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Rahaf Farag**Conversation-analytic transcription
of Arabic-German talk-in-interaction****Working Papers in Corpus Linguistics
and Digital Technologies:
Analyses and Methodology****Vol. 2.**

Rahaf Farag

**Conversation-analytic transcription
of Arabic-German talk-in-interaction**

**Working Papers in Corpus Linguistics and Digital Technologies:
Analyses and Methodology
Vol. 2.**

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1. Introduction¹

Computer-aided transcription of natural, interpreted-mediated data has been innate to conversation analysis² and interaction-oriented interpreting research for years (e.g. Amato/Spinolo/Rodríguez 2018; Angermeyer/Meyer/Schmidt 2012; Baraldi/Gavioli 2012; Bolden 2000; Braun 2013, 2017; Braun/Davitti 2017a, b; Bührig/Meyer 2014). Due to the growing (linguistic) diversity in our changing societies and the increasing need to communicate and understand one another despite the language barriers, more and more transcripts document multilingual encounters in various institutional settings, especially as a consequence of the brain gain phenomenon, economic migration as well as the massive refugee movements worldwide. Yet, the nature or rather the constitution of the collected data (elicitation and transcription process) are barely sketched and have poor methodological foundations. This is also true for multilingual transcripts featuring different writing systems³.

This paper addresses the methodical peculiarities and challenges of empirical work on Arabic-German data for interaction-based analyses of natural talk and further linguistic motivated purposes. The central question posed is: how can transcription methods meet the needs of CA endeavours? Computer-aided transcription aims, amongst other things, at a sustainable handling of the curated data (archiving, maintenance, long-term availability, subsequent usability, etc.) for other teaching and research purposes, thus facilitating its incorporation as a multimodal linguistic resource into a digital research infrastructure (e.g. CLARIN).⁴

I will start by briefly outlining the research framework and the data collection as well as the requirements for its mining and the associated challenges. Then I will move on to the prevailing practices of treating Arabic data (from different interactional contexts and language constellations) and discuss whether they are applicable to the study or not, consequently revealing the urgent need for a CA transcription system⁵ for Spoken Arabic. Finally I will introduce a draft for a self-developed system for multilingual work.

¹ This paper is based on a German working paper that will be published soon in *Gesprächsforschung: Online Zeitschrift zur verbalen Interaktion*, an interdisciplinary journal on social interaction.

² The term *conversation analysis* (CA) is used as a collective term for the various fields of research that study spoken language. In this paper the methodical aspects of working with empirical data material are paramount, not the particular theoretical frameworks. Therefore, I will refer to *talk-in-interaction* instead of *conversation*, *dialogue* or *discourse* being the object of investigation in its vast range of forms (cf. Hutchby/Wooffitt 1998). Crucial characteristics of the respective constellations are solely the co-presence of the interlocutors and the simultaneous production and reception of fleeting communicative events.

³ On the difficulties when dealing with non-Latin writing systems and different script directionalities see e.g. Egbert/Yufu/Hirataka (2016). This paper is not concerned with the scarce availability of Arabic data or any kind of linguistic discrimination, but rather the challenges these data pose for multilingual research projects. Hence, solving these practical transcription problems is the focus of the discussion below.

⁴ On the sustainability of linguistic resources see e.g. Dipper et al. (2006). Schmidt et al. (2006) speak of “avoiding data graveyards”.

⁵ I distinguish between *transcription systems* – the character sets that help to reproduce spoken language (e.g. standard orthography, literary transcription, phonetic transcription) – and *transcription conventions* – the rules, or rather conventionalised practices, which aim to visualise the dynamic encounter, discursive features (including the captured spoken language in a character-based record), and the annotated aspects (some are presented e.g. in Durand 2014, Edwards/Lampert 1993, and O’Connel/Kowal 2009).

2. Research framework

The research project “Turn-Taking and Ensuring Understanding in Arabic-German Telephone Interpreting” aims to discover the linguistic-communicative strategies the participants in remote interpreting situations (preferably) employ to compensate for the reduced or absent co-presence of primary interlocutors and interpreters. Information and communication technologies such as the telephone provide access to interpreting services irrespective of the interlocutors’ physical locations (remote interpreting). Given the frequent lack of alternatives, telephone interpreting has become an increasingly common practice in care and counselling settings to facilitate communication with refugees and migrants. The presence of a third party in interpreted encounters usually presents extra communicative challenges. This begs the question of how the participants organise turn-taking and tackle understanding issues or communication breakdowns. The conventional coordinating activities of communicative interaction are unlikely to be sufficient when facing language barriers and knowledge asymmetries between the interlocutors (Baraldi/Gavioli 2012). That is why multiple inexhaustible verbal, nonverbal, and paraverbal expressions are often used in face-to-face encounters, for instance interjections, back-channels, and/or gestural and mimic cues. To date, it has remained unclear how the participants in telephonic interpretation conversations carry out coordinative processes, when they have no access to visual resources and the degree of acoustic perception is limited or fractured (for technical reasons). This is especially true, in respect of discursive-formal issues, such as turn-taking regularities and management (e.g. overlapping talk and interruptions), as well as content-related activities performed by the interpreter to prevent or repair potential or manifest understanding problems, like repetitions, explanations or reformulations (e.g. Bührig/ten Thije 2006; Jefferson 2017) and further addressee-oriented strategies, which serve the communication purpose and arise from the interpreter’s special participation status⁶ as an *involved actor* (Wadensjö 1992, 1998) despite his partial access to the incidents at the other end of the line. I will not analyse *understanding* as a psychological, cognitive process, but as an interactional, collaborative accomplishment of the participants. Accordingly, the notion of understanding is conceived as a negotiation process, in which speaker and hearer continually imply meaningful actions to each other until they explicitly verbalise and comment on cognitive processing issues (e.g. Deppermann/Spranz-Fogasy 2011; Deppermann 2015; Mondada 2011).

The study assesses Arabic-German interpreter-mediated counselling sessions on general asylum-related topics. The interpreters, who were located at a different site, were called in from afar. They were only able to interact audibly with the clients and counsellors, who, on the contrary, were co-located and physically co-present (telephone-based remote interpreting).⁷ Unlike conventional face-to-face dialogue interpreting, these extraordinary circumstances – apart from the dissociated spatial set-up – harbour latent sources that might trigger and aggravate understanding problems. These include (1) any kind of network disruptions and (2) further (unpredicted) impairments of a technical or situational nature that cannot just be (quickly or easily) remedied as well as (3) the (almost always) different regional varieties

⁶ On the term *participation status* see Erving Goffman’s sociological contributions to understanding roles-in-interaction (1961, 1981), which interaction-oriented interpreting researchers integrated into their work in order to understand the dynamics of interpreted encounters in institutional contexts (e.g. Apfelbaum 2004; Meyer 2012; Roy 2000; Wadensjö 1992, 2015).

⁷ For more information on the design of the study and the recording arrangements see Farag (2020). To begin with, the clients were in serious need of advice. They did not have (sufficient) command of everyday German. This is why they were every bit as reliant on the interpretation as the counsellors.

spoken by the clients and interpreters, which – given the missing supportive visuals (e.g. face and lip movements) – arguably seem intensified on the phone, especially when they lack enough communicative reach. Curating the data into transcripts allows accurate detection of these trigger points and a more detailed investigation of the occurring multimodal practices⁸.

