

ACCESSIBILITY TO RELATIVIZATION IN ARABIC NON-FINITE SYNTAX*

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The aim of the present inquiry lies in examining syntactic positions that non-finite relative constructions are able to relativize, that is, their accessibility to relativization or, in short, their relativizability. The range of relativizable positions in non-finite constructions is confronted with that of the finite relatives. The confrontation of two structurally differing strategies, non-finite (NFR) and finite relativization (FR), entails the task of introducing a unified system of reference and to legitimate the clausal identity of both relative constructions on the basis of an all-inclusive definition of relative clause (RC).

Key words: accessibility (to relativization) or relativizability; antecedent (Ant); attraction; definite - indefinite (article); divided agreement; external/internal inflection and derivation; finite/non-finite relativization (FR/NFR); Gap/Ref relatives; head, head noun (antecedent); *naʿt sababī*; prenominal (left-branching, head-preceding) - postnominal (right-branching; head-following); referent or resumptive pronoun (Ref); relative clause (RC); relative pronoun (Rel); RC acquisition / processing; relativizer (rel); relativizability; subject (S) / non-subject (NS); subject/non-subject relativization (SR/NSR); syntactic position (role); time-aspect (TA) morphology, and related terms.

1. The study aims at providing a short account of non-finite relativization (NFR) in Standard Arabic. Non-finite relativization is identified with a syntactic strategy that produces relative constructions with adjectival or verbonominal

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(mainly participial) predicates,¹ in contrast to finite relativization (FR) whose constructions rely on finite-verb predication.

Relative constructions of whatever structural nature, irrespective of the word-class identity of their predicates (verbal, verbonominal or adjectival), are uniformly identified with relative clauses (RCs). From a semantic point of view, in tune with the forthcoming definitions, a RC is identified with a clause narrowing the potential reference of a referring expression by restricting the reference to those referents of which a particular proposition is true.² In accordance with the latter definition, the RC is identified with restrictive RCs throughout the present inquiry.

The theoretical and pragmatic import of the latter functional aspect clearly appears in several fields of linguistic interest, including the acquisition and processing of relative clauses and other types of subordinate constructions. The attention of linguists paid to syntactic roles accessible to relativization is relatively new and the topic has still not found the place it deserves in reference grammars and other types of comprehensive treatises devoted to individual languages.³

In the Indo-European languages, like German,⁴ or English,⁵ finite relatives may relativize almost all syntactic positions while their non-finite counterparts are restricted to only one, that of the subject. The latter drastic asymmetry appears even in Russian, noted for the richness of its participial morphology and for the liberal acceptance of prenominal participial constructions not in use in current IE languages.⁶ The non-finite relativization (NFR) in Arabic stands

¹ They are known under various names, such as *adjectival*, *adnominal (relative) clauses*. The adjective-like form of these relatives is reflected in FISCHER's (2002, p. 194) *attributive Rel.-Sätze mit adjektivischem Prädikat*, and in some very recent terms: *adjektivischer Satz*, DIEM 1998, or *Satzadjektiv*, EL-AYOUBI et al. 2001. For a more sample presentation see later on.

² COMRIE, B., KUTEVA, T. *Relativization strategies*, p. 1.

³ The first serious study of the subject appeared in 1977: KEENAN, E. L., COMRIE, B. Noun phrase accessibility and universal grammar. In KEENAN, E.L. (ed.) *Universal Grammar: 15 Essays*, pp. 3 – 45; originally published in *Linguistic Inquiry*, Vol. 8, No. 1, pp. 63 – 99 (Winter, 1977). MACWHINNEY, B., PLEH, C. The processing of restrictive relative clauses in Hungarian. In *Cognition*, No. 29, 1988, pp. 95 – 141, and others.

⁴ KEENAN, E. L., COMRIE, B., op. cit., p. 4.

⁵ DORON, E., REINTGES, C. H. *On the syntax of participial modifiers*, pp. 9, 22.

⁶ *Ibid.*, pp. 16, 19.

somewhat closer to the finite strategy (FR), since besides subjects, it is also able to relativize some non-subject syntactic positions.

Arabic as presented in the study, identifies with all synthetic varieties thereof that comply, in principle, with the linguistic norm, elaborated by the early Arab grammarians in the 8th and 9th centuries CE. This constitutes the still clearly recognizable core of all modern grammars of Arabic, inclusive of those with scholarly aspirations. Due to the basic structural identity, no sharp distinction is made between Classical Arabic, the language of the pre-Islamic poetry (6th cent.), the Qur'an (7th cent.), that of the canonized scholarly and literary works of the Arab Middle Ages, and Modern Written Arabic (MWA), formed and progressively matured through the 19th and 20th centuries, the linguistic medium of the Arab world of today. The occasional distinction between data derived from any of the two linguistic entities has to *remind semantic and cultural rather than structural cleavage. The major part of the structural niceties in which Classical and Modern Written Arabic might differ from each other go beyond the scope of the present inquiry. Arabic, defined in this way, will be referred to as Standard Arabic (SA).

2. Clausal identity of finite and non-finite relatives

The astonishing variety of language-specific structural features, associated with relativization, leaves no space for cross-linguistically valid generalizations.⁷ All the more important is the task of creating a unified system of reference to cope with this structural diversity. Several attempts have been made to advance a sufficiently general definition of the relative clause (RC), compatible with both finite and non-finite relativization strategies. As it became obvious, the notion of an arbitrary RC was still too large to lend itself to such a definition. Semantic considerations, dominating the search for an all-comprising definition, narrowed down the notion of the RC to the *restrictive* sub-class thereof.

Downing's definition of an arbitrary RC involves the following three properties: (i) coreference (of a RC's nominal /Rel NP/ with another nominal /Ant NP/ outside of the RC); (ii) the RC is an assertion about a Rel NP that the

⁷ DOWNING, B. T. Some universals of relative clause structure. In *Universals of Human Language*, Vol. IV: *Syntax*, pp. 375 – 418, loc. cit., p. 377.

latter is its theme;⁸ (iii) the relation of modification between a RC and its Ant NP.⁹

A relative clause, in de Vries' presentation (i) is subordinated (syntactic aspect), and (ii) is connected to surrounding material by a pivot constituent (semantic aspect). A pivot constituent is semantically shared by the matrix clause (MC) and the RC and, if explicitly expressed in the MC, it can be identified with the antecedent (Ant). Besides these defining properties, a RC is characterized by an 'additional essential property': the semantic and syntactic role the pivot has in the RC are in principle independent from its roles in the MC.¹⁰

2.1. The high generality range of the two definitions did not succeed as yet in separating them from the complex-sentence domain of relativization they apply to. The unified clausal reference to all cross-linguistically attested relative structures, both finite and non-finite, complex-sentence constructions, as well as those embedded in simple sentences, is confronted with the critical relationship between the notion of clause and that of simple sentence. The analyst has to count with only two options: to run into a series of disturbing inconsistencies by creating a virtual sentence hierarchy which would allow him to reanalyse simple sentence in complex-sentence terms or to ignore the syntactic background of relativization altogether. The latter option seems to be adopted in the substantially syntax-free way of identifying an arbitrary *restrictive* RC, supported by the semantically worded definition of the latter, as proposed by Keenan and Comrie.

According to this definition, any syntactic structure is considered to be a RC if it specifies a set of entities (domain of relativization) which is subsequently restricted to some subset of which a certain sentence is true (restricting sentence). In the surface-structure wording, the domain of relativization equals the head NP, antecedent (Ant), while the restricting sentence is identified with the RC.¹¹

⁸ The latter feature is emphasized by KUNO, S. (1976) Subject, theme and the speaker's empathy. In Charles N. Li (ed.), *Subject and Topic*, pp. 457 – 489, loc. cit., p. 427.

⁹ DOWNING, B., op. cit., p. 380.

¹⁰ de VRIES, M. Patterns of relative clauses. In Wouden, Ton van der and Hans. Broekhuis (eds.) *Linguistics in the Netherland*, pp. 231 – 243, (quoted from the html version: pp. 1 – 2).

¹¹ The semantic notion of restrictiveness, formally represented as a pair connecting a noun phrase with an open formula, may be traced back in KEENAN, E.L. On semantically based Grammar, *Linguistic Inquiry*, Vol. 3, No. 4, 1972, pp. 413 – 461. In KEENAN & COMRIE, op. cit., p. 3, fn. 2.

The semantically based notion of the relative clause, as formulated above, indiscriminately assigns the RC status to both complex-sentence finite-verb relatives and to simple-sentence non-finite relative constructions whose clausal or non-clausal classification entirely depends on the criteria adopted (illustrated with German):

- (a) *der Mann, der in seinem Büro arbeitet* (the man who in his office works)
'the man who works in his office'
- (b) *der in seinem Büro arbeitende Mann* (the in his office working man)
(as above).

In the traditional phrase structure grammar, only the (a) variant is granted the status of a RC while its (b) parallel is mostly described as a multicomponential attribute, especially in the pedagogically-minded manuals,¹² or as an expansion of adjectival and participial attribute.¹³

2.2. The syntax-free identification of relative structures is not the only way to legitimate the essential equivalence of non-finite and finite relative constructions. Early generative grammar analysed participial modifiers as clausal structures derived from finite relative clauses through a 'relative clause reduction transformation', for English also known as *wh-is-deletion*.¹⁴ This transformation presents participial modifiers as syntactically reduced versions of relative clauses, through the deletion of the *wh-* operator together with the finite auxiliary *is*:

- (a) *the boy who is walking his dog* →
- (b) *the boy walking his dog*.

The transformation changes the full, finite RC, introduced with complementizer (*who*), into a reduced, non-finite one, with the complementizer deleted together with the finite element.

3. The phenomenon of accessibility (to relativization), conceived as ability to relativize and its easiness, was first seriously investigated by Edward Keenan

¹² HELBIG, G., BUSCHA, J. *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht*, p. 599: *mehrgliedriges Attribut. or Erweiterung des adjektivischen und partizipialen Attributs*.

¹³ A substantially identical interpretation of prenominal relative constructions may be found in HASSANIN, A. F. A. *Syntax und Semantik des Relativsatzes im Deutschen und Arabischen*, pp. 133 – 136: *erweiterte Attribute*. The same in traditional style descriptions of Korean: LEWIN, B., KIM, T. D. *Einführung in die koreanische Sprache*, p. 253: *erweiterte verbale Attribute*.

