

## **Relativization in Arabic, Chinese, and English: Syntactic Contrast and Pedagogical Insights within the Accessibility Hierarchy Framework**

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**Abstract:** This study examines the patterns of relativization in three typologically distinct languages, Arabic, Chinese and English, within the context of the Accessibility Hierarchy (AH) proposed by Keenan and Comrie (1977). The paper identifies both convergent and divergent structural patterns by comparing the encoding of relativization in the two languages across different syntactic positions (subject, object, genitive, and others), with critical implications for second language acquisition and translation research (Eckman 2007; Albikri and Jarrah 2022). Based on prior studies, the analysis focuses on the role of resumptive pronouns, the gap within the clause, as well as the order of the head and the modifier in languages with varying typological features. Chinese relativization employs prenominal, gapless structures, which can be achieved with 的 (Lu and Chen 2008; Chang 2023). In contrast, overt syntactic gaps and rearrangements are typically obligatory in Arabic (Albikri and Jarrah 2022). The paper concludes that the correspondence and discrepancy of the relative clause construction with the postulated hierarchy provide new information about functional syntax, cross-linguistic transfer and the instructional and translational practice applicable to teaching and translation.

**Keywords:** accessibility hierarchy, Arabic, Chinese, contrastive syntax, English, relative clauses

### **1. Introduction**

Relative clauses are also an important syntactic structure in natural languages that are used to qualify the noun and insert other information in a non-initial position. They are widely attested, but their structural implementation has an astonishing diversity in typologically different languages (Arabic, Chinese, and English, etc.). The morphologically rich Semitic Arabic language employs overt relativizers, including "الذي" and "التي", and frequently employs resumptive pronouns, particularly in many non-subject relativization contexts, although their distribution may vary across registers and dialectal usage. English, in contrast, is an analytic Germanic language, making a restricted set of relativizers (who, which, that) and usually depending on syntactic gaps without resumptive. The Sino-Tibetan

isolating language Chinese is also known to construct relative clauses using the particle 的 (de). Chinese relative clauses are head-final and prenominal, typically formed through the particle 的 (de), without overt relative pronouns as found in Arabic and English. Although Mandarin relativization is often described as structurally compact and less morphologically explicit, several syntactic studies have proposed underlying dependency relations, including operator-variable and movement-based analyses. In the present study, Chinese relative clauses are approached primarily from a typological and functional perspective to facilitate cross-linguistic comparison with Arabic and English. This characteristic makes them difficult to compare across linguistic boundaries (Lu and Chen 2008; Chang 2023).

To examine these contrasts, this paper uses the Accessibility Hierarchy (AH) of Keenan and Comrie (1977), in which they suggest a universal scale of realizability between syntactic positions, which are: Subject, Direct Object, Indirect Object, Oblique, Genitive, and Object of Comparison. This hierarchical order has been highly confirmed in the literature on general linguistics and second language acquisition (Eckman 2007; Albikri and Jarrah 2022), and it provides a solid frame of comparison of hedging the relative clause structures of structurally different languages. AH has been proven to be correct in the predictions on Arabic-English pairs in the past, especially in the use of overt relativizers and resumptive pronouns in Arabic (Hamdallah and Tushyeh 1998; Alosaimi 2021). Nevertheless, Chinese differs typologically from Arabic and English through its prenominal modifier-like relativization pattern marked by 的 (de), where syntactic relations are often expressed more implicitly than in overt gap-based constructions. Internal variation of Arabic dialects has also been found in corpus-based studies (Al-Zaghir 2017), and the deviation in Mandarin Chinese, which is associated with the economic syntax of the language (Lu and Chen 2008). Nagi (2023) reported that analysis based on translation also suggests that human and machine translators face challenges in processing Arabic-English relativization due to typological differences. The present study adopts a primarily typological and contrastive perspective grounded in the Accessibility Hierarchy framework, while selectively drawing on insights from second language acquisition and translation studies to interpret cross-linguistic variation. These perspectives are used complementarily rather than as competing explanatory models. The next section presents some of the most significant works, which have examined relativization in and between Arabic, Chinese and English.

