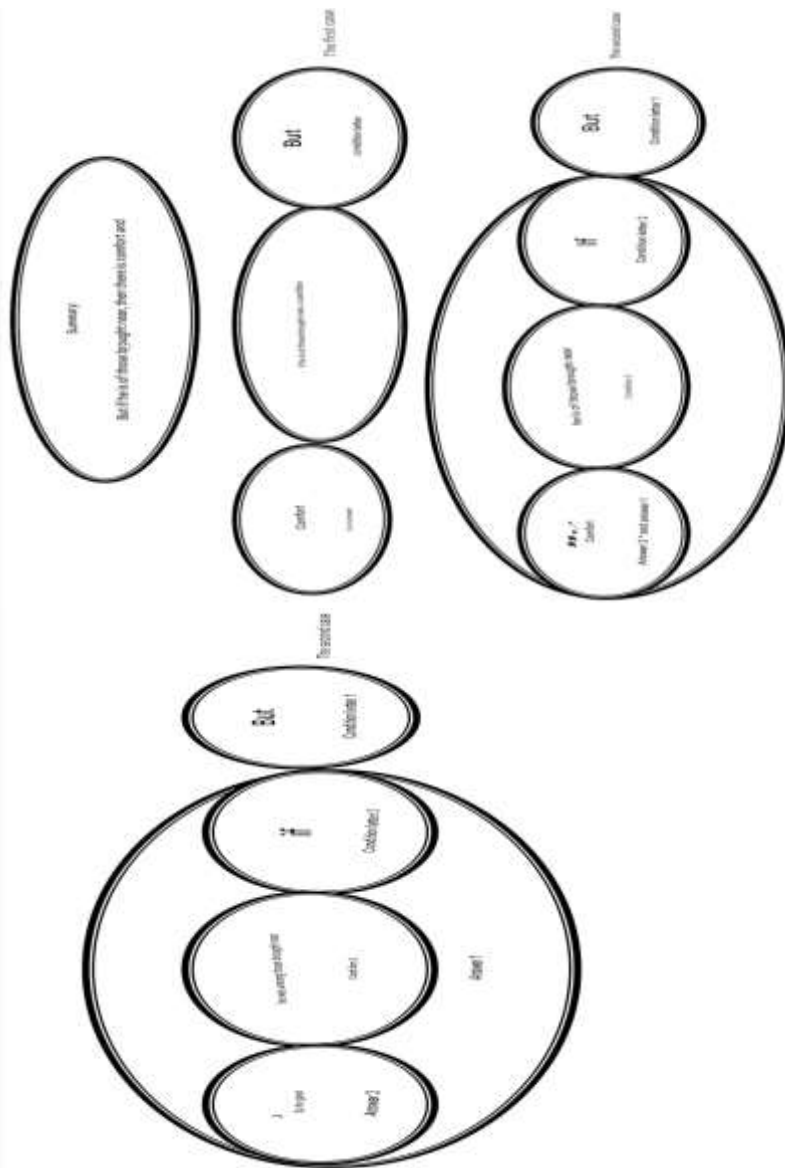
Al-Saffar considered such usage rare, while Ibn Hisham regarded it as common.

3. **A conditional sentence,** as in:

- ﴿فَأَمَّا إِنْ كَانَ مِنَ الْمُقَرَّبِينَ﴾

Ibn Hisham seemed to argue that this was the answer to "أما", not to the conditional clause itself. He gave two justifications: (a) If two conditions share one result, it applies to the first. (b) Omitting the response to "أما" would be a shortcoming.

Thus, the conditional clause between "أما" and the *fā'* (here: ﴿إِنْ كَانَ مِنَ الْمُقَرَّبِينَ﴾) along with its result ﴿فَرُوحٌ وَرِيحَانٌ﴾ is treated as the answer to "أما", explained by what follows.



1. A noun that is verbally accusative due to the response; like His saying (peace be upon him):

﴿وَقَالَ رَبُّكُمْ ادْعُونِي أَسْتَجِبْ لَكُمْ إِنَّ الَّذِينَ يَسْتَكْبِرُونَ عَنْ عِبَادَتِي سَيَدْخُلُونَ جَهَنَّمَ دَاخِرِينَ﴾ [غافر: 60]

Or accusative due to the response as well; like His saying (may Allah be pleased with him):

﴿وَقَالَ رَبُّكُمْ ادْعُونِي أَسْتَجِبْ لَكُمْ إِنَّ الَّذِينَ يَسْتَكْبِرُونَ عَنْ عِبَادَتِي سَيَدْخُلُونَ جَهَنَّمَ دَاخِرِينَ﴾ [غافر: 60]

All of these are in accusative positions for the object of the verbs "فهر" (to overpower), "تنهر" (to rebuke), and "حدث" (to inform).