¹⁴ DORON, E., REINTGES C., unpublished, from thehtml version, 'On the syntax of participial modifiers', pp. 7 – 8.

and Bernard Comrie¹⁵ in 1977 in terms of 'noun phrase accessibility hierarchy' (NPAH) or simply accessibility. The problem has been known by this name since then. With reference to Japanese, Susumu Kuno speaks about relativizability.¹⁶

For Keenan and Comrie, the difference between finite and non-finite constructions, as illustrated by the German examples above, consists only in different relative-clause-forming strategies with no impact on their clausal identity:

- (a) *der Mann, der in seinem Büro arbeitet* 'the man who works in his office'
- (b) *der in seinem Büro arbeitende Mann* (as above).

This difference, however, has a substantial impact on the accessibility range of the two relativization strategies. While, in the (a) variant of the German examples any major head position in simple sentence can be relativized, in the (b) variant the accessibility is reduced to the subject position of the head. The substantial difference between the accessibility range of finite (FR) and non-finite relativization (NFR), just described for German, may be found in English, Russian and in numerous other languages of the world. In a number of other languages, like Arabic, Hungarian, Turkish or Korean, this difference may be considerably smaller. The accessibility range variation, activated by the transition from one pole of the FR-NFR bipartition to another, will be more closely examined in the following paragraphs.

In the domain of finite relativization strategy, syntactic positions are ordered in such a way that every term, listed in the AH, is more easily accessible to relativization than the following one. The first, the most easily accessible position, is occupied by the subject, the last, by the object of comparison. The AH in its recent form is the result of a relatively large cross-linguistic analysis. The English RCs, filling all syntactic positions in the AH, should not suggest that any language necessarily distinguishes all these categories, either in terms of RC formation or in terms of other syntactic processes.¹⁷

3.1. In accordance with the recent experimental studies in RC processing, the phenomenon of accessibility has a considerable psychological validity as it offers a sort of psychological accessibility to the RC formation. It was found, for instance, that English-speaking children, aged 6 – 8 years, understand RCs formed on subjects easier than ones formed on direct objects.¹⁸ The privileged

¹⁵ KEENAN, E. L., COMRIE, B. op. cit., pp. 3 – 35.

¹⁶ KUNO, S. Subject, theme, and the speaker's empathy. A reexamination of relativization phenomena. In Charles N. Li (ed.) *Subject and Topic*, pp. 417 – 444.

¹⁷ KEENAN, E. L., COMRIE, B., op. cit., p. 7.

¹⁸ LEGUM, S. Strategies for the acquisition of relative clauses, *Technical note* 2-77-10. In KEENAN, E. L., COMRIE, B., op. cit., p. 33.

position of subjects in relativization is shown by the first place the subject occupies in the Keenan and Comrie's accessibility hierarchy: subject (SU) – direct object (DO) – indirect object (IO) – oblique (OBL) – genitive (GEN) – object of comparison (OCOMP).¹⁹

The psychological relevance of accessibility is confirmed by numerous attempts to propose hierarchies from the opposite side of the relativization process: not from that of acquisition (as in NPAH), but from that of identification or processing (MacWhinney and Pleh, for Hungarian, or Özçelik, for Turkish), as shown in what follows.

3.2. Each syntactic position is relativized by one of the two basic relativization strategies: (a) Gap strategy, and (b) referent pronoun (Ref) strategy.²⁰ This basic bipartition holds for both finite and non-finite relatives (gaps, indicating the place of the extracted element, are marked by the symbol \emptyset , referent pronouns, are marked by brackets):

Gap-relative, finite:

al-marʿatu llatī taskunu [∅] fī bayti- hā 'the woman who lives in her house' → SR
=Df-woman who lives [Gap: *al-marʿatu*] in her house;

Ref-relative, finite:

al-baytu lladī taskunu fī- [hi] l-marʿatu 'the house where the woman lives' → NSR
=Df-house which lives in [Ref: it] Df-woman;

Gap-relative, non-finite:

*al-marʿatu l-sākinatu [∅] fī bayti-hā*²¹ 'the woman (who is) living in her house'
=Df-woman Df-living [Gap: *al-marʿatu*] in house-her; → SR

Ref-relative, non-finite:

al-baytu l-sākinatu fī- [hi] l-marʿatu 'the house the woman is living in' → NSR
=Df-house Df-living in [Ref: it] Df-woman.

Before trying to examine the applicability of the AH to non-finite relativization, the procedure will be illustrated with hierarchical arrangement of finite relatives in English and Arabic.

¹⁹ KEENAN, E. L., COMRIE, B., op. cit., pp. 6–7.

²⁰ Ibid., p. 37 ff.; see also KAPLAN, A. F. *Patterns of Relativization and Recent Formulations of Markedness*, pp. 4–5.

²¹ The pronominal *-hā* in *bayti-hā* 'her house' is a possessive, in the rel. clause *fī-hā*, it operates as a referent (resumptive) pronoun.

(1) English:

SU → The band that plays in the Jazz Joint rehearsed in the barn. ;

DO → The band that I saw in the Jazz Joint... ;

IO → The band that I gave £10 to... ;

OBL → The band that I play guitar in... ;

GEN → The band whose songs are funky... ;

OCOMP → The band that few are bigger than... .²²

(2) Arabic:

SU → *al-rağul-u lladī štarā l-sayyārat-a (ğaniyy-un)* 'the man who bought the car (is rich)'

= the-man-NOM who bought the-car-ACC (/is/ rich-*tanwīn*: NOM);

DO-Gap → *al-kitāb-u lladī qara't-u (mumtī^c-un)* 'the book /that/ I read (is interesting)'

= the-book-NOM that read-I (/is/ interesting-*tanwīn*: NOM);

DO-Ref → *al-kitāb-u lladī qara't-u-hu (mumtī^c-un)* (see above)

= the-book-NOM that read-I-it (/is/ interesting-*tanwīn*-NOM);

IO-Ref → *al-walad-u lladī 'a'fayt-u-hu l-kitāb-a (hunā)* 'the boy to whom I gave the book (is here)' = the-boy-NOM who gave-I-him the-book-ACC (/is/ here);

OBL → *al-qalam-u lladī katabt-u bi-hi (dā'a)* 'the pen with which I wrote (was lost)'

= the-pen-NOM Rel wrote-I with-Ref (was lost);

GEN → *al-šayḥ-u lladī 'uğtīl-a 'aḥawā-hu (huwa l-šayḥ-u edward kanadī)* 'the Senator whose two brothers were assassinated (is Senator Edward Kennedy)'

= the-Senator-NOM who were-ssassinated two-brothers-NOM-his (he-/is/ Senator E. K.)';

OCOMP → *al-fatāt-u llatī samīra 'ağmal-u min-hā (tud'ā salwā)* 'the girl that Samira is more handsome than (is Salwa)'

= the-girl-NOM that Samira /is/ more handsome-NOM than-she (is named Salwa).²³

²² CHANG, H. Y., WU, C. *Relative clauses: An overview*. Manuscript, November 23, 2006, p. 11, §4.2: Relativizability and the AH. As evident, English, in contrast to Arabic, is exclusively using the gap strategy.

3.3. Transition from finite (FR) to non-finite relativization (NFR).

(1) For the sake of transparency and economy of reference a certain generalization in notation and morpheme glossing has been adopted. As the fundamental accessibility opposition as to the easiness of relativization lies between the subject (S) and all remaining syntactic positions, summarily referred to as non-subject (NS), in generalizing statements, the accessibility scale will be reduced to only two basic categories: (1) subject relativization (SR), including subject position, as most readily relativizable in both finite and non-finite strategies, and (2) non-subject relativization (NSR), including all remaining head positions. Individual non-subject positions will be specified when descriptively relevant.

As already hinted at, the accessibility range between the finite and non-finite relativization strategies may widely differ. In the English non-finite relativization (NFR), for instance, from the six accessible finite-relative positions, listed above, only that of subject is accessible to relativization:

SU²⁴ → FR: The band [that plays in the Jazz Joint] rehearsed in the barn;
SU → NFR: The band [playing in the Jazz Joint];

Accordingly, in the NFR, English may be classified as a subject-relativizing (SR) language.

(2) In transferring FR relatives into their NFR counterparts, Arabic constructions are selected in such a way as to avoid hypothetical non-finite constructions that might result from some relativizable positions of the finite relatives quoted. The lacking correspondences are primarily due to the disturbing gaps in the non-finite syntax of Modern Standard Arabic. The SU position with a problematic non-finite DO expansion may serve as an example: *al-rağul-u lladī štarā l-sayyārat-a* 'the man who bought the car' where the non-finite DO has no support in the extant structural descriptions of MSA that would cope with the structural alternation: *šārūh-un 'ābir-un al-qārr-āti*, 'intercontinental missile', lit. 'missile traversing the continents', with a final DO in ACC, or with an alternative, largely hypothetical attributive reading in GEN in ~ *'ābir-u l-qārr-āti*²⁵ which is further complicated by the unpredictable

²³ HAMDALLAH, R.W., TUSHYEH, H.Y. A contrastive analysis of English and Arabic in relativization. In *Papers and Studies in Contrastive Linguistics*, 34, 1998, pp. 141 – 152, loc. cit., p. 150.

²⁴ KEENAN-COMRIE's symbols are used in quoting examples connected with the Accessibility Hierarchy.

²⁵ WEHR-COWAN, 4th ed.: *šārūh 'ābir al-qārrāt*.

occurrence of the object-introducing particle *li-*, as in *gāz musīl li-l-dumū^c* 'tear gas', lit. 'gas provoking the tears',²⁶ etc. The same structural ambiguity would certainly appear in the non-finite version of IO, if available at all.

Selected syntactic positions:

- SU → FR: *al-bint-u [llatī tanāmu ʿalā sarīr-i-hā]* 'the girl who sleeps on her bed'
 = Df-girl-NOM Rel:who:FSg sleep:Ipf.3FSg on bed-GEN-her;
 SU → NFR: *al-bint-u [l-nāʿim-at-u ʿalā sarīr-i-hā]* 'the girl / who is/ sleeping on her bed'
 = Df-girl-NOM Df-Pa:sleeping-F-NOM on bed-GEN-her;
 DO → FR: *ṣār-ūh-un [yaʿburu l-qār-ātī]* 'a missile that traverses the continents'²⁷
 = missile-Idf.NOM traverse: Ip.3MSg Df-continent-F/Pl.ACC;
 DO → NFR: see (2) above;
 OBL → FR: *al-sarīr-u [llaḍī tanāmu ʿalay-hi l-bint-u]* 'the bed the girl sleeps on'
 = Df-bed-NOM Rel:MSG sleep:Ipf.3FSg on-it Df-girl;
 OBL → NFR: *al-sarīru [l-nāʿim-at-u ʿalay-hi l-bint-u]* 'the bed the girl is sleeping on'
 = Df-bed Df-Pa:sleeping-F-NOM on-it Df-girl-NOM;
 GEN → FR: *al-maṣnaʿ-^c-u [llaḍī tuḡlaqu ʿabwāb-u-hu]* 'the factory whose gates are closed'
 = Df-factory-NOM Rel:MSG are closed: Ip.3Psv.3FSg gates:NOM-his;
 GEN → NFR: *al-maṣnaʿ-^c-u [l-muḡlaq-at-u ʿabwāb-u-hu]* 'id.'
 = Df-factory-NOM Df-Pp:closed-F-NOM gates-NOM-his.