## 2. Literature review

Relative clauses (RCs) have been a subject of interest among linguistic typology, syntax, and in second language acquisition. Among the most powerful theoretical frameworks in this field is the Accessibility Hierarchy (AH) by Keenan and Comrie (1977), which orders syntactic positions by their realizability: Subject > Direct Object > Indirect Object > Oblique > Genitive > Object of Comparison. According to the hierarchy, a language that can relativize a syntactically complicated posture,

such as the genitive, can also relativize all the high-ranked postures. This assertion has been empirically demonstrated in a wide variety of languages and has been used as a predictive method in the study of first and second language acquisition. An example is provided by Wu (2023), which concluded that Korean learners of English adhere to the AH in object-relative competence; however, there was an unexpectedly high use of object relativization due to the influence of their first language's word order. In a parallel manner, Al-Zaghir (2017) found that Danish English learners experienced difficulties with possessive relativization, consistent with the AH framework.

Some scholars have criticized the AH due to its universalist orientation, even though it has provided a useful cross-linguistic focus. Camacho (2012) suggested that, rather than syntactic hierarchy, relativization in certain indigenous languages is more affected by discourse salience, whereas Dik (1997) postulated a functionalist approach in which language-specific aspects of discourse are prioritized over universal constraints. Notwithstanding these criticisms, the AH is a comparative necessity, especially that of structurally varied languages like Arabic, Chinese, and English.

Empirical tests of AH to the three languages have brought out both positive and negative results. Albikri and Jarrah (2022) discovered that Arabic-English learners adhered to predictions of the hierarchy and the subject relativity was easier to learn than object relativity. Conversely, when Alosaimi (2021) noted that the English learners often employed resumptive pronouns in subject positions, it revealed an AH transfer effect, which is contrary to the predictions. Chinese presents a typologically distinct pattern within the AH framework due to its prenominal relativization strategy and structurally compact clause formation. In contrast to Arabic and English, which make use of overt relativizers and depend on a gap or resumptive to construct relativization, Mandarin Chinese has prenominal relative clauses that are indicated by 的 (de), which frequently lacks syntactic indicators of relativization. Both Lu and Chen (2008) and Chang (2023) reported that Chinese learners generated more object relatives than subject relatives, which does not fully align with canonical AH tendencies and may reflect the interaction between SVO word order and head-final relativization patterns., presumed to be a result of interaction between the SVO word order and the head-final structure rather than the syntactic accessibility of verb and noun.

These cross-linguistic differences are pointed out by comparative studies. In line with Accessibility Hierarchy (AH) predictions, Hamdallah and Tushyeh (1998) observed that Arabic has a higher preference for resumptive pronouns, particularly in oblique constructions, than English. Alenazy (2024) also stated that although cross-linguistic comparisons highlight functional differences between Arabic and English relative clause strategies, deeper syntactic analyses focus on the internal structural mechanisms governing Arabic relative clause formation. Recent syntactic analyses of Arabic relative clauses have highlighted complex case interactions within relative clause structures, particularly in relation to case assignment and agreement mechanisms under phase-based syntactic approaches.

Lu and Chen (2008) tested AH consistency in English and Spanish and concluded that consistency is warranted in both languages, but not in Chinese, due to its unique syntactic structure, which prefers object relatives. These findings have been enriched by corpus-based approaches. Analysing more than 2,000 Chinese relative clauses in the TOCFL Corpus, Chang (2023) found that the object relatives remained the most preferred, whereas Chandavengerwa and Matende (2020) found that the restrictive relative clauses were not produced in sufficient quantity, and that the Chinese EFL learners used the equivalent too often.

Overall, although the Accessibility Hierarchy is a solid theoretical framework that helps explain relativization in all languages, it needs to be used with restraint in the context of typological, functional, and discourse-specific factors. The example of Chinese, specifically, illustrates that the pattern of processing and acquisition can be contrary to the expected order, which necessitates the use of data-driven and language-specific models. Such a review, therefore, highlights the need to study Arabic, Chinese, and English comparatively in the AH context to identify not only general tendencies but also exceptions in the structure, thereby predetermining the objectives of the current study.