2. A noun that is governed by an omitted verb explained by what follows "fa" (the conjunction); like: "As for Zayd, strike him"; and upon this was the reading of some by accusative of "Thamud" in His saying (may Allah be pleased with him):

﴿وَفِرْعَوْنَ إِنَّ فِرْعَوْنَ لَفِي ضَلَالٍ مُّبِينٍ﴾ [الفرقان: 38]

It is accusative as the object of an omitted verb, estimated as: "As for Thamud, or Thamud, We guided them," explained by: "وَفِرْعَوْنَ إِنَّ فِرْعَوْنَ لَفِي ضَلَالٍ مُّبِينٍ."

And "Zayd" is in the estimation of this; meaning: "As for Zayd, strike him," an omitted verb explained by the mentioned "strike him" in the manner of occupation.

And grammarians have estimated the governing verb after "fa," so the evidence is: "As for Zayd, strike him, strike him," and "As for Thamud, We guided them."

And as if "As for" is a substitute for the verb, and the intention is the sentence with its mentioned subject after it, and "As for" is considered a substitute for the omitted verb, because the verb does not follow the verb; and it is not from: "Zayd was doing," and "There is no creation of Allah like him," as the subject of the matter is separated between the first and second verb by the estimated pronoun of the matter

after "was" and "there is not" of the verbal, meaning: "Zayd was he doing," and "There is not he the creation of Allah like him"; and not the nominal, no problem in it because it resembles the verb, and it is a particle, not a verb.

And perhaps it was the reason for the neglect of Banu Tamim for it; they said: "There is no good except musk," by raising without accusative, so it does not govern in the news.

And perhaps the apparent in the position of the governed nouns that precede their governing particles in these evidences is what is in the estimation of emphasis according to Al-Zamakhshari, so the example is: "As for Zayd, he is departing," and although the news is in its place and its grammatical order, it is similar to what preceded of these grammatical governed nouns separated by "As for" and "fa" and what follows of the governing particles that occurred in the classical grammatical interpretation; but its linguistic interpretation is different from what the grammarians see, as it becomes clear that the governing verb in the preceding governed noun and separated by "As for" and "fa" in the grammatical interpretation is for the tone present in the intonated speech wave, and what it carries of physical, quantitative, and mechanical kinetic properties that enable it to govern, so it governs what follows it in the accusative or raises it in the nominative, and other states of governance in the governed; and the governing word comes after it in the grammatical interpretation, or explained by it in the estimation of the omission of the governing verb and mentioning what explains it after "fa," but in the linguistic quantitative interpretation, there is a verbal clue that matches the performance of the present tone, and explains it in the linguistic interpretive context; and this leads to the semantic resonance resulting from the present speech wave.

3. A noun governed by an omitted verb explained by what follows "fa" (the conjunction); like: "As for today, I am going"; or governed by the omitted verb; like: "And as for in the house, Zayd is sitting."

And the governing particle "fa" does not precede its news due to the impossibility of the estimation of its news before it, as the majority of grammarians and Al-Mazani (249 AH) and the majority feared them in this, and Al-Farra (207 AH) and Al-Mubarrad (285 AH) and Ibn Darestawayh (347 AH), so they made the news of "Inna" the governing verb in what precedes it, and Al-Farra permitted it in the sisters of "Inna" by expanding in it.

And this may open a linguistic path in the direct governance of the governing verb, as it branches from this grammatical difference between Sibawayh and the majority, and between Al-Farra who expanded in this issue and those who agreed with him in this, that the governance is attributed – in the linguistic quantitative interpretation – to the performance of the present tone in the intonated speech wave, to be the possibility of the occurrence of the present tone on the verbal "in the house" and "today" from the two evidences, after the relative difference in the expected linguistic structures; the first: "As for Zayd, he is sitting in the house" or: "As for in the house, Zayd is sitting," and "Inna" entered upon it, so it was: "As for Zayd, indeed he is sitting in the house" or: "As for in the house, indeed Zayd is sitting." The second: "As for me, I am going today

A noun that is in the accusative case in form due to the answer, such as in His (peace be upon him) saying:

}... (verse reference omitted for translation purposes) {

Or a noun in the accusative case in form and position due to the answer, as in His (may Allah be pleased with him) saying:

}... (verse reference omitted for translation purposes) {

All of these occur in accusative positions as objects of the verbs related to the answers: *taqhar* (oppress), *tanhar* (re-buke), and *haddith* (inform).