4. Keenan and Comrie's accessibility theory, critical remarks

4.1. Keenan and Comrie's hypothesis, by now widely accepted, is not entirely free from critical remarks. The thematic objection, formulated by Kuno, is worth considering. 'It is not the syntactic position alone that plays the main part in determining relativizability, it is the theme related to that syntactic position. 'I suspect,' claims Kuno, 'that the /above/ hierarchy for relativization is in fact a hierarchy for accessibility to thematic interpretation of noun phrases. Namely, the subject is easiest to relativize because it is easiest to interpret the noun phrase in subject position as the theme of the sentence.'²⁸

The weight of Kuno's remark is all the greater considering that the priority of theme over subject, as reflected in the relationship between topic-comment and subject-predicate sentence-types, can be confirmed in a wide cross-linguistic space. The distribution of the two sentential relationships across languages shows that while the former relationship may be found in all languages of the world, the latter may not, even if the identification of subjects in most topic-prominent languages, is still possible. In fact, all the languages we have

²⁶ PMD, p. 92.

²⁷ RCs with indefinite heads are incompatible with Rel (*allaḍī*) in contrast to Rel-introduced finite-head RCs, like *al-ṣārūh-u llaḍī yaʿburu l-qār-ātī* 'the missile that traverses the continents'.

²⁸ KUNO, S. (1976), op. cit., pp. 417–444, loc. cit., p. 427.

MH: DO-Gap → NsR:

(*raʔiti*) ʔet ha-yeled she-/ʔašer rina ʔohevet () '(I saw) the boy that Rina loves',
((saw-I) A the-boy that Rina loves);

MSA: DO-Ref → NsR:

al-kitāb-u lladī qaraʔt-u-hu (*mumtīʕ-un*) (see MSA: DO-Gap above),
(the-book-N that read-I-it (/is/ interesting-*tanwīn*-N));

MH: DO-Ref → NsR:

(*raʔiti*) ʔet ha-yeled she-/ʔašer rina ʔohevet ʔoto (see MH: DO-Gap above),
((saw-I) A the-boy that Rina loves-him);

MSA: IO-Ref → NsR:

al-walad-u lladī ʔaʔayt-u-hu l-kitāb-a (*hunā*) 'the boy to whom I gave the book (is
here)',
(the-boy-N who gave-I-him the-book-A (/is/ here));

MH: IO-Ref → NsR:

((*raʔiti*) ʔet ha-yeled she-/ʔašer rina xashva ʔalav '(I saw) the boy that Rina
thought about' ((saw-I) A the-boy that Rina thought about-him).³¹

5. Arabic non-finite relative clauses (NF-RCs)³² classified

(1) By the word class membership of the predicate, the Arabic non-finite relative clause may be either:

(a) adjectival: *al-marʔatu [l-ḥasanu waḡhu-hā]* 'the woman whose face is
handsome',

³¹ MH examples are those of BORER, H. Restrictive relatives in Modern Hebrew, *Natural Language and Linguistic Theory*. In KAPLAN, A.F., op. cit., p. 6. MSA relatives are taken from HAMDALLAH, R., TUSHYEH, H., op. cit., p. 150. The writing was slightly modified.

³² Non-finite RCs exhibiting subject-predicate inversion may be found in Arabic grammars and specialized syntactic treatise such as *Relativsätze mit Attraktion*, RECKENDORF, H. (1898), p. 538 f; (1921), pp. 421 – 423; *Attraktion mit asyndetischen Relativsatz*, BROCKELMANN, C., ii, p. 561; FISCHER, W., p. 194; *attributive Rel.-Sätze mit adjektivischem Prädikat* (*raʔaytu mraʔatan ḥasanan waḡhuhā*) and, in some very recent terms: *adjektivischer Satz*, in DIEM, W., pp. 12 – 16; or *Satzadjektiv* EL-AYOUBI et al. (2001), pp. 34 – 36. In the Arab grammatical tradition the attraction-like structure is known as *naʔt sababī* mostly interpreted as 'indirect attribute', the term recently used by POLOTSKY, H. J., pp. 159 – 173, and in BADAWI, E. et. al., p. 114 f with a somewhat different reading 'semantically linked qualifier'.

= Df-woman Df-handsome face-her

or

(b) participial: *al-marʔatu [l-sākinatu fī bayti-hā]* 'the woman /who is/ living in her house';

= Df-woman Df-living in house-her).³³

In contrast to many other languages of the world (English, Russian, Hungarian, Turkish, among others) participial predicates of the Arabic non-finite relatives have no overt relativizers; their absence is obviously due to the lack of the TA morphology in the Arabic participles with which the relativization marking is usually associated;

(2) By the nature of syntactic constituents:

(a) RCs with internal subject (S-RCs): *al-marʔatu [l-ḥasanu waḡhu-hā]* (see above),

= Df-woman Df-handsome face-her → Ant + RC (P + S);

(b) RCs with internal non-subject (NS-RCs): *al-marʔatu [l-sākinatu fī bayti-hā]*

= Df-woman Df-living in house-her → Ant + RC (P + NS);

(3) By the role they play in the relativizing process:

For the sake of transparency and economy of reference, the AH scale will be reduced to only two basic categories: (1) subject relativizing RCs (SR-RCs), including subject position, as most readily relativizable in both finite (FR) and non-finite relativization (NFR) strategies, and (2) non-subject relativizing RCs (NSR-RCs), including all remaining head positions. Non-subject positions will be individualized when descriptively relevant.

(a) subject relativizing RCs (SR-RCs):

al-marʔatu [l-sākinatu fī bayti-hā] 'the woman /who is/ living in her house' (see above),

(b) non-subject relativizing RCs (NSR-RCs):

al-baytu [l-sākinatu fī-hi l-marʔatu] 'the house in which the woman is living',
= Df-house Df-living in-it Df-woman;

³³ For the sake of economy and transparency, the morphemic segmentation and glossing will be restricted to the just analysed features and will not be continuously homogeneous in all data quoted. The morpheme glossing will further be omitted in repeatedly quoted syntactic units or their parts, occurring in close contexts, some items of which have already been identified.

(3.1) Since some fundamental notions, like subject and non-subject, derived from the structural description, compete with those related to the accessibility positions, a certain conceptual relativity results therefrom which is reflected in the symbolic notation. When submitting RCs with internal subject (S-RCs) to the relativization process, the result will show that they allow only non-subject relativization (NSR), in contrast to RCs with an internal non-subject (NS-RCs) which undergo subject relativization (SR), as in:

S-RCs:

al-marʿatu [l-ḥasanu waḡḥuhā] > Ant + RC (P + S) → NSR,
 which can be expressed in form of the equation: S-RCs ≡ NSR (beyond equality the equation symbol (≡) has to imply a state of inconvertibility to SR).

NS-RCs:

Quite opposite result will be obtained when relativizing RCs with an internal non-subject, as in:
al-marʿatu [l-sākinatu fī bayti-hā] > Ant S + RC (P + NS) → SR,
 or, symbolically: NS-RCs = SR, where the conversion to NSR is possible (see below).

(3.11) The subject resulting from a non-subject conversion by a relativization process differs from the stable (unconverted) subject of a nominal sentence syntactically organized as a relative clause, since only the latter is a constituent of the S-RC quoted above, and only the latter satisfies the equation S-RC ≡ NSR. Accessibility stability differs in RCs with internal non-subject (NS-RC) with respect to RCs with internal subjects converted therefrom:

NS-RC: *al-marʿatu [l-sākinatu fī bayti-hā]* > Ant S + RC (P + NS) → SR
 S-RC: *al-baytu [l-sākinatu fī-hi l-marʿatu]* > Ant NS + RC (P + S) → NSR

In spite of the same identity symbol and the same accessibility output (NSR), the two S-RCs (3.1 and 3.11) differ in terms of accessibility type stability:
 S-RC: *al-marʿatu [l-ḥasanu waḡḥuhā]* → S-RC ≡ NSR (inconvertible RC)
 NS-RC > S-RC: *al-baytu [l-sākinatu fī-hi l-marʿatu]* → S-RC = NSR (convertible RC).

Inconvertible relatives may change their accessibility characteristic only by adopting another relative construction of a desired accessibility type, if available in the language concerned. The NSR-RC construction *al-marʿatu [l-ḥasanu waḡḥu-hā]*, for instance, which cannot be converted into a SR-RC, may acquire the latter accessibility type by adopting structurally different relative

construction with genitive attribute (*al-waġh-i*) substituting for the internal subject (*waġhu-hā*):

al-mar^oat-u [l-ḥasan-at-u l-waġh-i] ‘the woman with a handsome face’ → SR
= Df-woman:F-NOM Df-handsome-F-NOM Df-face-GEN;

(4) By the grammatically relevant order of S and P, the S-RCs may be subdivided into:

(a) SP-RCs: *maṣna^c-un [ʔabwāb-u-hu muġlaq-at-un]* ‘a factory whose gates are closed’,

= factory-Idf.NOM gates-NOM-its closed-F.Sg-Idf.NOM ;

(b) PS-RCs: *maṣna^cun [muġlaq-at-un ʔabwāb-u-hu]* (as in SP-RCs),

= factory-Idf.NOM closed-F.Sg-Idf.NOM gates-NOM-its ;

(aa) In SP-RCs, like: *maṣna^cun [ʔabwābuhu muġlaqatun]*, the indefiniteness of Ant is grammatically bound to mark the difference between the definite subject of a nominal sentence (*al-maṣna^cu [ʔabwābuhu muġlaqatun]* ‘the gates of the factory are closed’) and the indefinite Ant of a relative clause, as presented in 4(a);

(bb) On the other hand, PS-RC admits both definiteness variants:

definite: *al-maṣna^cu [l-muġlaqatu ʔabwābu-hu]* ‘the factory whose gates are closed’,

= Df-factory-Df-/are/-closed-gates-its

indefinite: *maṣna^cun [muġlaqatun ʔabwābuhu]* (§4(b)).

(aaa) Unless resorting to additional syntactic operators, borrowed from beyond the non-finite system, the indefiniteness of SP-RCs is constant, in contrast to PS-RCs which are open to the deictic definiteness variation. The grammatically motivated indefiniteness of SP-RCs may only be invalidated by inserting the extra-systemic operator Rel: *al-mar^oatu llatī waġhu-hā ḥasanun* ‘the woman whose face is handsome’, transferred from the postnominal FR construction type: *al-maṣna^cu llaḏī (Rel) ʔaġlaqa (Pf.3Sg) ʔabwāba-hu* ‘the factory which closed its gates’, lit. ‘gates-its’; The appropriate definiteness differentiation in this case may be achieved by a conversion into the PS-RC structural type, as indicated in 4 (bb) above.