Based on the above literature, this paper aims to provide an extensive comparison of relativization patterns in Arabic, Chinese, and English in terms of the hierarchy of accessibility as proposed by Keenan and Comrie (1977). It aims to investigate the structural realization of relative clauses in these languages in their syntactic position, including their functions, relativize use, and the use of relativizers such as "الذي" (de), "的" (de), and "who/which/that". The paper further examines how the respective languages adhere or deviate to the Accessibility Hierarchy, with special focus on the position of genitive and oblique cases that are usually thought to be less accessible. Additionally, the study will examine the impact of these cross-linguistic differences on second language acquisition, particularly among learners exposed to typologically distant languages. Through the areas, the study aims to recommend pedagogical and translational tools that can be applied to ensure successful understanding and generation of relative clauses in multilingual learning settings.

To achieve these goals, the paper answers some of the major questions. What are the syntactic differences between Arabic, Chinese, and English in the syntactic realization of relative clauses in the context of relativizes, sequence of clause, and resumptive and non-resumptive distribution? How well or how poorly do the relative clause constructions of the two languages match the predictions of the Accessibility Hierarchy? What are the implications of these structural differences on the process of acquiring and processing relative clauses by second language learners of other language backgrounds? Lastly, in what ways are relative clauses translated across these languages and what are some of the challenges that our teaching practices and translation strategies may learn about the lessons of the Accessibility Hierarchy framework?

### 3. Method

The current research project uses a contrastive, corpus-based approach of qualitative research in the study of the structural realisation of relative clauses in Arabic, Chinese, and English. A total of 40 representative sentences for each language were extracted using Sketch Engine from publicly available corpora representing contemporary written discourse, including news articles, educational materials, and narrative texts. to cover the different syntactic positions which were defined by the Accessibility Hierarchy (AH), i.e. subject, object, oblique, genitive and comparative relations, evenly. To ensure consistency in cross-linguistic comparison, all examples were manually annotated according to the syntactic role of the relativized noun phrase within the Accessibility Hierarchy framework (subject, direct object, oblique, genitive, or object of comparison). Ambiguous modifier constructions and discourse-dependent nominal expressions were excluded from the final dataset to maintain comparability across the three languages., namely, the ability to identify the syntactic role in the hierarchy, syntactic completeness and naturalness of the expression, and translatability across linguistic boundaries to be used in comparative analysis.

The analytical approach was based on the Accessibility Hierarchy Theory (AHT) by Keenan and Comrie (1977) which assumes a universal hierarchy of relativizable positions which is supplemented by the information of functional syntax and linguistic typology and second language acquisition (Eckman 2007; Hawkins 2004). The relative clauses were examined regarding the syntactic position and the grammatical category of the relativized noun phrase, the presence or absence of relativizes and resumptive pronouns, the sequence of clauses (head-initial and head-final), and the level of syntactic explicitness and semantic transparency. The similarities and differences between AH predictions were highlighted through a contrastive approach with specific focus on resumptive pronouns use in the Arabic language, prenominal 的(de) structures in Chinese, and strategies of gap in the English language.

The researchers translated all the sample sentences to the other two languages to investigate the dynamics of translation and processing. The evaluation of translation decisions was conducted based on structural equivalence, adaptation of resumptive, non-resumptive strategies, and discourse-level coherence. The following multilingual translation design aims to shed light on the influence of typological variation on the process of rendering and interpreting relative clauses in different languages.

Finally, it involved a pedagogical dimension about the research, with the classification of each relative clause being conducted according to the projected learning intensity in comparison to AH predictions. These ratings were cross validated based on the learners' corpus information and the results of second language acquisition research (Alosaimi 2021; Chang 2023). A pedagogical strategy was proposed considering the identified structural discrepancies and the learners' learning inclinations towards the Arabic, Chinese, and English languages to expedite the development of instructional materials and curriculum design for the learners.

## Analysis and results

### 4.1 Analysis of Chinese-origin relative clauses

This section presents the analysis of relative clauses originally composed in Chinese. Each sentence was translated into Arabic and English to allow structural and semantic comparison across the three languages. The goal is to assess the complexity, relativization strategy, and degree of compatibility with the Accessibility Hierarchy (Keenan and Comrie 1977).

Table 1. Analysis of Chinese-origin relative clauses: Syntactic structure, marking, and Accessibility Hierarchy alignment.

