# The Arabic Language between Cognitive Studies and Interdisciplinary Research

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*Abstract: "Interdisciplinarity" has become an unavoidable aspect of cognition, as various fields of knowledge have emerged from the blending of numerous sciences and diverse methodologies. In ancient times, interdisciplinarity was a recognized cultural phenomenon, evident to anyone familiar with the biographies of writers and scholars such as Ibn Sina (who died in 427 AH), who integrated medicine, philosophy, literature, and music. The concept of encyclopedic knowledge is prevalent, representing a different perspective that contrasts with the ideal of strict disciplines and the fragmentation of isolated intellectual domains created by interdisciplinary studies, where texts were systematically confined within rigid structures.*

*This new cognitive approach emerged in the latter half of the 20th century due to the information explosion and shifts in scientific and cultural knowledge across various societies. These changes compelled modern scientific research to move toward transdisciplinary studies, which can address complex issues that single-discipline efforts alone cannot resolve. Instead, they require collaboration among multiple scientific fields to broaden perspectives and achieve higher quality outcomes through their interactions.*

*Connecting language to fields such as philosophy, psychology, sociology, anthropology, music, and various arts—along with integrating critical approaches from related disciplines like new rhetoric, stylistics, pragmatics, and discourse analysis—has created an unprecedented interdisciplinary synergy. This collaboration involves perceptive cognitive sciences, cognitive psychology, and neuroscience, aiming to delve into the complexities of human linguistic comprehension and perception. By leveraging advancements in scientific fields, technology, neurology, and psychology, this approach seeks to understand the nature of linguistic communication, uncover the foundations of human understanding, and unravel the mysteries of memory, among other linguistic functions.*

**Keywords:** Arabic Language; cognitive studies; interdisciplinary research;

## INTRODUCTION

New cognitive fields have emerged due to the overlap between two or more fields of knowledge. Undoubtedly, linking language to philosophy, psychology, sociology, anthropology, music and various arts that take from its nature and are connected to it, along with linking critical approaches to similar and adjacent disciplines; such as new rhetoric, stylistics and pragmatics... and discourse analysis, which arose from the marriage of linguistics and literary texts, brought into existence an interdisciplinary compatibility that occurs for the first time in an organized and continuous manner among perceptive cognitive sciences, cognitive psychology, and neuroscience in order to explore the depths of human linguistic understanding and perception, by making the most of scientific fields, technology, neurology and psychology, to be capable of understanding the reality of linguistic communication, and identifying the source of human understanding of things, and solving the mystery of memory, among other linguistic uses.

### Encyclopedic-into-interdisciplinary knowledge transformations

Researchers believe that the "interdisciplinary" stage is subsequent to the "encyclopedic" stage, as it is a cognitive phenomenon that accompanied the active scientific movement. The advantages of encyclopedic thought have been known since the rise of science, as phenomenal scholars emerged in various human civilizations, excelling in organizing their knowledge in a  bond that included various types of knowledge. Heading towards our Arab-Islamic civilization, it has provided a host of encyclopedic scholars who tapped a cognitive source that granted them a multidisciplinary and encyclopedic culture, such as Al-Jahiz, Ibn Sina, Al-Razi, and Ibn Rushd, who left behind theses that combined encyclopedic thesis and mono- discipline with mastery and depth.

The encyclopedic thought in our Arab-Islamic civilization was the fruit of an era in which the idea of rallying around the (Quranic text) was first worked out as a founding book for research work and a complex style of thinking that pushes towards explanation and searching for the direct causes and phenomena behind the issues in question. Thus, a line-up of sciences was formed, interacting and integrating to enlighten and be enlightened by the text. This Noble Book is primarily responsible for establishing this encyclopedic thought and the encyclopedic scholars.

The encyclopedic approach generally relied on the context of a stage that had its own cognitive specificity, as it can be said that "the essence of scientific progress was not based on the conflict between different fields of science, but rather was based on the combination of the vocabulary of any science and its use of what the sciences have. This tendency continued for some time with Western civilization, until the beginnings of civilizational and cognitive variables appeared

under the pressure of external and internal contexts imposed by the expansionist movement of knowledge vertically with the coincidence of the emergence of disciplines reproduced from the major fields of knowledge, ending up with a cognitive accumulation that required scholars to work on standardizing and arranging other consciences."