(5) By the RC’s position in relation to the head (linear orientation):

(a) prenominal (left-branching), and (b) postnominal (right-branching):

finite relative (FR) with relative pronoun (Rel) → postnominal:

al-qaṣr-u llaḏī tuqīmu fī-hi l-ʔamīr-at-u ‘the palace where the princess resides’

= Df-palace-NOM Rel-reside: F3Sg in-it Df-princess: F-NOM;

non-finite relative (NFR) without Rel →: postnominal:

al-qaṣru l-muqīmatu fī-hi l-ʾamīratu ‘as finite above’,

= Df-palace-NOM Df-Pa: residing: F-NOM in-it Df-princess: F-NOM;

The postnominal orientation of non-finite RCs distinguishes Arabic from many languages which use prenominal non-finite relatives. The following examples confront Arabic postnominal non-finite constructions with their Hungarian, Turkish and Korean prenominal counterparts. To better visualize the difference, RCs are included in square brackets:

Arabic: NFR, postnominal:

al-qaṣru [l-muqīmatu fī-hi l-ʾamīratu] ‘as finite Arabic above’,

= Df-palace-NOM Df-Pa: residing: F-NOM in-it Df-princess: F-NOM;

Hungarian: NFR, prenominal:

a [könyv-et olvas-ó] lány ‘the girl (who is) reading a/the book’

= Df book-ACC reading-PrP girl;

Turkish: NFR, prenominal:

[kitab-ı al-an] öğrenci ‘the student who bought the book’

= book-ACC buy-Psr student;

Korean: NFR, prenominal:

[sakwa-lul sacwu-n] swuknye ‘the lady who bought the apple’

= apple-ACC buy-PP lad

6. Agreement in the Arabic NF-RCs

Relative clauses with internal subject (S-RCs) are extracted from nominal sentences:

(a) by modifying the definiteness pattern: (SP-RC):

Apart from the deictic function, the dichotomous system of definiteness with oppositely oriented definite (+) and indefinite (-) states plays an important grammatical role in distinguishing between attributive and predicative relationships:

al-ʿamīr-at-u qaṣr-u-hā ḥasan-un → *ʿamīrat-un qaṣruhā ḥasanun*³⁴ (SP-RC)
 (Df-princess: F-N palace-N-her-beautiful-IdfN → princess: Idf/F-N etc.),
 that is:

(b) by changing the subject-predicate order of the RC: (PS-RC).

As already indicated in §5(4), the relative clause extracted from a nominal sentence of the structural type quoted above, SP-RC, may produce another structural variant by changing the order of the subject and predicate, PS-RC. Besides the characteristic definiteness state distribution, both RC types differ from each other in significant agreement patterns. For purposes of the following description, two basic agreement patterns are distinguished:

- (aa) compact or full agreement, depending on one agreement-imposing centre, and
- (bb) divided or split (Melnik's hybrid)³⁵ agreement, depending on two agreement-imposing centres.

6.1. SP-RC, as a clausal structure whose predicate is represented by an autonomous RC, has a compact (full) agreement which consists of two separate processes:

- (a) Ant ↔ Ref,
- (b) S ↔ P, as in:

ʿamīr-at-un qaṣr-u-hā ḥasan-un 'a princess whose palace is beautiful';
 = princess: F-Idf/NOM palace-NOM-Ref:3FSg beautiful-Idf/NOM

(aa) Ant - Ref: *ʿamīr-at-un* = F-Idf/NOM ↔ *-hā* = 3FSg
 shared categories: gender, number: F, Sg;

(bb) S ↔ P: *qaṣr-u* = NOM/Df ↔ *ḥasan-un* = Idf/NOM
 shared categories: case: NOM (marked), gender, number: M, Sg (unmarked);
 category excluded: definiteness; non-agreement (Df ↔ Idf) operates as an
 indicator of predicativeness within the RC.

The independence of the two agreement processes may be confirmed by RCs whose Ant has a paradigmatic identity different from that of the RC's subject (case, gender, or the like):

³⁴ For the sake of economy and transparency, identical examples or their parts, occurring in the same context more than once, will be segmented and glossed only at their first occurrence.

³⁵ MELNIK, N., n.d. *Hybrid Agreement as a Conflict Resolution Strategy*, pp. 1 – 8. From the html version.

raʿaytu ʿamīratan (ACC) *qaṣruhā ḥasanun* (NOM) ‘I saw a princess whose palace is...’³⁶

6.2. PS-RC:

As indicated in §5(4), by word order inversion in S and P the SP-RC may be transformed into PS-RC with a number of different, highly specific structural properties, like definiteness state distribution and agreement pattern

SP-RC: Ant (-) S (+) P (-) → PS-RC: Ant (±) P (±) S (+), that is:

- (1) SP-RC/Idf: *ʿamīratan qaṣruhā ḥasanun* ‘a princess whose palace is beautiful’;
(2a) PS-RC/Idf: *ʿamīratan ḥasanun qaṣruhā* (the same as SP-RC/Idf);
(2b) PS-RC/Df: *al-ʿamīratu l-ḥasanu qaṣruhā* ‘the princess whose palace is beautiful’;

With early Arab grammarians, the non-finite relative constructions with inverted subject-predicate order were treated under the heading of *naʿt sababī*, interpreted as an attribute that modifies a noun (Ant) indirectly, through modification of another noun. Such a noun may be illustrated with a Ref-related subject of a PS-RC, as in *marartu bi-raḡulin kaṭīrin ʿadūwu-hu*³⁷ ‘I passed by a man who had many enemies’, lit. ‘whose enemies were numerous’, or in any of the previously glossed PS-RCs. In works of Western provenance, the term is usually translated as *indirect attribute*.

The inverted structure of PS RCs has been extensively studied by Western scholars for more than a century under various headings: subtype of

³⁶ Agreement in Arabic syntax is subject to a number of agreement restrictions, such as non-human (nh) reference of a plural noun (pl) which imposes a feminine singular (fs) on the agreeing modifier, irrespective of the word-class membership and syntactic position of the latter: *buyūt* (nh/pl) *kabīra* (fs) ‘old houses’, to avoid misreadings in the agreement glossing, such nh-plurals will be glossed as feminine singulars (fs). In verbal sentences another frequent agreement restrictor operates in the form of pre-subject (ps) position of the verbal predicate which imposes an invariable singular (is), the agreement being reduced to gender, as in: *ḍahaba* (went: ps > is) *l-riḡāl-u* (DF-men: M.PI-N) *ʿilā l-masǧid-i* (to-Df-mosque-G) *wa-ṣallaw rakʿat-ayni* (and-prayed: M/Pl-two rakʿas). As evident from the example quoted, the predicate in the post-subject position (*ṣallaw*) resumes its unreduced agreement pattern. Some other, less powerful agreement constraints, are ignored here.

³⁷ DIEM, W., *fā-wayḥun li-l-qāsiyati qulubuhum*. Studien zum arabischen adjektivischen Satz, pp. 5 – 7.

Nominalapposition:³⁸ the notion of *Attraction*, was used to describe these constructions since Caspari³⁹ and its English translation by Wright:⁴⁰ *šifa*, consisting of *al-sabab* (Ant) and *al-musabbab* (P) which agrees with Ant only in case and definiteness, by attraction, Reckendorf's *Attraktion*,⁴¹ Brockelmann's *Attraktion im asyndetischen Relativsatz*,⁴² or Fischer's *attributive Rel.-Sätze mit adjektivischem Präd.*⁴³ Their adjective-like structure is reflected in Beeston's conversion structure of an adjectival clause,⁴⁴ and in some very recent terms *adjektivischer Satz*⁴⁵ and *Satzadjektiv*.⁴⁶ The early native term *naʿt sababī*, referring to the *Attraktion*-modelled structures, has recently been adopted by Polotsky⁴⁷ or Badawi et al.,⁴⁸ with a somewhat different reading: 'semantically linked qualifier', etc.

6.21. Divided agreement in PS-RCs

As in SP-RC, the coreference between the head and the subject (Ant ↔ Ref) is signalled only by the agreement in gender and number, while the RC complex (S ↔ P) adopts an entirely different agreement pattern involving Ant to the process as well. With PS-RCs, the inclusion of an extra-clausal constituent to the agreement process created two agreement-assigning centres, targeting (a) the newly included head (Ant), (b) RC's predicate (P), and (c) RC's subject (S). Since the Ant ↔ Ref agreement does not differ from that previously described for SP-RC, only constituents of the divided interval of the process will be presented:

³⁸ FLEISCHER, Ueber einige Arten der Nominalapposition im Arabischen, p. 36, In DIEM, W., *ibid.*, p. 8.

³⁹ CASPARI, C.P., *Arabische Grammatik*, p. 335 f.

⁴⁰ WRIGHT, W. *A Grammar of the Arabic Language*, pp. 283 – 285.

⁴¹ RECKENDORF, H. *Arabische Syntax, ġā' at imra'atun ḥasanun ʿahū-hā*, pp. 421 – 425.

⁴² BROCKELMANN, Carl. *Grundriß der vergleichenden Grammatik der semitischen Sprachen*. ii. *Syntax*, p. 560.

⁴³ FISCHER, W. *Grammatik des klassischen Arabisch*, pp.193 – 194.

⁴⁴ BEESTON, A. F. L. *The Arabic Language Today*, pp. 94 – 95.

⁴⁵ DIEM, W. *fa-waylun li-l-qāsiyati qulūbuhum*. Studien zum arabischen adjektivischen Satz, pp. 12 – 15.

⁴⁶ EL-AYOUBI, H., FISCHER, W., LANGER, M. (2001) *Syntax der arabischen Schriftsprache der Gegenwart*. Teil I, Bd. 1. (henceforth *Syntax*), pp. 34 – 36.

⁴⁷ POLOTSKY, H. J. A point of Arabic Syntax: the indirect attribute. In *Israel Oriental Studies*, No. 8. pp. 159 – 173.

⁴⁸ BADAWI, E., CARTER, M.G., GULLY, A. *Modern Written Arabic. Comprehensive Grammar* (henceforward Badawi et al.), pp. 114 – 116.