Example	Relative Clause Type	Structure	Relative Marker	Gap/Pronoun Presence	AH Accessibility
1. 我们原来安排的时间	Direct object relative	Pre-nominal with 的	的 (de)	No gap or pronoun	Lower accessibility
2. 印象最深的旅行是...去的	Subject with Adjunct	Verb + 的 clause	的 (de)	Implied subject	High accessibility
3. 不用的铁路上骑自行车的设备	Nested Locative + Verb Modifier	Multi-layered pre-nominal	的 (de)	No gap	Lower accessibility

The three analysed sentences from the Chinese corpus reveal recurring patterns of structural implicitness, contextual dependence, and typologically distinct realizations of relativization within the Accessibility Hierarchy framework (Keenan and Comrie 1977). In all of them, a characteristic feature of Mandarin Chinese is its use of pre-nominal modifiers that are introduced by 的 (de), and they stand in place of relative pronouns, as well as syntactic gaps, compressing the syntactic information that is directly presented in English and Arabic.

The first sentence has the expression “我们原来安排的时间” time (we originally planned), which is an example of a typical Chinese relative clause, in which there is no explicit pronoun to indicate the grammatical role of the blank (object of planning). English addresses this issue by using a relative pronoun (that) and an implied gap, whereas Arabic uses both a relative pronoun and a resumptive

prepositional pronoun (الذي خططنا له). This difference is not only an example of how Chinese structurally bypasses lower-accessibility roles on the AH (e.g., obliques, objects of prepositions), but such constructions are semantically compact and potentially less transparent for learners unfamiliar with prenominal relativization patterns.

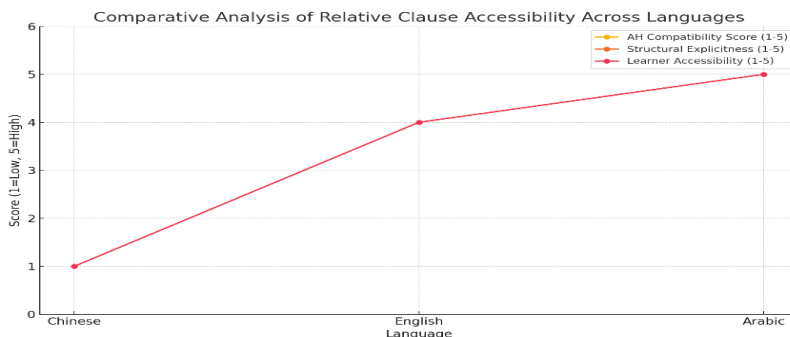
Further evidence of this appears in the second sentence, where “印象最深的旅行是跟我妈妈一起去的” is rendered in English as “the trip that I went on with my mother.” Here, the entire action (the agent "I", the verb "went", the accompaniment "with my mother") is compressed into a verb + 的 modifier in Chinese, again lacking a clear subject or gap. The clause functions structurally as a subject or object relative (i.e., high accessibility), but it is processed differently due to absence of syntactic cues, which may present additional interpretive challenges for learners whose first languages rely more heavily on overt relativization markers.

The third sentence presents perhaps the densest structure: “铁路自行车是在现在不用的铁路上骑自行车的设备”. This sentence has layers of modification inside its layers where there is a locative phrase (“on now-unused railways”), a relative phrase (that are not in use), and an embedded verb phrase (ride bicycles), followed by the joining of the sentence to the to head noun “设备” (equipment). Chinese is unlike English (equipment that is used to...), or Arabic (al-maadat-at-tay nahaamid l-...), as several functions, locations, objects, and purposes are condensed into one pre-nominal word and require a lot of inferencing. In an AH perspective, the locative and possession roles are low in the hierarchy, although, in Chinese, neither the relative marks nor the resumptive pronouns are present, and the two are usually used to process the same.

The lack of relative pronouns, subordinate clauses, or even overt possessors places a higher cognitive burden on both L2 learners and translators, reinforcing that Chinese relative clauses often operate outside AH expectations, particularly in colloquial or narrative discourse.

As reflected in the analyzed data, Chinese relative clauses frequently rely on prenominal 的 (de) constructions and structurally compact modifier patterns, where grammatical relations are often interpreted through contextual and discourse cues rather than overt morphosyntactic marking. This renders the Chinese relative clauses less available in processing and acquisition especially to English and Arabic language learners who are more accustomed to more pronounced structural markers. Therefore, the evidence suggests that Chinese relative clauses employ typologically distinct relativization strategies that differ from the more overt morphosyntactic patterns observed in Arabic and English within the Accessibility Hierarchy framework. and the hypothesis has implications on second language pedagogy, translation studies, and typological theory.