In what follows, I will elaborate the methodological and methodical demands on the transcription process and discuss whether they can be met or not in the form of a visualisation.

3. Computer-aided transcription of Arabic-German talk-in-interaction: methodical considerations

3.1 The concept of transcription

The nascent corpus holds audio-visual recordings of semi-controlled settings⁹, namely authentic counselling sessions supported by telephone-based remote interpreters. The recordings are being curated and assessed qualitatively in an interplay between the working transcripts, the data analysis and interpretation as well as the concomitant need to further modify apparently insightful excerpts and to enrich them with additional information of potential relevance (annotation¹⁰). With regard to the project-specific conditions and objectives, a CA approach to constituting the data, especially their transcription¹¹, is necessary for the scope at hand and beyond (inductive case-by-case or questionguided study) due to the reasons stated below:

- (a) to permanently and digitally secure and archive fleeting, short-lived interactional events that would otherwise not be accessible, hence impeding the analysis of the (primary) data preserved exclusively in its auditory or visual nature;
- (b) to interlink the primary data (recordings), the transcription and analysis process, similar to working with a microscope, zooming in on single events (e.g. by relistening to a segment indefinitely), zooming out of them (once) again and embedding them in their cotext as well as the entire course of action and context of their elicitation, consequently enabling a thorough examination of turn-related activities;
- (c) to slow and intensify the interaction process and to reconstruct its form and content in a clear, arranged way;
- (d) to allow any changes or modifications to the decisions that have been or will be adopted during or after the project by means of digital solutions;
- (e) to systematically mine (relevant) phenomena of spoken language.

Beside the general objectives, two basic characteristics of spoken language communication¹² are vital when determining the conventions for the transcription, its design principles and the format of presenting the phenomena under investigation *coordination* and *ensuring understanding*: (1) its

⁸ See also Deppermann (2013) and Flewitt et al. (2009).

⁹ The recordings include all participants and locations of interaction, both counselling and interpreting room (see Farag 2020).

¹⁰ The processes of annotating interactional events is not the subject of this paper.

¹¹ On the benefits of using multilingual transcripts to analyse interpreted discourses see e.g. Angermeyer/Meyer/Schmidt (2012), House/Meyer/Schmidt (2012), and Meyer (1998, 2000).

¹² This paper rests upon the concept of spoken language rather than that of orality. I use the term *spoken* instead of *oral* as long as the medium of communication or its form of realisation shall not be in focus.

interactivity, i.e. its perception as a product of a multi-party collaboration and joint efforts brought forth by the participants, sometimes in terms of negotiating the situational contents/goals/purposes using conventional discursive (culturally or institutionally embedded) practices and dynamically adapting the knowledge bases as well as (2) its temporal-sequential structure (Fiehler 2011). Largely following the conventions of the semi-interpretative working transcriptions (Ger. *Halbinterpretative Arbeitstranskription*; Ehlich 1993, Rehbein et al. 2004, Schmidt 2011) – or for short HIAT – EXMARaLDA *Partitur-Editor* (Schmidt 2009; Schmidt/Wörner 2014) is used as a software tool to reconstruct the multidimensionality of the interaction process, evolving cooperatively and successively. The procedure is interpretative, expandable, and refinable, inasmuch as it hinges on the epistemological interest of the transcriber, his analytical purposes and conception of talk, which undergoes manifold reducing actions when it (or rather the selected phenomena designated for further interpretation) gets transferred to another medium of another time, place, and situation. In a two-dimensional progressive score interface (Ger. *Partitur*), linearly unfolding events are displayed horizontally along a right-to-left timeline, and simultaneous activities, whether they are verbal, nonverbal or para-verbal, (collateral) acoustic and/or visual occurrences (e.g. line faults, disruptive background noises), and several annotation types vertically in tiers (Schmidt 2012). What is crucial for the present study is the ability to synchronise entries in the tiers or segments with each, just as in a musical score notation. The initial analyses indicated that difficulties in taking and allocating turns, for instance the imperceptibility of (a) pauses for breath and thought, (b) verbal phenomena to claim the turn, (c) kinetic turn-related activities (e.g. gestural cues), and (d) mimic reactions, trace back to, inter alia, the physical absence of the interpreter and the lack of tactile and kinetic resources during the telephone call, as well as the limited audibility of the interpreter, especially when technical issues cause overlaps (Farag 2020).¹³ A mere vertically, sequentially organised format, i.e. a line-by-line display like in a theatre script, would not have made it possible to create an enriched analysis basis – as needed – and thereby achieve these results. Another reason for adopting the HIAT conventions is the fact that they embrace the peculiarities of talk-in-interaction, but treat the linguistic variation on the phonetic-phonological level mostly indifferently. Unusual pronunciation and articulatory features should only be represented if they seem valuable for the analysis, and its dissemination, or might acquire a certain relevance. Steering a middle course by using the literary transcription has proven to be vitally important due to the diverse non-standard Arabic varieties spoken by the participants. An extensive reconstruction would make it harder to formulate queries to the corpus, and eventually hinder computer-aided evaluation.

3.2 Prevailing challenges

Transcribing Arabic-German data is accompanied by serious challenges, principally owing to the peculiarities of Arabic scripting (character set, right-to-left writing system, spoken language vs. written language, language varieties), which substantially affect pursuing the research questions. These challenges are partly of a theoretical-methodical nature (like the forms of transcript layout, the way the readers are led to the curated data, the analytical path and the trains of thought as well as the process of translating¹⁴ non-German utterances and making them accessible for the non-Arabic readers), partly of a practical, text-technological and transcription-technical nature. They influence each other

¹³ The video recordings were associated with the transcripts to back them up. Following the selection principle, kinetic and para-verbal features were incorporated, but only partially.

¹⁴ On the problem of transcript translation see e.g. Belczyk-Kohl (2016) and Nikander (2008).

and intertwine. This section approaches the problems of computer-aided transcription of Arabic-German interactional data, precisely the display format and transcription system.