PS-RC: *'amīr-at-un ḥasan-un qaṣr-u-hā*
= princess: F-Idf/N beautiful-Idf/N palace-Idf/N (Ref:3FSg)

Ant ↔ P agreement in case and definiteness state, and
S ↔ P agreement in gender and number:

The interdependence of the Ant ↔ P and the S ↔ P processes within a unique agreement pattern may be attested, as in the previous case, by eliminating the paradigmatic identity between the head and the subject's predicate:

ra'aytu 'amīratan (ACC) ḥasanan (ACC) qaṣruhā 'I saw a princess whose
...'

or:

marartu bi-'amīratan (GEN) ḥasanin (GEN) qaṣruhā 'I passed by a princess
whose ...'.

6.22. Textual evidence. Divided agreement in Classical and modern Standard Arabic. The divided agreement pattern, described on model examples, may be found in a considerable number of PS-RC constructions and their structural derivatives, in Classical and Modern Standard Arabic alike.

(a) Classical Arabic:

The Koranic *lī-l-qāsiy-at-i qulūb-u-hum* 'for those whose hearts are hardened'

= for-Df-hard-FSg-G hearts:F/Sg⁴⁹-N-Ref: 3Pl/M in: *fā-waylun lī-l-qāsiyati qulūbuhum min dīkri llāhi* 'Alas for those whose hearts have been hardened to God's remembrance!' (Qur. 39:22; translation by Ahmed Ali, 1988, numbered).

Diem assumes the following process of structural derivation in the general frame of Reckendorf's *Attraktion* theory:⁵⁰

• *nās-un qulūb-u-hum qāsiy-at-un* 'people whose hearts are hardened' → SP-RC / Idf

= people-Idf/NM-hearts-NFSg-their:3PlM-hard-FSg-IdfN

• *nāsun qāsiyatun qulūbuhum* 'Id.' → PS-RC / Idf

⁴⁹ For the agreement of non-human plural with feminine singular, and related issues see §2.1 (22), fn. 6.

⁵⁰ RECKENDORF, H. (1898) *Die syntaktischen Verhältnisse des Arabischen*, pp. 538 – 540; (1921) *Arabische Syntax*, pp. 421 – 423, in DIEM, W. 1998, pp. 8 – 12, with a hypothetical reconstruction of the elided head *nās* 'people, folk'.

- *al-nāsu l-qāsiyatu qulūbuhum* 'Id.' → PS-RC / Df

elision of the lexical head is made possible by substantivizing the RC's predicate:

- *al-qāsiyatu qulūbuhum* 'those whose hearts are hardened'⁵¹ → PS-RC / Df

Similar examples:

baqaratun ṣafrā^u fāqī^cun lawnuhā 'a fawn coloured cow, rich yellow';⁵²

al-mu^oallafatu qulūbuhum 'those whose hearts have to be acquired'.⁵³

(b) Modern Standard Arabic: .

ġamī^cu l-taġhīzātī l-maṭlūbi tawaffuruhā 'all the equipment required to be available'

adadan min al-mašārīⁱ l-ġārī tanfiḍujā 'a number of plans in current execution';

muḥāḍarātuhu l-sābiqū dīkruhā 'his aforementioned lectures';⁵⁴

(wa-qad ḡā^oat min) baladīn ma^crūfatin šiddatu ḥarāratihi '(she came from) a country known for the intensity of its heat';⁵⁵

al-^oabniyatu l-munbaṣiṣatu suṭūḥuhā 'the buildings with flat roofs'.⁵⁶

(c) Deviated structural and agreement patterns.

A curious example from a 1950s newspaper with absence of a lexically identifiable subject was presented by Polotsky,⁵⁷ *al-sarīru l-nā'imatu ^calayhi* 'the bed on which she is sleeping', with an empty subject slot:

al-sarīru l-nā'im-at-u ^calay-hi Ø (Df-bed:MSg-N Df-sleeping-FSg-N on-Ref:it:3/ M/Sg);

⁵¹ DIEM, W., pp. 8 – 12; with segmentation added and glossing considerably modified.

⁵² Qur. 2:64, quot. in RECKENDORF, H. (1921), p. 421; transl. Ahmed Ali, 1988, here numbered 2:69.

⁵³ BROCKELMANN, C. ii, p. 561; with an elided Ant.

⁵⁴ BADAWI, E. et al., pp. 114 – 117, *na^ct sababī* 'semantically linked qualifier'.

⁵⁵ In *Syntax*, Vol. 2001, p. 187 (modified);

⁵⁶ Ibid., p. 188, altering with a SR relative: *al-^oabniyatu l-munbaṣiṣatu l-suṭūḥi*.

⁵⁷ POLOTSKY, H. J. A point of Arabic Syntax: the indirect attribute. In *Israel Oriental Studies*, No. 8, pp. 159 – 173.

(Ant ----- P ----- Ref S)

The absence of a lexically identifiable subject (S) is compensated by a pronominal trace, derived from the gender-number inflection *-at* (FSg), and the 3rd person feminine singular ('she'), referring to the null-subject (\emptyset), the case inflection being irrelevant to the matter.

6.23. Divided agreement is an exclusive feature of Arabic, occurring only in the Arabic PS-RC constructions, and has no cross-linguistically attested parallels, not even in modern Semitic languages. The exclusiveness of this agreement strategy is confirmed by Melnik (2006, http 2-4) who confronts non-finite RCs in Modern Standard Arabic (MSA) with those in Modern Hebrew (MH):

Only RCs derived from the general structural type NS-RCs co-occur in both languages:

MSA: *al-mar²atu l-nā²imatu fī bayti-hā* lit. 'the woman sleeping in house-her'

MH: (*ha-*)*'anashim ha-mexakim ba-taxana* '(the) people (who are) waiting in the station'

= (Df-) people: MPl HA⁵⁸-Pa: waiting: MPl in-station) → compact agreement between the head and its modifier: in gender: M and number: Pl (case is not overtly marked in MH), M/Pl;

Arabic PS-RCs, apparently also SP-RCs, related to the type S-RC, have no MH parallel:

MSA: *iġtama^ctu bi-l-mar²-at-i l-ġālis-i-zawġ-u-hā* (I met with-Df-woman: FSg-G Df-Pa: sitting-G MSg-husband: M/Sg-N-Ref: 3/F/Sg) 'I met the woman whose husband is sitting' → (PSRC: divided agreement: Ant-P: Df, G; P-S: M/Sg;

7. Problematic accessibility positions: direct object (DO)

7.1. Controversial evidence in grammars of Classical Arabic

The direct object (DO) relativization does not seem to have been subject to an exhausting and well-documented description in the Arabic non-finite syntax and, in the current practice, it only very rarely goes beyond the frame of finite-verb relatives. DO non-finite relativization is not the only problematic area. Irrespective of whether through subject or non-subject strategy, not even the DO position in a non-finite declarative sentence is entirely free from unsolved

⁵⁸ HA formally coincides with the definite article *ha-* (and apparently co-functions therewith) though its occurrence in non-finite RCs is compulsory and independent of the head's definiteness state.

problems and disturbing alternations. Let us consider the inherited controversial evidence from Classical Arabic and related grammars:

- GEN: *kullu nafsin dāʾiqatu l-mawt-i* 'every soul will taste the death' (Qur., 3: 185);
 GEN: *al-muqīmū l-ṣalāt-i* 'those who perform (the rites of) prayer' (Wright, ii, 222)
 GEN: *zaydun/i/ l-ḡāribu raʾsi l-ḡānī* 'Zeid who smites the head of the offender' (ibid.);
 GEN: *ʾalladīna yazunnūna ʾannahum mulāqū rabbihim* 'those who believe they will meet their Lord' (ibid., 195);
 ACC: *zaydun nākīhun ibnuhu ḡadan zubaydata* 'Zeid's son is to be married tomorrow to Zubeida' (ibid.);
 ACC: *wa-l-muʾfūna l-zakāl-a* 'and those who pay the poor-rate' (ibid., 63);
 ACC: *al-muʾʾimūna bn-a ḡāri-hā* 'those who feed the son of her protected companion' (Reckendorf, 1921, 175).

Classical variations, like those collected by Reckendorf (1921: 178), illustrate the way participles govern the pronominal object:

al-qātilūna la-hu,
al-qātilūna ʾiyyā-hu,
al-qātilūna-hu,
al-qātilū-hu.

All these structural types are still reflected in one way or another in the non-finite syntax of Modern Standard Arabic. Most researchers are primarily concerned with dominant relativizing strategies, represented by the finite-verb relatives, and no known authoritative descriptive study has ever convincingly disapproved the validity of this controversial Classical heritage for Modern Standard Arabic.

The lack of convincing textual and descriptive evidence for the DO non-finite relativization is sometimes compensated by data provided by the native speakers:

PNS-RC (NS = DO) → SR:
ʾahmad-u l-sāriq-u l-sayyār-at-a
 = Ahmad-NOM the-Pa:stealing-N the-car-F/Sg-ACC
 'Ahmad stole the car' >

PS-RC → NSR:
al-sayyār-at-u l-sāriq-u-hā ʾahmad-u (the-car-F/Sg-NOM the-Pa:stealing-N-Ref:3/F/Sg Ahmad-NOM) 'the car that Ahmad stole' (Shireen Siam, p.c.).⁵⁹

⁵⁹ DORON, E., REINTGES, C., op. cit., p. 43.

7.2. Most frequent types of DO-related ambiguities

Pausal singulars and broken plurals, in written media and spoken radio and TV broadcasts, as well as merging GEN/ACC cases in sound plurals and duals, nullify the current paradigmatic evidence and, combined with the lack of an accepted grammatical norm, further lengthen the list of ambiguities.

Let us examine a number of DO-related constructions drawn from authoritative lexicons, school-texts (Egyptian Ministry of Public Education), terminological lists (Cairo Academy of the Arabic Language), media and other sources (in alphabetically arranged sources no page indication is given).

(1) *zero* / *-li* alternation (where *zero* = ACC or GEN):

(*zero*) *ṣārūh* ‘*ābir al-qārāt* ‘intercontinental ballistic missile (milit.)’

lit., missile /which is/ traversing the continents, (W/C);

‘ittigāh muḍādd ‘*aqrab as-sā‘a* ‘anti-clock direction’ (PMD);

lit., ‘direction opposing /that of/ the clock’s hand’;

ḥayawānāt ‘*ākīlat al-luḥūm* ‘Carnivora (zool.)’,

lit., animals eating flesh (°H, 60);

safīna ḥāmilat al-ṭā‘irāt ‘aircraft carrier (milit.)’,

lit., ship carrying aircrafts;

(*li-*) *mawādd muḍādda li-l-ḥayawīyāt* ‘antibiotic substances; antibiotics (pharm.)’;

lit. substances opposing (antagonizing) living cells (W/C)

shortened forms (generic term deleted):

(a) *muḍāddāt li-l-ḥayawīyāt* (Ac., 3: 128)

(b) *muḍāddāt al-ḥayawīyāt* (Ac., 2: 9).