This Figure illustrates how Chinese RCs rely on prenominal modifying patterns and 的 constructions, resulting in reduced structural transparency compared to English and Arabic.



Structural compactness of Chinese relative clauses within the Accessibility Hierarchy framework.

#### 4.2 Analysis of Arabic-origin relative clauses

A systematic dependence on overt relativizers (الذي, التي, الذين) and frequent use of resumptive pronouns in many non-subject relativization contexts and entry level corroborates the predictions on the Accessibility Hierarchy (AH) of Keenan and Comrie (1977). In contrast to Chinese, which tends to neutralize the structure of the language, Arabic must have an explicit morphosyntactic manifestation to be understandable (Albikri and Jarrah 2022). This section provides five illustrative examples, each of which emphasizes the fact that relativization strategies differ in various syntactic positions, and that those strategies affect processing as well as second language acquisition.

##### Example 1 (Subject Relative)

الرجل الذي ساعدني عندما تعطلت سيارتي على الطريق السريع أصبح صديقاً مقرباً لي

(The man who helped me when my car broke down on the highway became a close friend of mine.)

This sentence shows a subject-relative clause which is introduced by الذي, and the head noun is placed right in the subject position which is the word الرجل. It does not need a resumptive pronoun, and the clause is structurally simple even with the adverbial phrase inserted. The most available subject positions are the subject positions according to AH and this is the reason why the constructions are easy to process by the learners of the Arabic language (Keenan and Comrie 1977). L2 learners typically master subject relatives first; and their structural simplicity is quite consistent with the predictions of AH (Bates and MacWhinney 1982).

##### Example 2 (Direct Object Relative)

المقال الذي قرأته الأسبوع الماضي وأعدت تلخيصه لزملائي كان معقداً للغاية

(The article that I read last week and summarized for my colleagues was highly complex.) Here, the head noun “المقال” functions as the direct object. The constituent pronoun (ـه) functions resumptively in this construction and contributes to structural clarity in Standard Arabic, although patterns of resumptive use may vary across contexts and language varieties. AH is of the opinion that direct objects are less accessible than the subject and there is a necessity of extra morphosyntactic support. In the case of Arabic L2, the same is commonly transferred to English leading to the occurrence of mistakes like the article that I read it (Alhawary 2011). Translators should be keen because in the Arabic language, it would be a contravention of the grammar to leave out the resumptives.

Example 3 (Oblique Relative)

المكان الذي قضينا فيه عطلة الصيف مع العائلة واحتفظنا فيه بأجمل الصور أصبح وجهتنا المفضلة كل عام  
(The place where we spent our summer vacation with the family and took the most beautiful pictures has become our favourite destination every year.)

Relativization in this case is done by a prepositional phrase (فيه). The language is strict in its syntactic requirements so Arabic has a resumptive pronoun that is placed at the preposition. Bates and MacWhinney (1982) stated that obliques are ranked lower by AH and this anticipates harder work by learners. English permits preposition stranding (“the place I went to”), while Arabic mandates internal pronouns, increasing learner cognitive load.

Example 4 (Genitive Relative)

الرجل الذي أخوه يعمل في الأمم المتحدة زودني بمعلومات دقيقة عن السياسات اللغوية  
(The man whose brother works at the United Nations provided me with accurate information about language policies.)

This genitive relative is marked internally via annexation (أخوه). Arabic is dependent on a resumptive pronoun to the possessed noun. Genitives are low-accessibility roles in AH. Students of Arabic might have a problem because the antonym of the head noun is a possessed entity (Albikri and Jarrah 2022). Translators into English rephrase the structure using “whose,” while translators into Arabic must ensure inclusion of the resumptive.

Example 5 (Object of Comparison Relative)

الفريق الذي كان أقوى منا في بداية البطولة انتهى به الأمر إلى الخسارة في المباراة النهائية.  
(The team that was stronger than us at the beginning of the tournament ended up losing in the final match.)