3.2.1 Temporality, spatiality, and directionality

One major obstacle when curating Arabic (monolingual or multilingual) data is the rightward arrangement of Arabic script. The available software tools, including *EXMARaLDA*, were developed for left-to-right writing systems. Hence, the ongoing timeline and course of action do not support any other typing direction except for the horizontal, right-to-left one within the score's interface. Should you write each Arabic segment from right to left, irrespective of the opposed temporal progression, you would reproduce a disguised course of action and make it very difficult to read, particularly after it gets compressed into an A4 page format and has to be adapted to its page breaks. Turn activities and transition relevance places (TRPs) would be misaligned from the perspective of a reader who understands Arabic. So the software would, by way of example, record a pause, a closing of an utterance or an interruption, as the beginning of an utterance or a segment, not its end:

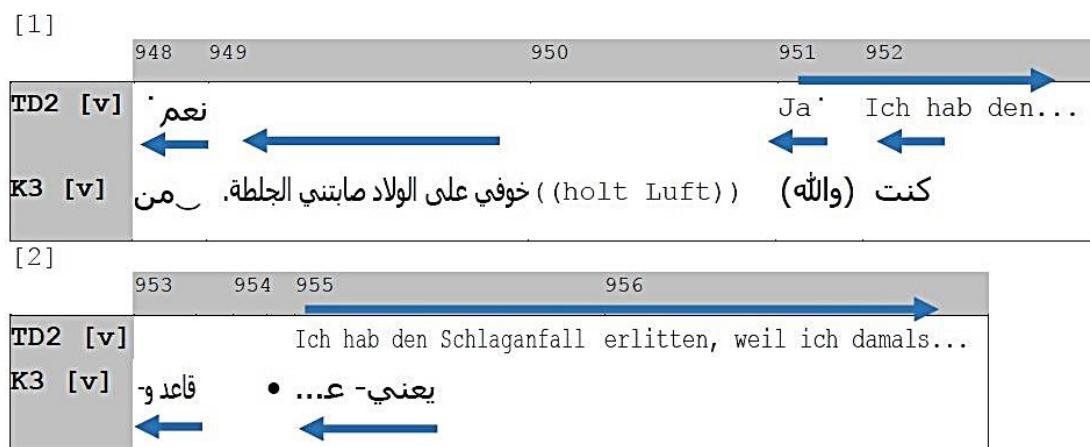


Fig. 1: Bidirectional transcript – example (1)¹⁵

As can be seen from this excerpt, the tool allows horizontal leftward writing within a segment and an output of bidirectional transcripts. However, the representation of the simultaneous utterances of the interpreter and the client¹⁶ in the segments (s948–s955) are adversely affected by the bidirectionality of the interface and the tridirectionality of the reading direction (left-right, top-bottom, right-left). They do not let reciprocal activities be visualised in a temporally aligned manner. Thus, segment (s949) already begins with a period, which marks the end of an utterance. Faltering reading resulting from the spatial disarrangement become apparent in the segments (s951–s955): the interpreter starts to speak after the client pauses for breath. He initiates a turn transfer by using the particle “Ja” (Engl. “Yes”) after he has claimed the turn in segment (s948) with the same particle in Arabic نعم (na‘am; Engl. “Yes”), but was not heard by the interlocutors in the counselling room who (unintentionally) drowned

¹⁵ Abbreviations: K = client, TD = telephone interpreter. The translation tiers were deliberately left out in order to draw the attention exclusively to the different directionalities. The blue arrows serve illustrative purposes only.

¹⁶ The example is taken from a counselling session for a Syrian refugee who has been granted subsidiary protection. At that time, he used to attend an A2 German course and sought linguistic assistance to take advice on how to reunify with his family. In this excerpt, he verbalises the causes of his flight and his health restrictions with the help of a sworn German-Syrian interpreter with whom he communicates through a loudspeaker. The interpreter has an equivalent academic degree and years of professional experience, not in remote settings though. This is his first assignment in the project.

him out. Overlaps occurred when he claimed his right to speak while the client was trying to keep his turn and finish his utterance unit. A bidirectional display, as shown above, is not eligible as a working basis because it takes the interactive, temporal phenomena quite lightly. Another challenge is splitting a segment in the middle of an utterance in case an interlocutor interrupts the speaker or even cuts his words off, regardless of whether there is a turn claim at hand or not:

[1]	112	113	114	115	116	117 118
B [v]	Ist das dein V/ Vorname?					
TD [v]					← ←	مك الشخصي، ولا؟ هدا آس Salem.
K [v]	S...	Vorname.		S a		l e
K [k]				spelling		
[2]	119	120	121			
TD [v]	Der ist der Vorname.					
K [v]	• • •	m.				
K [k]						

Fig. 2: Bidirectional transcript – example (2)¹⁷

In this session¹⁸, the client occasionally makes use of his English skills and little command of German to communicate with the counsellor, temporarily marginalising the interpreter in consequence. A problem arises in the segments (s115–s116): the client switches to German in order to identify himself. He responds directly to the simple questions asked by the counsellor, self-selects himself to speak, and does not pass the turn on to the interpreter, possibly to avoid being interpreted inadequately. He starts to speak in the middle of the word “**لِمَكْ**” (Engl. “your name”), directly after the first syllable “**اس**”. Splitting the segment in the middle of the word tears the utterance apart. As long as the one-dimensional timeline and the different writing systems are in issue, adding other descriptive, and annotated elements on the vertical, multi-levelled axis is not an option, even in a leftward interface.

3.2.2 Spoken and written language in Arabic

As exemplified in section 3.2.1, transcription and annotation techniques cannot simply be adopted to visualise and conserve spontaneous talk-in-interaction when different writing directions become involved. The reason for this lies in the multi-layered transfer moves between the reception and analysis dimensions, which are decoupled from the circumstances of the recording (temporal arrangement vs. planar arrangement; ubiquity vs. fixation, audiovisuality of the recordings as primary data vs. visuality of the working transcripts as secondary data). Less conspicuous than the way of displaying the linear

¹⁷ Abbreviations: B = counsellor, K = client, TD = telephone interpreter. The translation tiers were deliberately left out in order to draw attention exclusively to the different directionalities. The blue arrows are for illustrative purposes only.

¹⁸ The example is taken from a counselling session for a Syrian client, a recognised refugee, who sought help to reunify with his family and find work. He is fluent in English, but had an A1 level command of German back then. Here and there, he answers the short and simple questions of the counsellor himself, especially when she asks for his personal data. The name shown in the figure is just a pseudonym. The interpreter, a native Syrian of Kurdish origin, is a sworn translator and interpreter for Arabic and Kurdish. He has more than four years of professional experience, but not as a telephone interpreter.

temporal structure and the disguised courses of action, would seem – for the non-Arabic readers – the transcription of the Arabic utterances, precisely how they have been transferred into a typeface that is guided by the standard orthography, and takes account of various phonetic aspects, as well. Similar to German and English¹⁹, the graphic characters create a rudimentary image of the linguistic reality.²⁰ However, the heterogeneous linguistic landscape creates greater challenges to denaturalised transcription processes (Bucholtz 2000), owing to the considerable discrepancy between the spoken language and the written language.

From a sociolinguistic point of view, the linguistic and cultural situation in the Arabic-speaking countries have been controversially discussed, but not in a sufficiently nuanced manner.²¹ The controversial concept of diglossia is considered to be a well-established interpretative approach. It was initially developed to describe the language situation in Greece. Later on, orientalists and Western linguists applied it to the Arab region (Marçais 1930), made comparisons with other language areas, such as the German-Swiss and Haitian ones (Ferguson 1959), and expanded it to the concept of pluriglossia (Dichy 1994) with the aim of taking the diverse varieties into account.²² The attribute *diglossic* denotes, when used to characterise Arabic-speaking communities, an established and stable coexistence of two varieties with a historical origin that manifest themselves differently, namely an “H” or “high variety” and an “L” or “low” variety, i.e. (Modern) High Arabic²³ and the less standardised vernaculars or colloquial languages²⁴, with predestined (or rather assumed) forms of language acquisition as well as assigned roles and functionally distributed domains of use, which allegedly exclude each other.²⁵

Due to the complexity of linguistic action and the numerous levels of variation, which are not neatly separable and go beyond putting the spoken language and the written language in juxtaposition, for instance the synchronic, geographical and the diachronic, social-vertical dimension, I subscribe to the

¹⁹ A comparative analysis of various conventions regarding the scale of their standardisation practices (standard orthography vs. literary transcription) is available in O’Connell/Kowal (1999).