ḡāz musīl li-l-dumū‘ ‘tear gas’, lit., ‘gas provoking the tears’ (PMD)

ṣābūn muzīl li-l-rā‘iḥa ‘deodorizing soap’, lit., ‘soap suppressing the odour’ (advert.);

Participles, like *‘ābir* (→ *zero*), *muḍādda* (→ *-li*) are derived from transitive verbs uniformly governing the direct object (DO) in accusative: *ḍādda l-ḥayawīyāt* (ACC); *‘abara l-qārāt* (ACC).

7.3. The confrontation of Keenan and Comrie’s Accessibility Hierarchy (AH)⁶⁰ predictions with problematic accessibility positions produces results that

⁶⁰ KEENAN, E. L., COMRIE, B., op. cit., pp. 6–7.

cannot be applied to the Arabic non-finite syntax. According to the AH, it is easier to relativize direct objects than it is to relativize indirect objects, and the latter, in turn, are easier to relativize than positions marked by oblique cases, and so on.

direct object position (DO):

al-kitāb-u llaḏī qaraʿtu-/hu/ ‘the book /that/ I read’;
=the-book-N Rel /I/ read-/Ref/)⁶¹

indirect object position (IO):

al-walad-u llaḏī ʿaʿfayt-u-hu l-kitāb-a ‘the boy to whom I gave the book’;
=the-boy-N Rel gave-I-Ref the-book-A

oblique position (OBL):

al-qalam-u llaḏī katabt-u bi-hī ‘the pen with which I wrote’.
=the-pen-N Rel wrote-I with-Ref

When applying the AH predictions to non-finite relatives, we discover that they do not hold for the relativization of the DO position that is markedly ‘less easy’ to relativize than that of the OBL, as far as Arabic is concerned. This apparent anomaly may be attested by the already quoted SU - OBL pair:

SU: *al-marʿatu l-sākinatu fī baytihā* ‘the woman (who is) living in her house’ → SR
OBL: *al-baytu l-sākinatu fī-hī l-marʿatu* ‘the house the woman is living in’ → NSR.

It should be noted, however, that this apparent contradiction does not result from the failure of the AH theory but rather from the lack of an obligatory normative code on the side of Arabic.

8. Arabic non-finite relative clauses classified by accessibility positions

By the ability to relativize Arabic NF-RCs may be subdivided into two classes. (1) RC relativizing subject positions (SR-RCs) and (2) those relativizing non-subject positions (NSR-RCs), like direct object (DO), indirect object (IO), attribute (GEN) or adjunct (OBL); in the non-finite domain, some of them are either unattested and hypothetical or entirely missing.

⁶¹ The AH related Arabic examples are quoted from HAMDALLAH, R.W., TUSHYEH, H. Y. A contrastive analysis of English and Arabic in relativization. In *Papers and Studies in Contrastive Linguistics* 34, 1998, pp. 141 – 152 (matrix elements are put in brackets).

8.1. Subject relativizing relative clauses (SR-RCs):⁶²

(1) RCs whose predicate is devoid of argument:

al-bintu l-nā'imatu 'the girl (who is) sleeping'

(2) *al-mar'atu l-sākinatu fī baytihā* 'the woman (who is) living in her house';

(3) *al-mar'atu l-ḥasanatu l-waġhī* 'the woman whose face is handsome';

al-'abniyatu l-munbasifatu l-suṭūḥi 'the buildings whose roofs are flat';

(4) zero-variants:

šārūḥ 'ābir al-qār'rāt 'intercontinental ballistic missile' (W/C)

safīna nāqilat al-bitrūl (al-zayt) 'tanker', lit., vessel transporting the oil (advert.);

ṭā'ira qāḍifat al-qanābil 'bomber (milit.)', lit., aircraft throwing the bombs;

ittīgāh muḍādd 'aqrab as-sā'a 'anti-clock direction'(PMD);

li-variants:

mawādd muḍādda li-l-ḥayawīyāt 'antibiotic substances' ('AHT many. occ.);

sā'āt muḍādda li-l-mā' 'water-proof watches' (advert.);

al-ḥizb al-mu'arīḍ li-l-ḥukūma 'the opposition party' (media);

šawārīḥ muḍādda li-l-ṭā'irāt 'anti-aircraft missiles (milit.)'.

other prepositional variants:

al-qūwa al-ṭārīda 'an al-markaz 'centrifugal force', lit. (Ac., 1, 193);

al-qūwa al-ṭārīda min al-markaz 'idem' (Ac., 2, 194);

al-qūwa al-ṭārīda 'ilā l-markaz 'centripetal force' (Ac., 1, 193; PMD);

(4.1) **'aḥmad-u l-sāriq-u l-sayyār-at-a* 'Ahmad stole the car'

=Ahmad-NOM the-Pa:stealing-NOM the-car-F-ACC (see § 7.1); the unique example of this type, obtained by a native speaker's personal communication in Doron & Reintges extensive study (op. cit., p. 43; p.c. Shireen Siam). Were this (doubtful) evidence accepted, all § 7.2 examples, displaying a hypothetical ACC/GEN alternation, could be re-analysed on this model.

8.2. Non-subject relativizing RCs (NSR-RCs):

Non-subject relativizing relative clauses (NSR-RCs) form a much less numerous class in the framework of the non-finite syntax and in a considerable number of world languages they are entirely missing. Cross-linguistically, their occurrence or non-occurrence is largely unpredictable, not even on the genetic basis: while Classical and Modern Standard Arabic offer several construction types for non-subject relativization, in Modern Hebrew the latter option is

⁶² In pausally quoted examples the pausal writing is maintained.

entirely missing.⁶³ The absence of non-finite NSR-RCs is typical of (most?) Indo-European languages, like German, English or Slavic languages, inclusively of Russian, noted for the richness of participial morphology and tolerance of prenominal constructions not currently used in cognate languages.

(1) RCs whose predicate has no lexical argument:

al-sarīru l-nā'imatu 'alay-hi 'the bed /she is/ sleeping on';⁶⁴

(2) SP-RC: *'imra'atun waǧhu-hā ḥasanun* 'a woman whose face is handsome';

'amīratun qaṣru-hā ba'īdun 'princess whose palace (is) far away';

(3) PS-RC: *'amīratun ba'īdun qaṣruhā / al-'amīratu l-ba'īdu qaṣruhā* 'a/the princess whose palace is far away';

Despite the fact that this structural type occupies the fifth position (GEN) on the AH scale, it is one of the less problematic non-subject relativizing (NSR) constructions, and is relatively well represented in all varieties of Standard Arabic:

li-l-qāsiyati qulūbu-hum 'for those whose hearts are hardened';

al-'abniyatu l-munbaṣifatu suṭūḥuhā 'the buildings with flat roofs'.⁶⁵

(4) **al-sayyāratu l-sāriqu-hā 'aḥmadu* 'the car which Ahmad stole' (§ 7.1).

8.3. Some structural types allow both subject and non-subject relativization (convertible RCs), some others only one (inconvertible RCs). Unattested RC types with hypothetical structural variation are not included in the following examples:

8.31. Convertible RCs identify with constructions like

(1) *al-mar'atu l-sākinatu fī baytihā* → SR >

al-baytu l-sākinatu fīhi l-mar'atu → NSR

⁶³ MELNIK, N.: 'While subject NF-RCs are commonplace in Modern Hebrew, their non-subject counterparts are disallowed'. In *Hybrid Agreement as a Conflict Resolution Strategy*, from the html version.. 2.); see also DORON, E., REINTGES, C., op. cit., p. 16; both Biblical and Modern Hebrew: relativization of the subject only (with reference to Gesenius & Kautzsch, 1910).

⁶⁴ POLOTSKY, H. J., op. cit., pp. 159 – 173.

8.32. Inconvertible RCs:

- (1) *al-bintu l-nā'inatu* → SR
- (2) *al-mar'atu l-ḥasanatu l-waġhi* → SR
- (3) *al-sarīr-u l-nā'im-at-u 'alay-hi* → NSR
- (4) *'amīratun qaṣruhā ba'īdun* → NSR
- (5) *'amīratun ba'īdun qaṣruhā* → NSR

9. Other accessibility hierarchies

9.1. MacWhinney and Pleh's hypothesis.

Hungarian is apparently the first language to be tested by MacWhinney and Pleh to confirm their accessibility hypothesis.⁶⁶ Although the newly proposed hierarchy, devised for testing the processing easiness of finite relative clauses, cannot offer conclusive results for non-finite relativization, it may suggest some inspiring ideas even here.

The Accessibility Hierarchy, proposed by Keenan and Comrie, examines conditions under which a given syntactic position may be relativized independently of those in the matrix clause. Some other inquiries, motivated by the pragmatic goal of performing and/or understanding what is relativized, proceed in a wider frame that involves both the matrix clause and the embedded relative clause. Besides a number of other determinants, the way the two pivotal sentential elements, subject (S) and object (O), happen to occur in the matrix and in the relative clause, plays a decisive role. MacWhinney and Pleh argue that RCs which have the matrix clause subjects and objects in matched position to subjects and objects in the embedded RC, ensure better performance for both reading time and comprehension than RCs whose subjects and objects are in unmatched condition.⁶⁷ The subject-object positional relationship, of substantial importance for MacWhinney and Pleh's relative clause processing theory, is irrelevant to the Accessibility Hierarchy where it is treated as an emergent and accidental phenomenon. When viewed from the opposite side, the specific identity of grammatical positions, as claimed by Keenan and Comrie, is not important for determining what kind of relativization it permits. What matters is the matched or unmatched co-occurrence of the matrix clause's head in subject or object position relative to the subject or object position of the noun that is extracted from the relative clause.⁶⁸

⁶⁵ In *Syntax*, 2001, p.188, *al-'abniyatu l-munbasi'atu suṭūhu-hā*, alternating with a more frequently used genitive construction *al-'abniyatu l-munbasi'atu l-suṭūhi*.

⁶⁶ MacWHINNEY, B., PLEH, C. The processing of restrictive relative clauses in Hungarian. In *Cognition*, 1988, Vol. 29, pp. 95 – 141.

⁶⁷ KAPLAN, Aaron, F., Patterns of Relativization and Recent Formulations of Markedness, p. 8.

⁶⁸ *Ibid.* 9, see also MacWHINNEY and PLEH, *op. cit.*, p. 96.

The processing model, proposed by MacWhinney and Pleh, is focused on restrictive RCs with definite heads identified in terms of their semantic structure. The corpus of the RC types analysed is restricted to only four types of restrictive relative clauses whose head is either a subject or an object and whose relativized positions are filled either by a subject or an object. The corpus allows four RC types which have long attracted the attention of psycholinguistic researchers as well: subject-subject (SS), subject-object (SO), object-object (OO), and object-subject (OS).