No one denies the great benefits and fruits of this new specialized movement in discovering what has not yet been discovered, in order to develop the language and make it more flexible and standard. If interaction is a feature of the encyclopedic tendency, then isolation and independence at the level of language, terminology and methods is a feature of the specialized tendency. This approach will certainly produce "the isolation of the people of each specialty from others, preoccupied with problems and special issues and not preoccupied with the relationship of their concerns to what is taking place in other research areas, nor to the implications of their results and their impact on those areas, close or distant, in humans' life and their surroundings, which will create gaps separating sciences and knowledge. This is a sign that the ancients warned of its danger since their time when they considered that there is no more severe way to radically eliminate any discourse than isolating every truth in it from its relationships with the rest of the truths: because discourse only arises from the mutually reinforcing coherence of forms. This separation has caused problems within the fields, and pending questions, a matter which has called for reconsidering many of the rulings that were treated as axioms, and a call for a new discourse strategy appeared on the horizon of scientific research and paved the way for it.

## Interdisciplinarity Concept in Linguistic Thought:

### Among the Westerns:

The concept of Interdisciplinarity in research and studies has seen wide debate like other concepts such as Structuralism and Deconstruction when they appeared. While some researchers such as Robert Blanché acknowledged that science and knowledge are a variable human product that feeds on each other, others still believe that the value of scientific discipline is achieved only by separating it from other disciplines, and that this is what allows researchers to delve into the essence of a single discipline. Interdisciplinarity is thus one of the new developments that refers to the relationship of interaction and integration between two or more cognitive fields. It is a sort of cooperation among different disciplines in the face of complex problems whose solution requires some cognitive integration.

This term – Interdisciplinarity - has three different meanings:

First: Pluridisciplinarity: It is the dedication of more than one cognitive field to serve a specific topic or issue, while each field maintains its methodological specificity and terminological system with the aim of bringing standpoints closer together and coming up with an integrative concept of scientific knowledge.

Second: Interdisciplinarity. It requires the so-called cognitive cross-pollination; seeking to build a cognitive network wherein a range of disciplines intersect.

Third: Transdisciplinarity: It is the knowledge that acknowledges the priority of the concept of the common system between sciences and knowledge, without paying attention to the boundary between them, so we find it researching a specific topic based on adjacent disciplines and others outside its scope.

Hence, it turns clear that interdisciplinary thinking is either in a single cognitive field, such as linguistics, which includes a host of fields, including phonology, lexicology, semantics, pragmatics, etc., while maintaining the methodological specificity and terminological system of each field, or it could be in two different fields, such as linguistics and sociology, or linguistics and psychology, in order to build a cognitive bridge between the two sciences. There is a type of interdisciplinary studies that works on eliminating the boundaries separating the sciences, making it easier to rely on them in studying any topic.

## Among the Arabs

Language is a wide field for applying the interdisciplinary approach and cognitive interaction, and this axiom is not a product of modern civilization, but rather it is one of the laws of knowledge since ancient times in its various forms. For thousands of years, "the wise have agreed that the innate mind and innate generosity do not reach the ultimate perfection except with the assistance of the acquired mind, taking as examples fire and wood, the lamp and the mind, because the innate mind is a tool and the acquired mind is material, and literature is the mind of others that you add to your mind, and even if the scholars of that era did not state the term (Interdisciplinary) in the concept known today, awareness of it and its necessity was actually present, which is what we notice through their research that was characterized by openness to various fields from within and outside the language, so here is the author of Kitab Al-Hayawan, or Book of Animal - Al-Jahiz (Died in 255 AH) - demonstrates this in his introduction, saying: "This is a book in which the desire of nations is equal and in which Arabs and non-Arabs are similar, because although it is Arab and Islamic, it has taken from philosophy and combined the knowledge of hearing and the science of experience, and he associated the knowledge of the Book and the Sunnah, and the conscience of sense and the sense of instinct. Al-Jahiz often made his books a

space for the convergence and exchange of knowledge, in an effort to form an interactive, integrated vision of the sciences in their various forms. The matter was not limited to him, but rather this interdisciplinary awareness was embodied in many linguistic texts, including: rhetoric, fundamentalist, jurisprudence, and others.

## Interdisciplinary, Nature and Semantics:

### Linguistic Definition:

Talking about Interdisciplinary is talking about a term that has taken a conceptual position within its cognitive field, but before confining it semantically within its specialized framework, we find that this term has extensions in our Arabic glossaries; as stated in Lisan al-Arab: " Inter, «Al-Bayn» , in the words of the Arabs came in two ways: Inter can be separation, and it can be connection.