²⁰ An overview of the different Arabic varieties can be found e.g. in Behnstedt/Woidich (2013), Fischer/Jastrow (1980), Owens (2013), and Versteegh (2006, 2014).

²¹ Behnstedt/Woidich (2013: 321–323) and Woidich (1990: 100) advocate a nuanced exploration of the large regional varieties to do justice to the different linguistic-historical circumstances (e.g. language contact phenomena with indigenous, minority or colonial languages), and the degree of their language political opening.

²² A profound examination of Ferguson’s concept of diglossia and the postfergusonian considerations (e.g. Falkner 1998; Fishman 1967; Hawkins 1983; Hudson 2002; Tollefson 1983) would go beyond the scope of this paper.

²³ The evolution of the Arabic language, the genesis of its different stages, and a classification into, *inter alia*, Old, Classical, Middle or Neo-Arabic, cannot be brought up for discussion here. Holes (1995) and Versteegh (2006) introduce linguistic-historical assumptions.

²⁴ The denotations *vernaculars* and *colloquial languages* highlight the claimed (relatively) stable hierarchisation in speech communities as well as the inherent stigmatisation of the L varieties as “illiterate” entities (Ferguson 1959; Diem 1974), which shall remain reserved for ordinary conversations and for rather private, less formal occasions, thus condemned to remain unwritten (cf. Jastrow 2008).

²⁵ For sociolinguistic and linguistic-ideological aspects related to this concept, such as the varieties’ social status and prestige, which are already implicated in their ascribed denotations (*al-fuṣḥa*, *al-faṣīḥa*, “eloquent”; *al-‘āmmiyah*, *ad-dārīgā*, “ordinary”, “common”), as well as the underlying linguistic construction or a shared (pan-Arab) identity see e.g. Bassiouney (2009, 2018), Diem (1979), and Suleiman (2003).

concept of a linguistic continuum (e.g. Badawi 1973; Badawi/Hinds 1986; Kaye 1994; Versteegh 2014; Woidich 1990). It allows an investigation of interaction dynamics, (one-sided or mutual) accommodation and adaptation processes as well as other forms of code mixing performed to ensure understanding and build rapport with one another. A distinction between the standard, largely normalised variety²⁶ (Modern High Arabic) with its nationwide communicative reach and the non-standard regional varieties, whose orthography is hardly codified, shall be enough for this research endeavor. Of particular interest is the use of regional varieties in the recorded interactive encounters as they might trigger difficulties in understanding. This is especially true with regard to the quite different linguistic and cultural affiliations of the involved clients and interpreters, in addition to the divided communicative radius and the remote channel (telephone system or the like) as a medium of communication and interpretation. Therefore, the study demands a transcription method that helps to reconstruct the broader regional realizations of spoken language, its potential and limits claimed by the participants to understand one another, as insightfully, systematically, and practically as possible. Moreover, one should be able to identify elements that were taken from the standard language as well, including sophisticated wording and phenomena that would more likely belong to the written language. These requirements cannot be met entirely by means of the inventory of Arabic standard orthography (concerning the lexical-morphological level). Such a research framework cannot be reconciled with the idea of hierachal linguistic entities, claimed to be homogenous, and the judgmental, puristic high-low constructs. Accordingly, the term (*Modern*) *Standard Arabic*²⁷ (SA) will henceforth replace the term *High Arabic* and the H labelling, bearing in mind that the denotation *Standard* carries certain implications in general: a static state of evolution, a universally available set of rules, judging any deviations as non-conforming, among others (Bassiouny 2009: 9–27). This CA motivated paper cannot and shall not propose a conceptual solution for this terminological disarray. What is decisive for our research are merely the following factors: (1) orthographic standardisation of a variety and (2) areal distribution²⁸, far-reaching accessibility and depicting its main features. This is why the term *regional variety* is preferred when describing a large-scale regional prominence, over the term *dialect* and the immanent idea of being used just locally, within a small-scale regional reach. Apart from the usual variations that might come along with the situational and constellation-related demands on the participants for example, but not necessarily in a systematic form (including inconsistencies caused by fatigue, emotionality or the like), one can suppose here – considering the quite short period of data collection – that the language system would remain relatively stable and that certain linguistic phenomena would reoccur, proving to be relevant for the analysis and, thereby, worth transcribing. Hence, the terms *variation* and *variant* have been reduced, in favour of the term *variety*, to designate alternants only, such as the different phonetic realizations (e.g. allophones), the latent triggers for communication breaks.²⁹

²⁶ The singular form is deliberately used for simplicity's sake even though the standard variety is by no means completely uniform.

²⁷ Standard Arabic (SA) is, from a linguistic historical point of view, a simplified, less codified form of Classical High Arabic, or, according to the German arabists Fischer/Jastrow (1979: VII), a high variety in paua (“ein Hocharabisch ‘in Pausalformen’”), i.e. without inflectional endings. It is, by contrast, not reserved for merely writing, and gets more influenced by the varieties of everyday life. The term *Standard* will not be used here when referring to regional varieties that have been partly standardised, in socio-linguistic terms, and are usually based on an esteemed local dialect of a relatively comprehensible nature far beyond the regional borders, the dialect of the capital (such as Cairene Standard Arabic, see Bassiouny 2018).

²⁸ See e.g. Palva (2006) and Versteegh (2014).

²⁹ A terminological discussion of the single theoretical assumptions would go beyond the scope of this paper.

A further text-technological challenge lies in representing interjections, hesitation markers and non-lexical backchannels that fall outside the scope of socio-linguistic investigations anyway. To date, they have not received any notable attention in Western conversation analysis (Egbert/Yufu/Hirataka 2016), being less interaction-related and characterised by Latin-based writing. Consequently, there is no system to render them yet.

In view of the elaborated limitations of software-based transcription tools with regard to combining different script directions as well as the characters' inventory of the Arabic consonantary alphabet, the question now arises of how other investigations have been treating the Arabic data so far. Thus, the next section provides an introductory digression into current transcription methods and critical remarks on practices in different disciplines.