SS type identifies with a relative construction with the subject in both clauses;

SO type: the subject in the matrix clause and the object in the relative clause;

OO type: the object in the matrix clause and the object in the relative clause;

OS type: the object in the matrix clause and the subject in the relative clause.⁶⁹

The following English examples have to illustrate the theory:

SS: the boy who sees the girl chases the policeman;

SO: the boy who the girl sees chases the policeman;

OO: the boy chases the girl who the policeman sees;

OS: the boy chases the girl who sees the policeman.

The rigid word order of English may lead to clausal discontinuity in some constructions and distort the sentence processing data predicted. As evident from the examples above, the clausal interruption occurs in SS and SO type relatives where the RC appears between the subject and the predicate of the main clause.

Hungarian, which has a variable word order and provides an unambiguous marking of the syntactic positions in both clauses, was found more suitable for this type of analysis.⁷⁰

The role of the RC's head is doubly marked: by the case, and by the choice between the definite and indefinite verb inflection (a feature common to Uralic languages).

⁶⁹ MacWHINNEY, B., PLEH C., *op. cit.*, pp. 97 – 98.

⁷⁰ *Ibid.*, pp. 100 – 101: Hungarian has six word order patterns: SOV, OSV, SVO, OVS, VSO and VOS, though only two are unmarked (canonical: SOV which predominates when the subject has no article, and SVO is used with article-defined subjects).

SS: *a kutya kerget-i a macska-(á)t, amely néz-i az eger-et*

(the dog/N/ chase-3Sg-Df the cat-A which/N/ watch-3Sg-Df the mouse-A)

'the dog chases the cat that watches the mouse';

SO: *a kutya kerget-i a macska-(á)t, amely-et néz az egér*

(the dog/N/ chase-3Sg-Df the cat-A, which/A/ watch-3Sg-Idf the mouse-(N))

'the dog chases the cat whom watches the mouse';

OO: *a fiú-t csókol-ja a lány, aki-t meg-harap-ja a kutya*

(the boy-A kiss-3Sg-Df the girl/N/ who-A Prf-bite-3Sg-Df the dog)

'the girl who the dog bites kisses the boy'⁷¹

OS: *a fiú-t csókol-ja a lány, aki fél a kutya-tól*

(the boy-A kiss-3Sg-Df the girl/N/ who be afraid-3Sg-Idf the dog-of)

'the girl who is afraid of the dog kisses the boy'⁷².

9.2. Sheldon's and Arnon's hypotheses

Likewise Sheldon (1974) came to test the processing easiness of complex sentences by the way subject and object co-occur in the main and dependent clauses. The matched co-occurrences (SS, OO), referred to as *parallel function*, are claimed to be easier to process than unmatched ones (SO, OS).⁷³

Sheldon's parallel function strategy as well as related hypotheses found a number of applications in testing language acquisition and processing with both adults and non-adults. Relative clauses have been extensively exploited to this end owing to their complexity and apparent difficulty the language users, especially non-adults, experience with them.

Arnon⁷⁴ reports the results of two experiments designed to re-evaluate the predictions of relative clause acquisition and processing among young Hebrew speakers. The experiments, based on the subject-object opposition, showed that

⁷¹ Ibid.

⁷² The OS example was added by the author of the present study to complete the testing set.

⁷³ SHELDON, A. The role of parallel function in the acquisition of relative clauses in English. In *Journal of Verbal Learning and Verbal Behavior*, 1974, No. 13, pp. 272 – 281.

⁷⁴ ARNON, I. (n.d.) *Relative clause acquisition in Hebrew: towards a processing-oriented account*, pp. 1 – 12 .

the SS-type subject relatives (*the granny that kisses the girl*) results in intact performance because the head receives the correct thematic role, while the OS type object relatives (*the granny that the girl kisses*) leads to a chance performance because both the head (*the granny*) and the RC's subject (*the girl*) have an agent role. Two competing agents, representing the cause of acquisition and processing difficulties for both adults and non-adults, require the ability to correctly identify the thematic role of each of them.⁷⁵

Testing RCs (detached from the picture procedure):

ha-safla she menasheket et ha-yalda → SR

(the granny that kisses ACC the girl)

'the granny that kisses the girl';

ha-safla she ha-jalda menasheket → NSR

(the granny that the girl kisses)

'the granny that the girl kisses'.⁷⁶

9.3. Özçelik's experiments in processing Turkish relative clauses

Recent experiments with the processing ease rating in Turkish relatives led to some unexpected results. The confrontation of some predictions of the Keenan and Comrie's Accessibility Hierarchy (AH) hypothesis with the results of processing tests in two genetically and structurally different languages, English and Turkish, discovered several contradictory points. For purposes of the present discussion it is sufficient to recall that the highest point on the AH scale is occupied by the subject position.

Özçelik's research,⁷⁷ concerned with the processing of relative clauses in Turkish as a second language, is focused on the processing of the first two AH positions: subject (S) and object (O):

In his processing experiments Özçelik relies on a number of procedures devised by different authors. Linear distance hypothesis (LDH), advanced by Tarollo and Myhill,⁷⁸ claiming that processing difficulties with relative clauses can be predicted by the linear distance between the head and the gap (the trace of an extracted element), that is, the number of intervening words occurring in this interval. A somewhat modified version of this hypothesis appeared as the

⁷⁵ Ibid., p. 1.

⁷⁶ Ibid., p. 3.

⁷⁷ ÖZÇELİK, Ö. *Processing relative clauses in Turkish as a second language*. PhD. dissertation, pp. 1 – 160. From the html version.

⁷⁸ TAROLLO, F., MYHILL, J. Interference and natural language processing in relative clauses and wh-questions. In *Studies in Second Language Acquisition*, No. 14, pp. 39 – 70. In ÖZÇELİK, Ö., op. cit., p. 5.

Syntactic prediction locality theory (SPLT), proposed by Gibson, E., and some others.⁷⁹

According to Gibson's hypothesis, only the elements, occurring between the head and the gap, that introduce new discourse referents (noun phrases and main verbs), should be calculated:

English:

(a) subject relative → SR

the lion that [_ carries the cow] → LDH = 1 word; SPLT = 0 words

(b) object relative → NSR

the lion that [the cow carries _] → LDH = 4 words; SPLT = 3 words

Prediction: English subject RCs are easier to process than (direct) object RCs.⁸⁰

Turkish:

(a) subject relative → SR

[_ inek-i taşı-an] aslan → LDH = 2 words

(b) object relative → NSR

[inek-in _ taşı-dıĝı] aslan → LDH = 1 word

Prediction: Turkish (direct) object RCs are easier to process than subject RCs.⁸¹

The latter prediction, derived from the LDH analysis clearly contradicts that obtained from Keenan and Comrie's Accessibility Hierarchy where the subject (SU) occupies the top-position on the hierarchy scale

REFERENCES

- ARNON, Inbal (n.d.) *Relative clause acquisition in Hebrew: towards a processing-oriented account* [online]. Stanford University. Available on <http://www.stanford.edu/~inbalar/papers/relative%20clause%20...pdf>.
- BADAWI, Elsaid, CARTER, M. G., GULLY, A. *Modern Written Arabic. A Comprehensive Grammar*. London and New York: Routledge, 2004. 812 p.

⁷⁹ GIBSON, E. Linguistic complexity: locality of syntactic dependencies. *Cognition*, No. 69, pp. 1 – 69. In ÖZÇELİK, Ö., op. cit., p. 6.

⁸⁰ Ibid., p. 9.

⁸¹ Ibid.

- BEESTON, A. F. L. *The Arabic Language Today*. London: Hutchinson University Library, 1970. 125 p.
- BORER, Hagit. Restrictive relatives in Modern Hebrew. In *Natural Language and Linguistic Theory*, 1984. In KAPLAN, A. F., op. cit., p. 6.
- BROCKELMANN, Carl. *Grundriß der vergleichenden Grammatik der semitischen Sprachen*. Bd II: *Syntax*. Berlin: Verlag von Reuther & Reichard, 1913.
- CASPARI, Carl Paul. *Arabische Grammatik*. 5th edition. Edited by A. Müller. Halle, 1887. (see Caspari).
- CHANG, Henry Y., WU, Claire. *Relative clauses: An overview*. Manuscript. [online]. Institute of Linguistics, Academia Sinica, Typology Research Group. November 23, 2006. Available on <http://www.ling.sinica.edu.tw>.
- COMRIE, Bernard, KUTEWA, Tania. *Relativization strategies*, n.d., pp. 122 – 123. In NATCHANAN, Yaowapat et al. (eds.), 2008: *A typology of relative clauses in mainland Southeast Asian languages*. Chulalongkorn University, Thailand, pp. 1 – 46.
- DIEM, Werner. *fa-waylun li-l-qāsiyati qulūbuhum*. Studien zum arabischen adjektivischen Satz. Wiesbaden: Harrassowitz Verlag, 1998. 203 p.
- de VRIES, Mark. Patterns of relative clauses. In WOUDE, Ton van der and BROEKHUIS, Hans (eds.) *Linguistics in the Netherlands*. Volume 18, 2001. pp. 231 – 243. [online]. Available on <http://odur.let.rug.nl/pdf/2001-patterNS-Rc-lin.pdf>.
- DORON, Edit. REINTGES, Chris H. *On the syntax of participial modifiers*. [online]. Unpublish manuscript, 2005. Available on <http://pluto.huji.ac.il/~edit/edit/31.pdf>.
- DOWNING, Bruce T. Some universals of relative clause structure. In GREENBERG, Joseph H., FERGUSON Charles A., MORAVCSIK Edith A. (eds.) *Universals of Human Language*. Vol. IV: *Syntax*, pp. 375 – 418. Stanford: Stanford University Press, 1978.
- EL-AYOUBI, Hashem, FISCHER, Wolfdietrich, LANGER, Michael. *Syntax der arabischen Schriftsprache der Gegenwart*. Teil 1, Bd. 1. Wiesbaden: Dr. Ludwig Reichert Verlag, 2001. In collaboration with Dieter Blohm and Zafer Youssef produced and edited by Wolfdietrich Fischer. (→ *Syntax* 2001).
- EL-AYOUBI, Hashem, FISCHER, Wolfdietrich, LANGER, Michael. *Syntax der arabischen Schriftsprache der Gegenwart*. Teil 1, Bd 2. Wiesbaden: Dr. Ludwig Reichert Verlag, 2003. In collaboration with Dieter Blohm and Zafer Youssef, produced by W. Fischer and M. Langer. (→ *Syntax* 2003).
- FISCHER, Wolfdietrich. *Grammatik des klassischen Arabisch*. 3. Aufl. Wiesbaden: Harrassowitz Verlag, 2002. 296 p.
- GIBSON, E., SCHUTZE, C. Disambiguation preferences in noun phrase conjunction do not mirror corpus frequency. In *Journal of Memory and Language*, 1999, Vol. 40, pp. 263 – 279. In → ÖZÇELİK, Öner, 2004, p. 6.
- HAMDALLAH, Rami, W., TUSHYEH Hanna Y. A contrastive analysis of English and Arabic in relativization. In *Papers and Studies in Contrastive Linguistics*, 1998, Vol. 34, pp. 141 – 152.
- HASSANIN, Fadel Ali. *Syntax und Semantik des Relativsatzes im Deutschen und Arabischen*. Regensburg: Roderer, 1995. 203 p.