Al-Mu'jam Al-Wasit states: "Al-Bayn is what is between people of kinship, connection, affection, enmity, and hatred." Accordingly, we conclude that creating dividing lines for the distance and separation is known as Al-Bayn, just as the connection built on kinship and compatibility is known as Al-Bayn, so the word is thus one of the opposites.

## TERMINOLOGICAL DEFINITION

Interdisciplinary is an emerging term in our Arab cognitive system, although it has been known in Western civilization since the mid-twentieth century. The word Interdisciplinary is a noun compound consisting of two parts: (Inter) meaning between, and (discipline) meaning a specific field of study.

Accordingly, Interdisciplinary is: "A process based on combining competencies or ideas from different scientific or intellectual fields to achieve a common goal, by using different approaches to confront a specific issue or problem."

The overlap is usually according to two approaches: a narrow interdisciplinary overlap, which occurs between similar fields such as the field of science (physics, chemistry, geology...), or the social sciences (such as psychology, sociology and anthropology), or the humanities (literature, arts, history and philosophy), or a wide interdisciplinary overlap that is more complex; in which disciplines are overlapped that were not easy to converge before interdisciplinary, from that cognitive precedence that John Brockman crowned the epic dialogue between science and literature in the past century with an extremely important interdisciplinary book titled The Third Culture. This overlap results in what is known as interdisciplinary studies, which are new fields of knowledge generated from the overlap between two or more traditional disciplines of

knowledge, thus going beyond the idea of closed disciplines, and are open to the possibility of transdisciplinarity, which is the idea that Edgar Morin put forward when he saw that "the history of science is not the history of the emergence and proliferation of fields, but it is also and at the same time the history of crossing the boundaries separating fields, and the history of the spread of a number of problems from one field to another.

It is the history of the transfer of concepts and the rise of mixed fields that also tend to independence. It is finally the history of the emergence of a bond in which multiple fields are involved, merged and cohered, and these emerging fields are governed by epistemological controls at the level of the tool, or at the level of the method as the result of precise methodological premises, and they can be summarized in the following points:

- The possibility of exchanging concepts among disciplines for the purpose of opening up vision and flexibility; as interdisciplinarity is a guarantee of permanent renewal that would encourage possible changes to the standards in effect in various fields, and in order to control these changes, interdisciplinarity is based on concepts capable of playing the role of the actor that links disciplines together.
- Taking into account the principle of standing at an equal distance from the shared disciplines, so interdisciplinarity is thus a means to achieve a common goal based on fruitful dialogue.
- The advantage of interaction for the purpose of integration between various scientific fields made interdisciplinarity a field of knowledge, which is the result that specialized scientists came out with when they replaced the term science with the term field of knowledge.
- Talking about an alternative strategy in scientific research has become a reality imposed by the nature of the era; the diversification of knowledge on the one hand, and the decline of the world under the umbrella of globalization on the other hand, has made sciences overlap and mix, so that mixing sciences with each other has become almost the rule. These sciences began to increase and mix with each other, and their borders became mobile and unstable, so a network of relationships emerged between the general interdisciplinarity of this field.

## Language Reality in the Arab world

Language is one of the most widely used forms of expression among people. It is considered by researchers as the basis of communication in all types of transactions, and thus it has received the greatest attention in scientific research and in the field of interdisciplinary studies, which are essential in our time. Given this importance, conferences and seminars are held annually to work on answering many of the questions that are constantly raised in these scientific gatherings,

which examine the reality of language and culture on the one hand, and on the other hand, Arabic and identity, in light of the multifaceted divisions in the entire society, and its relationship to the conditions in the Arab region, which is already torn apart and suffers from problems in all fields. While touching upon this field through interdisciplinary research methods, we may find cognitive cooperation and cultural and scientific exchange between various Arab institutions which share the same interest, and to shed light on topics, and the scope of work in them to rise from merely collecting and organizing diverse research visions and cooperating to reveal different aspects of the same topic to real interaction, effective exchange, and the influence of disciplines on each other, and sometimes even integration. While some researchers comment on the ambitious interdisciplinary path to form a general and precise scientific language that would allow the expression of concepts, interests and scientific contributions of a number of disciplines, most researchers are aware that the boundaries between multidisciplinarity and interdisciplinary are not fixed, and that the interdisciplinary path itself has levels. "Unifying specialized competencies and knowledge can be at various levels of interaction. It may relate to processes of transferring or borrowing concepts or methods from one scientific field to another, or hybridization or intersection between disciplines, and even the creation of new research fields through the combination of two or more disciplines."