The least available on AH are comparative relatives. Such a construction adds a comparative marker (أقوى منا) whose meaning has changed to defeat. Such structures are predicted to be cognitively demanding and produced less frequently by AH Keenan and Comrie (1977). They are not normally used by L2 learners and translators have to re-organize such clauses for clarity across languages.

## 5. Discussion

### 5.1 Discussion of Arabic data

The Arabic data closely align with the Accessibility Hierarchy. Subject relatives are simple and require no resumptive, while direct objects, obliques, and genitives employ them obligatorily. Comparative relatives highlight structural and cognitive

challenges. These pieces of evidence have powerful pedagogical consequences: L2 Arabic students need to be clearly informed about the obligatory character of resumptive and Arabic English students who need to repress them to prevent ungrammatical Ness (Alhawary 2011). In language directionality, translators must use opposite strategies. Altogether, Arabic proves AH forecasts and shows how typological characteristics guarantee the clarity and enhance the complexity of acquisition.

### **5.2 Discussion of Chinese data**

The Chinese data reveal a typologically distinct pattern of relativization that differs considerably from both Arabic and English in terms of structural realization and morphosyntactic marking. Unlike Arabic, which depends heavily on overt relative pronouns and resumptive elements, and English, which largely relies on relativizers and syntactic gaps, Mandarin Chinese frequently employs prenominal modifier constructions introduced by 的 (de). In these constructions, grammatical relations are often inferred contextually rather than explicitly marked, resulting in a relatively compact and structurally implicit form of relativization.

The analysed Chinese examples demonstrate that relativization in Mandarin tends to compress information that would otherwise be overtly expressed in Arabic and English. In expressions such as 我们原来安排的时间 (“the time we originally planned”), relativization is achieved without an overt relative pronoun or resumptive element, requiring learners and translators to infer the grammatical relationship between the modifier and the head noun. Similarly, in constructions such as 印象最深的旅行是跟我妈妈一起去的 (“the trip that I went on with my mother”), event structure and participant relations are encoded through 的-based modifiers, while overt syntactic marking remains minimal. This structural compactness may increase interpretive demands for learners whose first languages rely more extensively on explicit relativization strategies.

From the perspective of the Accessibility Hierarchy (AH), the Chinese data do not necessarily contradict hierarchical predictions, but rather reveal a different surface realization of relativization. Higher-accessibility roles may still be represented, yet their grammatical functions are not overtly marked through relative pronouns or resumptive devices. Likewise, lower-accessibility relations such as locative or embedded modifiers may be realized through compressed prenominal constructions, requiring greater contextual interpretation.

### **5.3 Discussion of English data**

The English data largely support the predictions of the Accessibility Hierarchy (AH), while also illustrating a typologically distinct strategy of relativization compared to Arabic and Chinese. Unlike Arabic, which relies extensively on overt relative pronouns and resumptive elements, and Chinese, which frequently encodes relativization through prenominal modifier constructions, English predominantly depends on syntactic gaps accompanied by a relatively small and explicit set of relativizers (who, whom, whose, which, and that). This structural economy enables

English to express relativization with relatively limited morphosyntactic marking while maintaining syntactic clarity.

The analysed English examples demonstrate a gradual hierarchy of accessibility consistent with AH predictions. Subject relative clauses, such as *the professor who supervised my thesis*, were found to be structurally simple and highly accessible, requiring neither resumptive pronouns nor extensive syntactic processing. Direct object relatives, as illustrated in *the book that I borrowed from the library*, involve gapping strategies and generally present greater processing difficulty for learners, particularly Arabic speakers who may transfer resumptive pronoun patterns from their first language (e.g., *the book that I borrowed it*). Oblique relatives, including structures such as *the café where we used to meet*, demonstrate additional syntactic complexity due to prepositional variation, including preposition stranding and pied piping. Likewise, genitive relatives using *whose* and comparative relatives were shown to occupy lower positions within the Accessibility Hierarchy and to require greater cognitive effort during acquisition and processing.

From a comparative perspective, English occupies an intermediate typological position between Arabic and Chinese. Whereas Arabic prioritizes explicit morphosyntactic marking and Chinese frequently relies on contextual interpretation and compressed modifier structures, English balances overt relativization markers with structural omission through syntactic gaps. Consequently, English generally conforms to Accessibility Hierarchy predictions, although its reliance on omission rather than resumptive morphology represents a distinct realization of relativization.