A noun that is the object of an omitted verb, clarified by what follows the particle "fa", such as in: “As for Zayd, strike him (أما زيداً فاضربه)”; based on this, some people read “Thamūd” in the accusative case in His (peace be upon him) saying:

}... (verse reference omitted for translation purposes) {

So, it is in the accusative case as an object of a deleted verb. The estimation is: *As for Thamūd, We guided them*, which is clarified by the following verse: }... (verse reference omitted for translation purposes) {. Likewise, in the sentence: *As for Zayd, strike him*, the verb *strike* is omitted and clarified by the verb that follows, following the principle of *ishtighāl* (preoccupation).

Grammarians have estimated the governing word after "fa", so the reference example becomes: *As for Zayd, strike – strike him*, and *As for Thamūd, We guided – We guided them*. It is as if "amma" substitutes for the verb, and the intended meaning is the full sentence with its subject mentioned after "amma". After "amma", it substitutes for the omitted verb because a verb cannot directly follow another verb.

This is not the case in examples like: “Zayd used to act,” and “None of God’s creation is like him,” because a hidden pronoun of *affair* (damīr al-sha’n) separates the two verbs, such as: *Zayd was – he was acting*, and *None is – he is like God's creation*. In the case of the particle *laysa* (which functions similarly to a verb but is actually a particle), there is no issue, as it resembles a verb in function, although it isn’t one. This could be why the tribe of Tamīm neglected its rule and

said: *There is nothing good but musk* with the nominative case (*al-ṭayyibu*) instead of the accusative, so it does not act upon the predicate.

What seems apparent in cases where the governed noun precedes its governing word in these examples is what al-Zamakhshari considered an instance of **emphasis**. So, the example "*As for Zayd, he is leaving*" matches this pattern. Even though the predicate is in its proper syntactic position, it is similar to the preceding governed nouns that appear between "amma" and "fa", and which classical grammar explains.

However, in linguistic interpretation (beyond classical grammar), the agent acting upon the preceding object, and separated from it, is actually the **prosodic tone** (*tūnīm*) present in the **intonational wave** of speech, which has physical, quantitative, and dynamic mechanical properties that enable it to govern. It assigns the following word as an object or predicate, depending on the case.

Then, the syntactic verb (according to classical analysis) or its clarifier appears after the particle *fa*. However, in **quantitative linguistic interpretation**, it acts as a verbal clue that aligns with the performance of the recalled tone and explains it in the linguistic context.

This leads to **semantic resonance** (*une résonance sémantique*) resulting from the presence of the speech wave.

A circumstantial noun that is governed by *amma* due to its meaning of the verb; such as: "*As for today, I am going*". Or governed by an omitted verb; such as: "*As for in the house, Zayd is sitting*."

The governing word cannot precede *inna* after *fa*, as its predicate cannot be positioned before it, and likewise, its governed word cannot precede it. This view is held by Sibawayh, al-Mazani (249 AH), and the majority of scholars.

However, al-Farra' (207 AH), al-Mubarrad (285 AH), and Ibn Duraistawayh (347 AH) disagreed, allowing the governing word to precede in sentences like this, and al-Farra' allowed this for the sisters of *inna* in an expanded sense.

This could open a linguistic path for the direct action of the governing word, as it branches from the grammatical dispute between Sibawayh and the majority, and between al-Farra' who expanded on this issue and those who agreed with him. The action is ascribed – in the **quantitative linguistic interpretation** – to the performance of the tone present in the **intonational speech wave**. The possibility of the tone falling on the words “in the house” and “today” from the two examples, after the relative change in the expected linguistic structures, is as follows:

1. *As for Zayd, he is sitting in the house* or *As for in the house, Zayd is sitting*; after introducing *inna* (verbal particle), it would become: *As for Zayd, he is indeed sitting in the house* or *As for in the house, indeed Zayd is sitting*.
2. *As for me, I am going today* or *As for today, I am going*; after introducing *inna*, it would become: *As for me, indeed I am going today* or *As for today, indeed I am going*.

The change in **physical, quantitative, and dynamic mechanical** characteristics occurs according to the variations in the linguistic structures, reflected by the performance of the tone. The peak of the intonation falls on the potential word resulting from this change. This explains al-Farra's expansion on this matter to the point of extending it to the sisters of *inna*.