4. Excursus: A multi-disciplinary reflection on existing transcription methods of Arabic data

The quest for established methods to transcribe Arabic data revealed that there is a lack of conceptual differentiation between (1) the reconstruction of spoken language by means of writing, i.e. its transfer from an oral to a written medium (transcription), and the transformation of one typography into another typography unambiguously and reversibly regardless of the language pair, i.e. the intramedial movement between different writing systems (transliteration³⁰), as well as (2) the representation of linguistic units in Latin characters (romanisation) and the replacement of a non-Latin writing system or a non-literate language by a Latin writing system on an official, national level (latinisation).³¹ Beside the respective medial and conceptual moves (orality-scribability, scribability-scribability, spoken language-written language), phonetic elements that have a restricted presence in Arabic script are worth peculiar consideration when handling the data. Short vowels and geminations are prominent examples. They occur at most only as diacritical marks in vocalised (vowelised) texts. As a consequence, there is usually a rather transparent relationship between graphemes and phonemes in the romanised versions. The goal here is to infer meaning that would otherwise remain unclear if it were to be reproduced in another writing system graphemically one-to-one. The designation *transliteration*, as is rightly stated in DIN 31635 of the German Institute for Standardization on the romanisation of the Arabic alphabet (Deutsches Institut für Normung 2011: 4), is far from applicable, for the product always presents a text that can be easily read and recited. The matter in hand is therefore a phonetic- or phonological-orthographic transcription from an articulation of one language (source) into the orthography of another language (target). In an endeavor to achieve neat conceptual distinctions, the term *romanisation* is used here as a generic term for the various methods of working with or on another writing system for rendering purposes. Particular attention will be paid to medial (not only interaction-oriented) transcription, in terms of capturing (spontaneous) spoken language in a tangible form. The transcription systems will be classified according to the data types they target foremost (text vs. talk-in-interaction). First of all, I will comment on the suitability of some selected systems that are concerned with the written language, given the fact that the use of written language has been the main focus of research

³⁰ Wellisch's (1978) designation "conversion of scripts" clearly points out the action in question: written language processing.

³¹ For a general, not language-specific clarification of the different terms see Wellisch (1995: ix–xvi).

interest, looking back over its history, and that *talk-in-interaction* as a data type has been poorly examined in comparison.

4.1 Data type text

The German- and English-based scientific and research world— except the dialectological and socio-linguistic fields— suffers from a scarcity of orthographic transcription systems for Arabic, romanisation systems to be exact, that are (first and foremost) designed to tap and understand *language-in-daily-life* or *-in-interaction*. Existing procedures principally belong to philological and historical or rather historical-geographical contributions. They have caught on in the fields of (a) library and information management, (b) lexicography, and (c) geography, cartography in particular, aside from the world of science. On account of abiding by a systematic approach to manage periodicals on Islamic and Oriental Studies and to record bibliographic information unambiguously so that they can be traced back to their source, one shall name the following systems: *ALA-LC*³², *BS 4280*³³, *DIN 31635*, *DMG*³⁴, *EI*³⁵, *ISO 233-I/II*³⁶, *JMES*³⁷, and others. The standards of the German Arabist Hans Wehr (1979, 1985) have proven successful for lexicographical purposes. They broadly follow the DMG-system, but have been extended for the sake of individual regionalisms and foreign words. As concerns the designation of geographical units in Arab countries, panels of experts at the national and international level have been developing and implementing various systems, like the United States Board on Geographic Names (BGN/PCGN)³⁸ and the United Nations Group of Experts on Geographical Names (UNGEGN)³⁹. However, no conventions have been shared yet by all Arab countries (Atoui 2012). This holds even truer for issues around media discourse (e.g. Pouliquen et al. 2005) and the spelling of names, especially in judicial contexts. They need to be unraveled and explored in depth, along with the question of how to achieve a uniform and targeted method, but not within this framework. The systems listed above serve as mere examples of complementary standards that are based on each other in part.

They should not be restricted to the fields and purposes described or earmarked elsewhere.⁴⁰ Nevertheless, when it comes down to disregarding talk-in-interaction and operating with the conventions of the standard orthography and pronunciation as a binding guideline, they are very much alike. These conventions demonstrate their limitations as soon as spoken language data, which are usually not SA-like and far from

³² See *The Library of Congress*: <http://www.loc.gov/catdir/cpso/arabic.html> (October 2019).

³³ See *British Standards Institution* (1968).

³⁴ These designated standards (Brockelmann et al. 1935) were devised in the 1930s by the transcription commission of the German Oriental Society (*Deutsche Morgenländische Gesellschaft*). They were presented in 1935 at the 19th International Congress of Orientalists.

³⁵ See *Encyclopaedia of Islam*. For a tabular comparison with the ALA-LC Romanisation standards check <http://guides.lib.uw.edu/c.php?g=341351&p=2970796> (October 2019).

³⁶ Kuntz (2005) offers a critical comparison with the standards of ALA-LC.

³⁷ See *International Journal of Middle East Studies*: <https://www.cambridge.org/core/journals/international-journal-of-middle-east-studies/information/author-resources/ijmes-translation-and-transliteration-guide> (December 2019).

³⁸ See “Romanization Systems and Roman-Script Spelling Conventions” (1994: 5–9). http://libraries.ucsd.edu/bib/fed/USBGN_romanization.pdf (October 2019).

³⁹ See https://www.eki.ee/wgrs/rom1_ar.htm (October 2019). For an overview of the guidelines submitted by the national panels check United Nations Group of Experts on Geographical Names (2007: 10–14).

⁴⁰ Selected romanisation systems are outlined and compared in, inter alia, Pederson (2008) and Wellisch (1978: 272–280).

standardised, need to be transcribed. They entail that the data significantly lose their spoken linguistic features after having harmonized their orthographic representation, making them less authentic and falsifying the data set as a result. Yet, they harbour a substantial potential for solving the directionality issues by means of the (necessary) rightward display. Section 5 focuses on the extent to which a Latin-based character set can be used for the benefit of developing a CA transcription system. But let us discuss different approaches to transcribing spoken Arabic first.

4.2 Data type *talk-in-interaction*

Developing a system to transcribe Arabic interactional data has been an ongoing task/desideratum of various study fields.⁴¹ The source situation on corpora of spoken language in interactions, either monolingual or multilingual, is tenuous. It reflects an inferior tradition of CA research in the Arab world and Arabic studies. Section 4.2.2 illustrates some practices that have been identified so far. Other corpora on spoken language⁴² will be examined below for the sake of completeness. The aim here is to explore existing transcript formats and different ways of dealing with the slightly standardised varieties of Arabic.

4.2.1 Computational linguistic approaches to Spoken Arabic transcription

Computational linguistics has notably contributed to the elicitation and curation of Spoken Arabic. Their data collections predominate in studies on language technologies⁴³, followed by variation linguistics⁴⁴ and phonology⁴⁵. Talk-in-interaction is most often summoned as a source for (subsequently) developing, testing and maintaining NLP tools, speech-to-text applications and systems for recognition and dialect identification⁴⁶ as well as the necessary language resources (repositories, corpora and treebanks, dictionaries, etc.). These resources are also requested to help in optimising machine translation programmes and other technologies for information processing.⁴⁷ Further endeavours are dedicated to creating unifying, non-region-specific transcription and annotation conventions that allow automatic detection of variety switching (standard variety-regional varieties; regional variety-regional variety) and yet manage to orthographically normalise the regional varieties, to adapt them to the standard, minimising the differences between the varieties to improve data mining and engine-related tasks (e.g. Dasigi/Diab 2011;

⁴¹ McEnery/Hardie/Younis (2019) offer an introduction to corpus linguistic studies on Arabic varieties and several data types while referring to research in recent years.

⁴² In this paper, I follow Schmidt (2018) and distinguish between corpora of spoken language in interactions (interaction corpora) and other corpora on the use of language in oral mediums (see e.g. Hedeland et al. 2014). The former are guided in their concept by the notion of language as an interactive action, the latter are based on data of talk without deeming its constitutive peculiarities to be of analytical significance.