## Teaching Arabic to native and non-native speakers

Education is mainly based on transferring a group of experiences and knowledge to learners in order to face life and acquire various information. Whoever contemplates the educational process and its basic components in most Arab countries will find shortcomings and differences among most intellectuals; that is, the educational process is marred by some setbacks and problems in the way of students' comprehension.

### Teaching Arabic to native speakers:

Teaching Arabic to its speakers begins at the primary education, and continues compulsorily throughout all stages of general education, but the type of education, its size and the time allocated to it differ from one Arab country to another, and we do not deny that teaching Arabic today is experiencing weakness, primarily due to the absence of a scientific method, which imposes the development of plans for teaching Arabic.

Accordingly, teaching Arabic to its speakers differs from one Arab country to another, but at the same time it experiences methodological weakness, which may be due to the curriculum or to the teaching methods followed by teachers. Teaching the language aims from the outset to enable the student to have the tools of knowledge by providing them with the basic skills in the arts of the Arabic

language; listening, speaking, reading and writing, and helping them acquire its correct habits and sound directions, and gradually develop these skills over the grades of this stage, so that the student eventually reaches a linguistic level that enables them to use the language successfully, through good listening, correct pronunciation, conscious reading, and sound writing. Therefore, teaching Arabic basically aims to provide students with linguistic skills of listening, speaking, reading and writing, and it is necessary to highly master these four skills in order for them to be able to acquire more knowledge.

## Teaching Arabic to non-native speakers:

Arabic is one of the most widespread languages worldwide, as the demand for learning it from foreigners increases day after day, because it has characteristics that no other language has, and because it is the language of the Noble Quran. Teaching Arabic to non-native speakers is based on it being a means of communication, so it is insufficient to learn it to speak it, but it must also be understood as its people speak it, as the communication process is not only about a speaker, but it includes a speaker and a listener at the same time. Therefore, listening and understanding are two integrated language skills that learners should train to from the beginning of learning Arabic for their importance in controlling the language functionally.

The rules of the Arabic language (grammar and morphology) are also one of the most obscure and difficult areas in language teaching curricula in general, however they must be taught because they are aspects of civilization of the language, and evidence of its authenticity, and because they are controls that govern the use of language, and these rules are presented before teaching them in the form of some procedural foundations that do not conflict with linguistic axioms or the principles of grammar, and they are determined primarily by educational grammar, not scientific grammar, and are characterized by the characteristic of prevalence, benefit, and necessity.

## Linguistics and its relationship to language sciences:

What is common and accepted in this is that "Interdisciplinary" is used in a general sense and then specialized according to the field. For example, it is said: Interdisciplinary in medicine or music or in linguistics and so on, and what is also known and more accepted in linguistics is that one of its most famous divisions is that it is divided into: theoretical linguistics, applied linguistics, which includes functional lexicography, terminology linguistics, translation, language acquisition (learning and teaching field), legal linguistics, computational linguistics, and others. This is understood by the quote of Robert C. Martin: "Linguistics is sometimes descriptive, sometimes theoretical, and sometimes general, philosophical or historical, and it can be an applied discipline, and its applications

are even very diverse" in short, teaching languages, treating linguistic disorders, linguistic preparation "or (linguistic planning), and "especially automated applications, in addition to translation, legal linguistics, historical dictionary, and linguistic policy.

Thus, according to the interdisciplinary approach, if the linguistic aspect is utilized in life or existence, the linguistic approach is applied, for example, utilizing the language, its laws, and its nature in treating speech disorders, such as aphasia, lisping, and delayed speech, and explaining the nature of that interdisciplinary treatment; because it has benefited from the biological, psychological, and linguistic sciences.

As for what is related to the concept of interlinguistics, its reference is that "interlinguistics" is unquestioned, as is the case with other sciences and knowledge with inter-relations, so it is necessary to differentiate between two levels in the study of language. The first level is the study of language at the level of internal inter-sciences (phonetics, morphology, grammar, lexicon, and semantics). The second level is the study of language outside the scope of the first level, such as psychological, social, pragmatic, legal, media linguistics, text linguistics, discourse analysis, etc. Transition from the study of the first level to the second level is done through semantics, and the overlap or connection in the study between one branch and another at the first internal level (the level of inter-sciences) is described as an interlinguistic study, and the appropriate term proposed for this in English is intralinguistics. Examples of this include the "inter" between phonology and morphology in the study of derivation or explanation and substitution, as well as the "inter" between the vowels as morphemes and their relationship to grammar. As for the connection between a interlinguistic science and other external cognitive fields that fall at the second level, this should be called extended or interrelated linguistics.