This **quantitative linguistic interpretation** might align with what Ibn Hisham mentioned regarding the possibility of the governing word being *amma* or the predicate, as there

is no obstacle to them. The speaker could say: *As for today, I am sitting* (أما اليوم فأنا جالسٌ), while it is prevented by the majority to say: *As for Zayd, I am striking him* (أما زيداً فأني ضاربٌ), on the grounds that *amma* does not govern the object, and the object of *inna's* predicate cannot precede it. However, al-Mubarrad and those who agreed with him permitted considering *inna's* predicate as governing its object, recognizing that the tone may play a role in influencing the linguistic outcome in the **intonational speech wave**.

The **quantitative linguistic interpretation** here reflects the possibility of the governing action occurring after *amma*, contrary to the traditional grammatical view. For instance, in *As for Zayd, I am striking him* (أما زيداً فأني ضاربٌ), the peak of intonation could fall on "Zayd" in the accusative, as part of the intonational speech wave that has **physical, mechanical, and quantitative properties**. The peak might occur either on "I" in the first structure or on "Zayd" in the second, depending on the variations of these physical properties.

Ibn Hisham's argument was based on the phrase he heard from the Arabs: "*As for the slaves, they belong to the master*" (أما العبيد فذو عبيد) and "*As for Quraysh, I am the best of them*" (أما قريشاً) (فأنا أفضلهم). This indicated the permissibility of certain issues:

- The **interpretation** of these examples could extend beyond mere traditional syntactical analysis, as there is no need to necessarily postulate: "Whatever it may be," and what follows it can be treated as accusative based on the verbal action implied: "*Whatever I mention, the slaves belong to the master*" or "*Whatever I mention, Quraysh, I am their best*" or "*Whatever I mention, knowledge, it is that the scholar is in charge*". This would be a more precise and fluid construction, compared to forcing a syntactical interpretation that treats the fol-

lowing part as a nominal predicate, creating a smoother flow of meaning.

- It is not permissible for *amma* (like other particles) to govern the object. Some have argued that it can govern circumstances (conditions) due to its similarity to a verb and its substitution for it, but this argument is not universal, and Ibn Hisham refuted it.
- It is permissible to say: “As for Zayd, indeed I honor him” (أما زيداً فإني أكرم), as it assumes a deleted verb governs the object; otherwise, the predicate would have to precede it. The intended construction would be: “Whatever I mention Zayd, indeed I honor him” based on the rule: “Whatever I mention Zayd, I strike him” in the case of “As for Zayd, I strike him.”

This aligns with the **quantitative linguistic interpretation** that explains grammatical action through accusative (direct object) or nominative (predicate) cases according to the traditional grammatical rules. It also supports the use of verbal deletions like “Whatever I mention” or “Whatever may be” in the **linguistic wave** interpretation, showing the flexibility in applying grammatical principles.

The analysis shows that the performance of the tone (intonation) governs the sentence structure. The peak of this tone determines the accusative or nominative cases in each interpretation.

Ibn Hisham also clarified some of what was said about the verse:

}... (verse reference omitted for translation purposes){

He concluded that this is not one of the categories of *amma*, because it is simple and not derived from *amma* meaning “but” (used for contrast), and it is not interrupted. He argued that this is not used with questions, and the phrase that

follows does not necessitate the use of the interrogative form. All of it forms a single word, a result of the fusion between the two *mim* sounds from *amma* and *ma* (the interrogative particle).

This subtle point in the syntax suggests that the **phonological** performance is significant. The first sound [*am*] of *amma* (CV-C) connects with *ma* (CVV) in a single phonological unit, then closes with [*dha*] (CVV), as if blending to signify the question form.

The **quantitative linguistic interpretation** explains that the tone in the speech wave holds the **physical, mechanical, and dynamic** properties, which shape the meaning in the sentence. In this case, the potential for an **interrogative** interpretation arises from the tone itself, dismissing the possibility of *amma* being conditional. The **physical properties** influence the meaning and context of speech, explaining shifts in grammatical interpretation.

Similarly, the explanation of the poet's words:

"O Abu Khurasha, were you of a group? For my people have not been eaten by the hyena."

Shows that *amma* might be derived from *an* (the source particle) and *ma* (the particle for questioning), resulting in the interpretation: "*If I were of a group, I would not have been eaten by the hyena.*" This explanation connects with the **phonological** performance of the tone in the speech wave, suggesting an implied **verbal performance**.

This observation aligns with Ibn Hisham's explanation of the syntactical construction in classical grammar.