⁴³ Shoufan/Al-Ameri (2015) give an overview of a few investigations into natural language processing of Arabic and its regional varieties.

⁴⁴ Including the *Vienna Corpus of Arabic Varieties* (VICAV), which is fairly guided by lexicographical principles, and the project *Linguistic dynamics in the Greater Tunis Area: a corpus-based approach* and its corpus *TuniCo*.

⁴⁵ See e.g. studies on child language acquisition, such as the *Arabic Kuwaiti Corpus* and the *Kern Corpus*. Both collections are provided by the CHILDES Project and its databank *Child Language Data Exchange System* as open-access resources.

⁴⁶ Current research on language technology has been largely coined by projects of the *Linguistic Data Consortium* supported and co-funded by various international research institutions, including military and governmental facilities (cf. Kumar et al. 2014). Well known examples are *CALLHOME Egyptian Arabic Speech* and *Fisher Levantine Arabic Conversational Telephone Speech*.

⁴⁷ See e.g. Farghaly/Shaalaa (2009), Harrat et al. (2015), Maamouri et al. (2004), Rozovskaya/Sproat/Benmamoun (2006), Vergyri et al. (2005), and Zbib et al. (2012).

Habash/Diab/Rambow 2012; Jarrar et al. 2016; Saadane/Habash 2015). Getting a comprehensive overview of the various transcription systems seems to be virtually impossible or rather overambitious and long-drawn-out because of the largely inaccessible corpora⁴⁸ and opaque procedures.

In light of these epistemological interests, it would not be unreasonable to be analysing speech events (of dialogic settings) without any (or just little) temporal and contextual phenomena (including non- and para-verbal ones), like coordinating activities and overlaps. So the display schemes are principally vertical, line-by-line, sometimes showing an exact time information about each and every event. They do not render the sequential structure of talk-in-interaction though, unlike the CA conventions, such as GAT/GAT 2 (Selting/Auer/Barth-Weingarten 2011). The format serves the sole purpose of reproducing the content of linguistic actions, linearly and with minimal interpretational need, just as shown below:

[73.9500]	B:	wayn maA riHtiy maTluwibip (tnfs)	(وين ما رحني مطلوبه (نفس)
[77.6250]	A:	(الشقة) عسولينته وسا لقيت شغل شو باعمل باخنثة (فتح)	(فتح) (فتح) (فتح) (فتح)
[81.3750]	B:	tiyyiy laEandiya AanaA baAa\$aglik biAliftah Aana	(فتح) لعندى انا باشتك بافتح انا وباكى شرفة (فتح) (فتح) (فتح) (فتح)
[84.2625]	A:	(فتح) طبب شو بيدي اقول للاشو بنفس العين شو قاعدة تعامل	(فتح) (فتح) Tay-ib \$uw bid-iy <i>l lik \$uw bitsaw-iy AlHiyn \$u
[87.4875]	B:	والك ولا ش قاعدة بهالية باقش إجازتي بالبيبة	waAll-ah wlaA \$iy Edip bihaAlbayt b>aD-iy <i>ijaAztiy biAlbayt
[90.2812]	A:	(فوا رايل نطلع برا نعش نعمل فاشية اهزيل خنزير (فتح) مطعم دروع غصي مكان (فتح)) (فتح)	\$uw raAyik niTlaE bar-aA niTea
[95.4750]	B:	(ابه) باطلوا ما عندي مانع احد بيطلعني (تنفس) (ابه) إذا بتدفع لي الفاتورة أوكي (فتح)	biAiTlaE maA Eandiya maAniE Hada
[96.5438]	A:	نجاح فرحان جداً ولازم اعمل بقى شفنة تغريد يعني (ap) حاوبينك (فتح) عامير جاتوه شو رأيك (فتح) (ابه) اانا بمعناية	ناجح فرحان جداً ولازم اعمل بقى شفنة تغريد يعني (ap) حاوبينك (فتح) عامير جاتوه شو رأيك (فتح) (ابه) اانا بمعناية
[100.5750]	B:	(تنفس) ألل مبروك (ابه) باروح (الشقة) (تنفس)	>alf mabruuk (%yh) bruW (At\$fp) (tnfs)
[100.2188]	A:	تروم عامير جاتوه عامير جاتوه	truwtiy EaAamiyr GaAtawh EaAamiyr GaAtawh

Fig. 3: Excerpt from the corpus Levantine Arabic Conversational Telephone Speech⁴⁹

The romanisation to the right of the Arabic characters, although not explicitly cited, seems to be aligned with the Buckwalter transliteration scheme (Habash/Soudi/Buckwalter 2007). The nature of these conventions is specified, quite rightly, with its designation. They were conceived to reconstruct the Arabic characters strictly one-to-one at first, creating machine-friendly content for automatic language processing. Then they got enhanced in order to append the rendition with information that are morphologically relevant and are not represented in the Arabic typeface. Still, there is no doubt that such an approach (display format included) is more suitable for language processing objectives.

4.2.2 Socio-linguistic approaches to Spoken Arabic transcription

Interaction-oriented work, such as the computational linguistic contributions, features systematic, qualitative approaches to data curation in certain respects, mostly explained very briefly, insufficiently or not in the least. Prevailing methods of elicitation and transcription do not make it easy for someone who would like to trace the results independently and the analysis process or to use the data for further investigations. Moreover, there seems to be no interaction corpora or other forms of data repositories with access (at least partly or just for sighting) to Arabic data from dialogic or multiparty settings. Studies on monolingual and interpreter-mediated situations⁵⁰ give preference to the Anglo-Saxon

⁴⁸ Zaghouani (2014) informs about accessible corpora.

⁴⁹ <https://catalog.ldc.upenn.edu/LDC2007T01> (October 2019).

⁵⁰ On code switching phenomena see e.g. Akeel (2016), Al-Rowais (2012), and Bentahila (1983). On turn taking and related activities see e.g. Elouakili (2017) and Hafez (1991). On repair mechanisms see, among others, Al-Harahsheh (2015). On telephone openings see Saadah (2009).

conventions of Gail Jefferson (Atkinson/Heritage 1984) as well as phonetic-phonological procedures (broadly according to the IPA), which are neither named nor justified.⁵¹

Arabic data have just a minor share in investigations on interpreter-mediated communication. Methodical decisions have not been reflected in depth, especially with a view to the sampled transcripts. A striking difference to the systems of socio-linguistics and Arabic dialectology is the absence of organised, consistent procedures for data treatment. The lines of actions are integrated in a sequential vertical format, partly guided by the Anglo-Saxon CA systems, like the Jeffersonian, thus showing temporal parallelisms, and partly lacking a well thought out methodology, showing solely their successive flow line-by-line. The Arabic utterances are represented by Latin characters in most of the cases and accompanied by a translation. Neither the translation strategies nor the romanisation system that strongly resembles digital chats, as occasionally stated, are elaborated. Such practices affect any attempt to reconstruct and analyse the interaction:

122	I	<i>khiffti inik tigi –</i> “You are afraid that –”
123	P	((Arabic untranscribable)) ((“Yes that they do control and they move the coil or something (.) so it is better if you give me a letter saying that I had a surgery so they control – they visit my womb”))
124	I	<i>ah uislitik iluarka ilkhadra addar?</i> “Ah did you receive the green form at home?”
125	P	<i>giatni giat liia umshit nhar uahid ushriin andhum</i> “I received it and I lost it so I went and fixed an appointment this month (.) I go there on the 21 st ”

Fig. 4: Excerpt of a transcript from an interpreter-mediated Arabic-Italian talk-in-interaction (Baraldi/Gavioli 2007: 169)⁵²

The sequence in this excerpt unfolds in a medical encounter between an Arabic-speaking patient and Italian-speaking doctor in the presence of an interpreter. Not enough information (meta data) is provided to understand the event in detail. The patients are North African and Middle Eastern, the interpreters Jordanian and Tunisian, as stated by Baraldi/Gavioli (2007: 159-160). However, it is not per se obvious where the participants in this setting come from and which regional varieties they belong to exactly. Let us just assume that they both speak North African varieties. Is it the same variety? That is not given away. Unintelligibilities and uncertainties when transcribing and translating were indicated appropriately. The data were transcribed (and translated) in a (non-scientific) romanised form with the help of the interpreters. The Arabic contributions are hardly legible. That is why, the translation lines are inevitable to infer the meaning and access the communication. The graphemes and diagraphs that

⁵¹ Among the few exceptions is Schomaker (2015) who uses the Arabic chat alphabet, known as Arabizi and Franco-Arabic, for practical reasons. Latin graphemes and numerals compensate for the missing phonemes in English in a lay friendly, diacritic-free form (see e.g. Allehaiby 2013; El Essawi 2011; Yaghan 2008).

⁵² The excerpt documents a dyadic sequence between a patient and an interpreter. Each utterance unit is followed by an English translation in quotation marks.

are used to render a phoneme (e.g. *kh* for *χ* or *h*) are ambiguous, for instance the grapheme *w*⁵³. It stands for both the short vowel Vokal-*(u)* and the consonant *و* (*w*). Other practices that impair legibility involve not (consistently) distinguishing between short and long vowels and not detaching a definite article from the subsequent morpheme, or graphically highlighting it (e.g. by a hyphen), thereby transcribing it as one word, exactly like in Arabic indeed, but confusing in a Latin format. One example is the construct *addir* (Engl. “home”, “house”) in line 124. It is missing an initial sound that makes a difference in meaning, namely the voiced fricative consonant *χ* (DMG: *ᶜ*; IPA: [Ω]), as well as a long vowel (*ā*) instead of the short one (*a*). Since the transcription is not unambiguous, the prefixed conjunction (*‘ad-dār*) is not marked in some way and the involved participants are not (sufficiently) introduced, other meanings may arise, such as *ādār* (Levantine: “march”) or *addir* (Egyptian: “estimate”). The translations turned out to be more problematic in a few cases – being inadequate, partly incomplete, partly overloaded with information that have no evident source in the respective utterance – and to be causing more confusion than clarity after the first read.

The following excerpt reveals similar practices:

- | | |
|--------|---|
| 57. I: | نَتَّا حِيدُوكْ تِيرُوبِيِّسْ، وِيلَا مَاكَالِينْشِي ما يَقْدَارُ شِيشِي بِخَلْقِ،
هُو كِيَخْلُقْ مِن التِّيرُوبِيِّسْ |
| | <i>They have taken out your thyroid, and if there is none it can't be born,
it is born of the thyroid</i> |
| 58 P: | مِن العَنْق دِيَالِي (?????) قُلُو هَادِي سَتْ شَهُور وَانَا هَادِيَا
Tell him I take this way six months (?????) of my neck |

Fig 5: Excerpt of a transcript from an interpreter-mediated Arabic-Spanish talk-in-interaction (Garcés 2005: 198)

The sample is extracted from a medical consultation supported by an ad hoc interpreter for a Moroccan-speaking patient and a Spanish-speaking doctor. Its curation is methodically more opaque than what was applied in Baraldi/Gavioli (2007). The paper did not disclose how the recordings were transcribed and translated. Despite the use of Arabic characters, going back and forth between the translation and the source (i.e. the reconstructed utterances) is inevitable for comprehension. This is at least true for readers who are not or only barely familiar with Moroccan Arabic (in its unconventionalised written form) nor the medical regionalisms. They need the translation as a reading aid nearly as much as when deciphering a romanised version. In addition, the translation in turn 58 reveals an altered order of the Arabic-scripted words, presumably because of the inserted string “(????)”, which indicates an unintelligible stretch.

Recent contributions to interaction-related analyses of dialogue interpreting (e.g. Baraldi 2012; Baraldi/Gavioli 2010, 2015, 2016; Farini 2012, 2013) show slightly improved rendering, yet it is still not bounded by rules, leading the Arabic samples to be inconsistent and fairly unsatisfactory as a working basis. In terms of sustainability, the data (in their extracted form) could not be reused, and the

⁵³ On the romanisation system adopted here go to section 5.

methods of dissemination (being non-transparent) would not be of much benefit. Having diagnosed legibility issues in both the romanised and the Arabic typeface we need to ask ourselves, as a matter of principle, (1) to whom are the transcripts addressed, (2) for which purposes are the Arabic utterances displayed, notwithstanding the quality of their transcription, and (3) what would change if they are to be omitted, regarding visualisation and ethics, form and content as well as the overriding research goals. Other questions that deserve to be fundamentally discussed are: How shall the data be analysed and evaluated, based on the utterances in their source language or their translation? Which linguistic, methodical and scientific skills are transcribers and analysts supposed to have and which skills could they acquire during the process.

A further reason why the detected practices are inadequate for our research interests is the way that the simultaneous activities, which are omnipresent in authentic talk-in-interactions, are reconstructed, either distorted (cf. Fig. 6), because of the leftward directionality of the Arabic script or not at all. Let us take a look at turn 71 for example. The square bracket at the end of the Arabic utterance “doesn’t” (لا) actually marks the beginning of an overlap to the imperative “think” (اعصبی) (اعصبی).

69 M 70 P 71 M 72 D	<p style="text-align: right;">لا قدر الله ما بتفكري فيها</p> <p><i>Don't think of that for God's sake</i></p> <p>((laughs))</p> <p style="text-align: right;">اعصبی انو لا</p> <p style="text-align: right;">[Think it doesn-</p> <p style="text-align: right;">[Ma dai che si</p> <p>gira!</p> <p style="text-align: right;">]Come on be will</p> <p>turn!</p>
----------------------------------	---

Fig. 6: Simultaneity in an interpreter-mediated Arabic-Italian talk-in-interaction
(Baraldi/Gavioli 2015: 65)⁵⁴

Other studies handle the recorded events (on a verbal level) as if they flowed one after another, linearly and smoothly. The framework is not necessarily conversation-analytic. Under investigation are usually content-related, not formal, technical aspects, *inter alia*, source versus interpretation, renditions versus non-renditions⁵⁵. Even so, it is safe to argue that the temporal structure is not any less relevant for this work. Sifting through the sampled transcripts, the interaction appears cleared of discursive phenomena (of potential interest), like pauses, silence, and hesitation markers, non-phonological activities (e.g. throat clearing) and at times of temporal and sequential relationships (latching, overlaps, etc.). There are no traces of non-verbal elements (audible and/or visible), which might be of potential communicative significance in interpreted encounters, like turning one's head to yield their turn. Reconstructing the data within a logocentric medium caused an extensive loss of their natural and interactive core properties (authenticity). It also entailed them adopting rather constricting written features, for example temporal order and monomodality.