#### **5.4 Comparative analysis of relative clauses across Arabic, English, and Chinese**

Comparative analysis of the data on Arabic, English, and Chinese allows identifying three different relativization strategies, conditioned by the syntactic structure of the respective language and typological picture. Post-nominal relative clauses are commonly used in Arabic with morphologically rich relative pronouns like *الذي* and *التي* that agree with the head noun in plural and gender. The non-subject positions are characterized by resumptive pronouns that clearly state the grammatical role of the relativized noun. English, in its turn, also has post-nominal relative clauses, though they are presented with the restricted number of relative pronouns including *who*, *that*, *which*, or *whose*. Such clauses are often based on gap strategies in which the relativized noun phrase in the embedded clause is omitted and they are dependent on syntactic position and register. Chinese, however, differs typologically from both Arabic and English, favoring pre-nominal relative clauses introduced by the particle *的* (*de*). These constructions do not use any relative pronouns and do not use resumptive pronouns, but the grammatical relation between the head noun and the modifying clause is implied by the context and thus leads to an implicit relativization mode.

Altogether, the comparison and contrast analysis highlight that the fact that Arabic has a morphological agreement system, English uses syntactic omission,

and Chinese constructions consist of the use of modifiers indicate three completely different ways of describing relative relations. These variations not only determine how each language fits or fails to fit into the Accessibility Hierarchy but have serious consequences on translation equivalence and second language acquisition in which the learner has to adjust to the typological requirements and processing needs peculiar to each of those systems.

### 5.5 Alignment with Accessibility Hierarchy (AH)

The AH predicts that relativizing subject positions is least difficult, whilst obliques, obliques, and objects of comparison are more difficult to relativize (Keenan and Comrie 1977). The languages are comparable to AH to different extents, as presented in Table 2.

Table 2. Cross-linguistic variation in relativization strategies across syntactic positions predicted by the Accessibility Hierarchy

Syntactic Role	Arabic	English	Chinese
Subject	☑ Resumptive optional	☑ Gap, no resumptive	✗ implicit relation
Direct Object	☑ Resumptive required	☑ Gap	✗ Implicit, context-based
Oblique (e.g., PP)	☑ Resumptive required	☑ Gap or preposition-stranding	✗ Implicit, no marker
Genitive	☑ Possessive resumptive	☑ "Whose" construction	✗ Contextual only
Object of Comparison	☑ Explicit resumptive +	☑ Gap strategy	✗ Indirect or avoided

Table 2 compares relativization strategies across syntactic roles in the three languages, illustrating how Arabic and English generally follow AH predictions while Chinese frequently departs from them due to implicit and prenominal structures.

Arabic is the most consistent with AH predictions, with explicit morphology reflecting levels of accessibility. English largely follows the hierarchy through gapping and relative pronouns. Chinese, however, frequently employs implicit and prenominal relativization strategies that do not consistently align with canonical AH patterns observed in Arabic and English.

### 5.6 Processing and acquisition implications

The results show significant cross-linguistic differences in processing and acquiring relative clauses. The usefulness of morphological cues benefits Arabic L2 learners

because they provide clear guidance in identifying grammatical relationships. However, they face challenges when translating into English or Chinese, where such redundancy is not allowed, and resumptive pronouns must be suppressed for natural flow in the synthetic structure. English learners, especially those whose first language is Arabic, struggle because they need to unlearn the use of resumptive pronouns and adapt to relativization by gap. They also find learning Chinese difficult, as relative clause connections are often implicit and not overtly marked. For Chinese L2 learners, especially those from Arabic or English backgrounds, relativization presents unique challenges due to the lack of structural markers. These learners may rely more extensively on contextual and pragmatic cues during comprehension and production, particularly when overt relativization markers are absent. Overall, these tendencies suggest that the acquisition of relative clauses is heavily influenced by a learner's typological background and the extent to which their L1 reflects or does not reflect the relevant syntactic features.