Linguistics has transformed in modern human thought into a tree of sciences that mimics in its general cognitive form what philosophy or wisdom was like in ancient times. This tree of knowledge has witnessed the reproduction, generation, and interaction among the human sciences, which has truly made it the mother of modern human sciences.

Here, we shall touch upon the array of scientific disciplines that linguistic research has produced. Although it is an independent science per se, the boundaries between them and other linguistic sciences are merely methodological dividers that researchers constantly cross to solve one of the issues that they encounter during their research. David Crystal spoke about these interlinguistic fields in his linguistic encyclopedia entitled Interlinguistics, including:

Applied Linguistics: It is based on the application of linguistic theories and curricula and the findings of research to clarify linguistic issues in other fields. Applied linguistics is a term that was originally developed to express the learning

and teaching of a foreign language, but it applies to many fields, including stylistics, lexicography, translation, etc.

Computational Linguistics: It includes the study of language and concepts related to computers, especially those related to issues in the field of machine translation, information retrieval, and artificial intelligence.

Philosophical Linguistics: It is the study of language and the role it plays in clarifying pragmatic philosophical concepts.

Sociolinguistics: It is the study of the interaction between language and sociology.

## Pragmatics and its relationship to discourse analysis:

The relationship between pragmatics and discourse analysis stems from their commonalities in their study of the linguistic phenomenon. It is concerned with studying texts according to the context in which they appeared, with attention to the parties contributing to the production of the text, namely: the addressor, the addressee, the purposes, the context, and the dialogical principles. After the interest of researchers - until the mid-seventies of the twentieth century - was directed towards studying the sentence according to the phonetic, syntactic and semantic levels, today the interest has become focused on what is known as discourse analysis, whether it is written or oral. This is because the sentence may be consistent with the aforementioned rules of phonetics, morphology, syntax and semantics, so it is accepted if it appears in its appropriate context, and rejected if it deviates from it. Hence, discourse analysis came with the aim of "studying the linguistic structure at a level that goes beyond the sentence level to larger levels such as dialogue or text, regardless of its size. This field is also concerned with studying language in its context.

Among the schools that contributed to expanding the scope of discourse analysis and opening it up to other disciplines is the school of Conversational Analysis, as an interdisciplinary school that created a connection between discourse analysis and a host of disciplines, including pragmatics and sociology. Looking at the discourse analyst, the conversation analyst, and the argumentative study, we do not find that great cognitive distinction, but rather they are all parties that have united to serve pragmatic research.

## Pragmatics and its relationship to psycholinguistics:

Psycholinguistics is a science that "studies the psychological functions of language and the effects of language on individual and group relationships and its primary functions and the development and improvement of communication and contact between people to enable us to use concepts as tools for thinking and to study language as a medium for expressing feelings and emotions." It is the psychological study of linguistic processes and their relationship to individuals

who use language. It also includes the processes by which a speaker or writer issues signals or symbols and the processes by which those signals and symbols are interpreted. The study of language has expanded and opened up to many fields of knowledge, which has produced many new disciplines, including psycholinguistics.

## CONCLUSION

### Research Findings

- "Interdisciplinary" is a recent development that describes the interaction and integration between two or more fields of knowledge. It involves collaboration among various disciplines to address complex issues that necessitate cognitive integration for effective solutions.

- Despite the wide range of knowledge and the different branches of language, their combinations enriched each other. This was an interdisciplinary approach that occurred without those involved fully recognizing it, and before the formal development of interdisciplinary studies. It was practiced in limited ways, aligning with the contributions of various research and fields of knowledge.

- The history of science encompasses not only the emergence and growth of knowledge and disciplines but also the crossing of boundaries that separate different fields. It chronicles the transfer of problems from one area to another and the formation of hybrid fields that strive for autonomy. These new fields operate under epistemological guidelines, whether related to tools or methods, as a result of established methodological principles. However, blending disciplines does not equate to diminishing the integrity of those disciplines.

- Ultimately, while the term "interdisciplinary" is relatively new in the cognitive realm, scholars have not reached a consensus on its precise definition. Nevertheless, the characteristics of this approach and its foundational methodologies are becoming increasingly clear. This may be attributed to a scarcity of research exploring the topic, as current efforts are primarily centered on recognizing the effectiveness of this new approach and its necessity for advancing various fields of knowledge.

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