- HAWKINS, John. Processing complexity and filler-gap dependencies across grammars. In *Language*, 1999, Vol. 75, No. 2, pp. 244 – 285. In → ÖZÇELİK, Öner, 2004, web. p. 5.
- HELBIG, Gerhard, BUSCHA, Joachim. *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht*. Leipzig: VEB Verlag Enzyklopädie, 1987.
- KAPLAN, Aaron, F. *Patterns of Relativization and Recent Formulations of Markedness*. Honors Thesis, 2002. The University of North Carolina. [online]. Available on http://people.ucsc.edu/~atkaplan/files/honors_thesis.pdf.
- KEENAN, Edward L. Towards a universal definition of "Subject". In LI, Charles N. (ed.) *Subject and Topic*. New York: Academic Press, pp. 303 – 334.
- KEENAN, Edward L. Relative Clauses. In → SHOPEN, Timothy (ed.) *Language Typology and Syntactic Description*, pp. 141 – 170.
- KEENAN, Edward L. (ed.). *Universal Grammar: 15 Essays. (Croom Helm Linguistic Series)* London, Sydney, Wolfeboro, New Hampshire: Croom Helm Publishers, 1987. 499 p.
- KEENAN, Edward L., COMRIE, Bernard. Noun phrase accessibility and universal grammar. In → KEENAN, E. L. (ed.), 1987, pp. 3 – 45; originally published in *Linguistic Inquiry*, 1977, Vol. 8, No. 1, pp. 63 – 99.
- KUNO, Susumu. *The Structure of the Japanese Language*. Cambridge, etc.: MIT Press, 1973. 422 p.
- KUNO, Susumu. . 1976: Subject, theme and the speaker's empathy. In LI, Charles N. (ed.) *Subject and Topic*, pp. 457 – 489.
- LEGUM, Stanley. Strategies for the acquisition of relative clauses, 1975. Technical note 2-77-10. Los Alamitos, California. In → KEENAN and COMRIE, op. cit., p. 33.
- LEWIN, Bruno, KIM, T. D. *Einführung in die koreanische Sprache*. Heilbronn: Verlag Vorschau-Werbung, 1974.
- LI, Charles N. (ed.) *Subject and Topic*. New York-San Francisco-London: Academic Press, 1976.
- LI, Charles N., THOMPSON, Sandra A. Subject and Topic: A New Typology of Language. In → LI, Charles N. (ed.), *Subject and Topic*, pp. 457 – 490. .
- LEHMANN, Winfred P. (ed.) *Syntactic Typology: Studies in the Phenomenology of Language*. Austin and London: University of Texas Press, 1978.
- MacDONALD, M. C., & CHRISTIANSEN, M. (2002). Reassessing working memory: comment on Just and Carpenter (1992) and Waters and Caplan (1999). *Psychological Review*, Vol. 109, pp. 35 – 54. In → ÖZÇELİK, Öner, 2004, p. 8.
- MacWHINNEY, Brian, PLEH, Csaba. *The processing of restrictive relative clauses in Hungarian*. In *Cognition*, 1988, Vol. 29, Issue 2, pp. 95 – 141 [online]. Available on <http://psyling.psy.cmu.edu/papers/relative.pdf>.
- MELNIK, Nurit. *Hybrid Agreement as a Conflict Resolution Strategy*. n.d. Haifa University, Caesarea Rothschild Institute for Interdisciplinary Applications of Computer Science. [online]. Available on http://209.85.129.132/search?q=cache~nurit/Melnik_HPS.
- ÖZÇELİK, Öner (2004). *Processing Relative Clauses in Turkish as a Second Language*. PhD. Thesis, defended 2006. University of Pittsburg. The Graduate

- Faculty of Arts and Sciences. Available on <http://etd.library.pitt.edu/ETD/available/etd-04262006041512/Özçelik.Ö-ctd.pdf>.
- POLOTSKY, Hans Jakob. A point of Arabic Syntax: the indirect attribute. In *Israel Oriental Studies* 8, 1978, pp. 159 – 173.
- RECKENDORF, Hermann. *Arabische Syntax*. Heidelberg: Universitätsbuch-handlung, 1921. 567 p.
- RECKENDORF, Hermann. *Die syntaktischen Verhältnisse des Arabischen*. Leiden: E. J. Brill, 1898.
- SHELDON, Amy. The role of parallel function in the acquisition of relative clauses in English. In *Journal of Verbal Learning and Verbal Behaviour*, 1974, Vol. 13, Issue 3, pp. 272 – 281.
- SHOPEN, Timothy (ed.). *Language Typology and Syntactic Description: Volume 2*. Cambridge etc.: Cambridge University Press, 1985. 488 p.
- TAROLLO, F., MYHILL, J. Interference and natural language processing in relative clauses and wh-questions. In *Studies in Second Language Acquisition*, 1983, Vol. 14, pp. 39 – 70. In → ÖZÇELİK, Öner (2004), p. 5.
- VRIES, de → de VRIES, Mark, 2001.
- WRIGHT, William. *A Grammar of the Arabic Language, Volume II*. 3rd ed. University Press, 1896. Translated from the German of Caspari and edited with numerous additions and corrections by W. Wright. Cambridge, 1967 reprint.

Symbols and abbreviations

1-2-3 → first, second, third person of all word-classes inflecting for person; A or ACC → accusative case; Ant → antecedent, head noun; BP → broken (intra-root) plural; DA → divided agreement; DC → declarative mood; Df or DEF → (1) category of definiteness: definite/indefinite (incl.); (2) definite state, definite article; D1 → dual; F → feminine gender; FR → finite relativization; F-RC → finite RC; G or GEN → genitive case; Gap-Ref → relativization strategies indicating the position of the extracted (relativized) element in the RC either by a gap (absence) or a referent pronoun representation; Idf or INDEF → indefinite state, indefinite article; Ipf → imperfect; imperfective; M - masculine; MC → matrix, main clause; NFR → non-finite relativization; NF-RC → non-finite RC; N or NOM → nominative case; NS → non-subject; NSR → non-subject relativization; NS-RC → RC with an internal non-subject; NSR-RC → non-subject relativizing RC; O → object; P → predicate; Pa → active participle; Pf → perfect, perfective; Pl → plural; Pos → possessive; Pp → passive participle; Prt - present, present tense marker; PS-RC → non-finite RC with a predicate - subject order; Pst → past tense, past tense marker; Qur → Koranic citations; RC → relative clause; Ref → referent or resumptive pronoun (*‘ā’idh*); Rel → relative pronoun; S → subject; Sg → singular; SP-RC → non-finite RC with a subject-predicate order; S-RC → RC with internal subject; SR → subject relativization; SR-RC → subject-relativizing RC; TA → tense-aspect morphology (inflection); *tanwīn* → graphic symbol for the Standard Arabic indefinite article with an integrated case (NOM, GEN, ACC) in triptotic declension.

(Less current symbols are explained as occurring with the subject treated)

Symbols in Keenan and Comrie's Accessibility Hierarchy:

SU → subject; DO → direct object; IO → indirect object; OBL → oblique, i.e. an oblique case nominal expressing argument of the matrix predicate, as *the chest* in *John put the money in the chest*; GEN → genitive or possessor; OCOMP → object of comparison (Comrie, Bernard (in co-authorship with E.L. Keenan): *Noun Phrase Accessibility and Universal Grammar*. pp. 6-7).

Lexicographical and textual sources:

Ali, Ahmed (translator), 1988: *Al-Qur'ān. A Contemporary Translation* (definitive revised edition). Princeton, New Jersey, Princeton University Press.

°Azmī, Sulaymān, 1961: *°Alā hāmīš al-tibb*. Cairo → °AHT.

Ba°albakī, al-, Munīr, 1998 (38th ed.): *Al-Mawrid. A Modern English-Arabic Dictionary*. Beirut, Dār al-°ilm lil-malāyīn.

Bannūna, Muḥammad Aḥmad et al., 1960: *al-°Guz° al-takmīlī li-manhağ °ilm al-ḥayāh*. Cairo, Ministry of Education → T°IH.

Baranov, Kh. K., 1976: *Arabsko-russkij slovar* (Arabic-Russian Dictionary), 5th edition. Moscow, Izd. Russkij jazyk.

Fahmy, Hassan El-Sayed, 1957: *Pocket Military Dictionary*. Cairo → PMD.

Fayyād, Muḥammad Muḥammad, n.d.: *al-Mağnaḥīsiya wal-kahrabā°*. Cairo, Ministry of Education → MK.

Karmī, al-, Ḥasan Sa°id, 1988: *Al-Muğnī al-°akbar. English-Arabic*. Beirut, Librairie du Liban.

Mağmū°at al-muṣṭalaḥāt al-°ilmīya wal-fannīya llatī °aqarrabā l-mağma° (Academy of Arabic language: Scientific and technical terms approved by the Academy, Cairo i, ii, iii, iv, v (1957, 1960, 1962, 1962, 1963 resp.) → Ac.

Saisse, L. et I. Chéhata, 1955: *Dictionnaire français-arabe (à l'usage des pays de langue arabe)*. London-New York-Toronto → DFA.

Wehr, H., 1979/1994: *The Hans Wehr Dictionary of Modern Written Arabic*, Edited by J.M. Cowan. 4th Edition. Wiesbaden, Harrassowitz 1979 /Ithaca, New York 1994 (→ W/C).

Source symbols in alphabetic order:

Ac. → *Mağmū°at al-muṣṭalaḥāt . . .*;

°AHT → °Azmī, Sulaymān;

BADAWI et al. → Badawi Elsaid, M.G. Carter and A. Gully, 2004:

DFA → Saisse, L. et I. Chéhata;

KUNO, 1973 → *ibid.*;

KUNO, 1976 → *ibid.*;

MK → Fayyād, M. M. et al.;

PMD → Fahmy, Hassan El-Sayed;

Qur. → *al-Qur'ān, Koran*.

Syntax 2001 → El-Ayoubi Hashem et al. 2001;

T°IH → Bannūna, M. A. et al.;

W/C → Wehr, H., 4th ed., 1979/1994.