Conclusions

This linguistic practice, which bridges Arabic linguistic phenomena with philosophical and quantitative physical projections, provides some answers to academic concerns related to this subject and to hypothetical problems that arise when facing this modest scientific presentation. It seeks to incorporate these concerns into a set of quantitative linguistic procedures within the classical linguistic study, particularly the section on "prepositions" (i.e., '**Amma**'), through a bold and new study that offers fresh interpretations, diverging from traditional linguistic studies, especially classical grammar. These traditional studies typically focused on explaining the grammatical material in its verbal form, without exploring the minimal elements of the language or advancing beyond its grammatical level to another realm. The basic morphological material, which was traditionally the foundation of linguistic material, remained confined to the analysis of phonemes and words in classical Arabic grammar. This led to a linguistic stagnation when it came to exploring Arabic at the level of the individual word, with minimal results produced from repeating traditional linguistic practices. The explanation and interpretation were often lacking, relying on repetition without a critical review.

However, driven by ancient civilizational motivations, universal laws, and progressive academic methodologies, there was a necessary shift in these old practices in favor of the current analytical and interpretative methods brought about by modern civilization, without affecting the core Arabic linguistic material. Instead, it altered the way of analyzing, explaining, interpreting, and proposing interpretations of Arabic linguistic phenomena through a quantitative lin-

guistic lens. Among the methodological approaches and projections made on Arabic linguistic studies is the integration of quantitative linguistic analysis with ancient linguistic materials.

The linguistic outcome of these methodological approaches is as follows:

1. **The Academic Engagement with Quantum Philosophical Projections:** The academic discussion of applying quantum philosophical projections to linguistic studies, particularly in the realm of "prepositions" (i.e., 'Amma), has proven to be fertile ground for serious and substantive Arabic linguistic studies. The first principle is a rigorous scientific approach born from the precise sciences, and the second principle is the sound mathematical logic that the sciences as a whole adhere to. This approach opens new horizons for Arabic linguistic studies, offering hope for serious academics to revise the classical Arabic linguistic heritage, eliminating outdated interpretations and methods that no longer align with modern scientific thought.
2. **The Strict Methodological Tools in Quantum Physics Applied to Linguistics:** The strict methodological tools derived from the exact sciences analyze language in its structural, biological, and physical forms ("l'organe du langage"). This approach aligns with the material human constitution, emphasizing the natural physical and biological aspects of the language rather than its social, psychological, or communicative functions. This distinction sheds light on the differences between studying language from a purely physical and structural perspective versus focusing on its hu-

- man functions, which are intertwined with psychological phenomena and social interactions.
3. **The Clarity of Quantitative Linguistic and Philosophical Projections on Traditional Linguistic Studies:** The fusion of quantum philosophy and linguistics reveals the ongoing analysis of Arabic linguistic materials, starting from their origins and advancing toward comprehensive explanations that align with established academic norms. The process of analysis and explanation is followed by scientific interpretation based on mathematical logic. This represents a significant shift from traditional grammatical explanations, in which interpretation stagnated after analysis, with no further progression to new theoretical insights.
 4. **The Epistemic Linguistic Connection Between Arabic Linguistics and Quantum Physics:** The academic integration of Arabic linguistics with quantum physics reveals an epistemic linguistic connection between the ancient linguistic tradition (represented by the early Arab linguists like Al-Khalil and Sibawayh) and modern linguistic practices. This connection promotes the enrichment of Arabic linguistic theory, encouraging Arabic linguists to apply new interdisciplinary insights from precise sciences to further develop the field. This fosters a renaissance of Arabic linguistic theory that builds on both ancient and modern academic advancements.
 5. **Availability of Quantum Physical Projections in Arabic Linguistic Studies:** By employing the tools and methodologies derived from the exact sciences, particularly quantum physics, Arabic linguists now have

access to rigorous academic techniques and a borrowed scientific terminology. This provides an opportunity to bridge the terminological gap that has hindered the progress of Arabic linguistic authorship, classification, and theorization.

6. **New Research Horizons in Quantitative Linguistics:** The application of quantum linguistic analysis opens new research horizons that have not been proposed before. These new research paths are based on a rigorous academic methodology and precise scientific techniques that aim to rejuvenate classical linguistic studies while preserving the linguistic uniqueness of Arabic. This new approach enriches the Arab linguistic tradition and encourages further development in the field.
7. **The New Arabic Linguistic Theory Derived from Quantum Methodology:** The methodological procedures based on quantum physics push modern Arabic linguistics toward the development of a new linguistic theory, distinct from Western linguistic paradigms. This theory incorporates the rich linguistic material of Arabic, alongside traditional terms and concepts, while also integrating scientific insights from quantum physics. This fusion forms a bridge between ancient linguistic heritage and modern linguistic practices, reinvigorating the study of Arabic linguistics and ensuring its continued relevance in contemporary academic discourse.

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