### **5.7 Translation considerations**

The comparative analysis suggests that translating relative clauses across Arabic, Chinese, and English may require varying degrees of structural restructuring to preserve grammatical naturalness and semantic clarity. Translators translating Chinese to Arabic, or English frequently must add the structure of sources by including explicit relative pronouns and/or explaining the syntactic relation which is implicit in Chinese. Translations, on the other hand, were generally to be made in English by means of the repression of resumptive pronouns to prevent unnecessary repetition and to furnish idiomatic fluency. When translating from English into Chinese, translators frequently condense the structure, converting post-nominal relative clauses into pre-nominal modifiers introduced by 的 (*de*). These modulations emphasize the fact that successful translation into these languages does not only rely on the lexical equivalence but rather the profound knowledge in their typological differences and relativization measures.

### **5.8 Typological summary**

The tri-lingual approach highlights that the organization and activity of relative clauses are governed by typological features in Arabic, English, and Chinese. Arabic also emphasizes morphological clarity through clear relativizers and agreement markers that make grammatical relations transparent. English, in contrast, relies on syntactic minimalism and often omits relativized elements in embedded clauses, leaning toward structural economy. Chinese primarily depends on contextual interpretation and syntactic compression, utilizing prenominal modifiers and lacking overt relativization cues. These typological differences underscore the importance of implementing context-sensitive teaching methods tailored to each language's unique relativization mechanisms. They also emphasize the importance of translation practice, which can impact the accuracy of grammar and the natural flow of language, particularly when translating morphologically rich and syntactically complex languages.

## **6. Conclusion and pedagogical implications**

The cross-linguistic research conducted on Arabic, English, and Chinese has shown that both Arabic and English tend to adhere to the Accessibility Hierarchy proposed by Keenan and Comrie (1977), where explicit markers (such as relative pronouns, resumptive forms, and gap strategies) are used. In contrast, Chinese demonstrates typologically distinct relativization patterns that are less overtly aligned with canonical Accessibility Hierarchy tendencies. In Chinese, relativized positions, including high-accessibility ones (such as subject and object), do not always contain explicit relativizers or gaps, but instead utilize prenominal modifiers and inference. Such a structural opaqueness increases processing requirements on the learners and makes the process of translation more challenging, as the meanings have to be rebuilt in languages that demand explicit syntax.

Based on these results, several pedagogical and translational implications emerge. The findings tentatively suggest that a gradual instructional sequence informed by AH tendencies may be beneficial when teaching relative clauses across typologically different languages.: the teacher is encouraged to start with the subject relative, then the object relative, the oblique relative, the genitive relative, and the comparative relative. Instructions must focus on the morphological and syntactic signs in both Arabic and English and assist Chinese learners to acquire the knowledge of the implicit structures and draw conclusions. The translation training needs to point out structural discrepancies: where Chinese is translated, syntactic elements will have to be added, where Chinese is translated syntactic elements will have to be compressed or omitted. The evaluation should take into consideration not only the types of clauses that are readily available but also the ones that are further down the list in order to achieve full competence.

### **6.1 Key recommendations**

According to the findings, several pedagogical and research-based recommendations have been developed. During curriculum design, contrastive syntax activities should be incorporated to encourage learners to compare how Arabic, English, and Chinese speakers determine relativization. These exercises help increase students' typological awareness and enhance their syntactic flexibility. Activities that involve extending, compressing, or rearranging relative clauses in the three languages should also be included in translation practice, allowing learners and translators to understand the structural differences among the systems. Furthermore, teaching resources should include real-life spoken and written examples, especially those with lower accessibility, such as genitive, oblique, and comparative cases, which are often underrepresented in classrooms, particularly in Chinese. Lastly, future research should expand the scope of analysis by utilizing large corpora and learner collections, as well as examining spoken and

informal language varieties to assess the presence of theoretical hierarchies in everyday language use.

## **6.2 Limitations**

The limitations of this study are a relatively small sample size of 5 sentences per language, and it only deals with AH without the incorporation of other linguistic models that might represent other dimensions (e.g., discourse salience, semantic typology). In addition, the study does not attempt to resolve competing syntactic analyses of Mandarin relative clauses but rather approaches them from a comparative typological perspective for cross-linguistic analysis. Moreover, the absence of primary data on the L2 learners restricts the possibility of making solid pedagogical prescriptions based on the identified behaviour of the learner.

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