⁵⁴ The blue arrows are for illustrative purposes only.

⁵⁵ See Wadensjö (1992, 1998).

In view of the above, drawing on the existing curation methods to carry out a CA, interactional research would be fruitless. It is not targeted at a micro-analytic exploration of telephone interpreting and its communicative dynamics. Developing a tailor-made transcription system is therefore requisite.

5. Customised systematics to Spoken Arabic transcription

After outlining the main challenges (section 3) and elaborating the inadequacies of the current practices for the purposes of the present project (section 4), the urgent need for a distinct CA system for transcribing Spoken Arabic becomes evident. This shall not only be compatible with the HIAT conventions, but also with other reconstructive approaches to interaction processes.

Hereafter, I will sketch out a computer-aided system that I am working on to transcribe Arabic-German talk data as authentically and pragmatically as possible, to be in line with the interaction. Then I will explain the underlying maxims and discuss an excerpted sample, respecting its analysability and the logic behind the design format.

5.1 The concept

The system combines phonological and orthographic approaches to transcribe Arabic data material in a romanised form. Technological reasons – the opposing and (largely) incompatible directionalities – have ruled out any chance of integrating the Arabic script in multilingual analytical transcripts. It is reiterated that parallelisms are omnipresent in authentic interactional events, especially telephone calls, even if we set aside all expressive modalities and resources but the verbal one. This is why, the decision fell on a script of a Latin nature (partly orthographic, partly phonological) for the sake of rendering the simultaneity and reciprocity of linguistic actions in a multimodal format. The uniform flow direction and the shared starting point make the exact temporal alignment of TRPs, having a discursive structuring function, as well as collateral interaction phenomena (e.g. overlaps and interruptions), and articulatory actions and deficits (latching, aborted words, repairs, stretching, etc.) technically feasible.

A mere orthographic transcription is impracticable as the German graphemes are simply not enough to represent the Arabic phoneme inventory. Adopting an (ideally) unambiguous romanisation system and incorporating the various spoken varieties using diacritical and phonological characters is therefore inevitable (see appendix). When the elemental lexical structure is indicated, thus facilitating a (close) reconstruction of the romanised version (in an Arabic typeface), this shall make the data and the unusual display more accessible for readers with different proficiency levels in the involved languages and varieties. Yet, opting for an Arabic script, to produce illustrative transcripts for instance, is not utterly inconceivable.

The system at hand builds on the well-established guidelines of the German Oriental Society, known as the DMG romanisation, from 1935 (Brockelmann et al.). This set of rules focus exclusively and persistently on written, standardised languages (e.g. SA). Spoken varieties or their use in interactive encounters were explicitly rejected from being an object of script (*ibid.*: 3). Judged on their authentic

and reconstructive merits, dialectological efforts⁵⁶, also following the DMG, were incorporated to capture spontaneous speech, hence compensating for the inadequacies of a “cleansed” representation. Accordingly, the system that has been tailored for the study abides by the standard orthography to a large extent, but it values diverse linguistic features of the data type *Spoken Arabic* as well. These features would otherwise be missing were the DMG principles to be transposed rigorously, like the shortening of long vowels in the final position, non-standard, deviant articulations of consonant phonemes as well as sound contractions, elisions, and other forms of phonemic omissions. Disregarding them would basically distort the data. Although an inclusive approach may not seem to correlate with understanding the events in general, it is quite relevant for several reasons: (a) to recognise the regional linguistic affiliations of the participants easily, (b) to define the communicative medium that they (consciously or unconsciously, once or again) chose or agreed upon, (c) to identify code switching, hybrids and other accommodated forms along the varieties’ continuum, among others. Besides, a conventional, orthographic, mainly grapheme-based system cannot cover activities that are beneficial in establishing personal proximity (the initial rapport), and in ensuring understanding, for example by paraphrasing, elaborating, or accommodating on a lexical level (using either a rather standard or a more regional linguistic form). On that score, a modification, and extension of the DMG system⁵⁷ is initiated in order to reach a phonologically oriented representation of deviations and non-standard phenomena as an attempt to develop literary conventions (Ger. *literarische Umschrift*). Similar to German, the actual articulation and phonetic variations (e.g. allophones) do not have to be preserved. Interaction-oriented investigations can and should actually put up with any inaccuracies resulting therefrom. The legitimate tolerance for orthographic levelling that is being postulated here mediates between a rigid reproduction of phonetic realisations (e.g. due to one’s commitment for scientific precision) and a readable, efficient (regarding time investment and workload), and yet purposeful format, thereby opening up the reconstructed data to the (scientific) community. The system strives to achieve a medium level of differentiation, however, not terms of a tenable compromise (cf. Biere 1994: 170). Phonological accuracy would be preferred consciously and moderately over machine-friendly morphological accuracy⁵⁸. Again, discursive phenomena ought to be rendered adequately, especially those that might have a communicative impact on the coordinating activities during interpreted sessions via the telephone. By way of example, let us look at the vernacular *masalan* and the standard-like *matalan* (Engl. “for example”). The highlighted graphemes indicate the phonetic change of the consonant ↘ (DMG: *t*)⁵⁹, which is usually articulated as a voiceless [s] in everyday speech. Moving towards a standard pronunciation deserves to be recorded as it may take on a fair interactional, and social significance.

⁵⁶ Aldoukhī/Procházka/Telič (2014, 2016), Bloch (1965), Bloch/Grotzfeld (1964), Kuhnt (1958), Grotzfeld (1965, 1980), and Sabuni (1980) were scrutinised, among others, for (urban) Syrian Arabic.

⁵⁷ I wish to thank Dr. Thomas Schmidt (Leibniz-Institute for the German Language in Mannheim) who has already stored the characters that were proposed to extend the DMG inventory in the transcription software *EXMARaLDA Partitur Editor* (Schmidt 2017). *DMG+* refers to the add-ons for the virtual keyboard.

⁵⁸ See also Schmidt (2005: 85–87).

⁵⁹ Pursuant to the DMG standards and derived romanisation systems, diagraphs (a pair of graphemes representing one phoneme, see section 4.2.2) are precluded even though they are widely used in everyday applications, and non-scientific communication that draw on the chat alphabets. They will at least be avoided in the analytical transcripts for the sake of clarity and unambiguity. The question of underlining the pair set along the lines of the Anglo-Saxon systems is up for discussion.

Given the fact that reconstructing the actual use of language in interactive settings has not been systematised in a convenient CA manner yet, it is necessary to specify what is being requested from the working transcript, and to formulate the difficulties that were experienced so far, and approaches to solving them. But first, I will subsume the respective concept of transcription under the recurring keyword *visualisation*, as proposed by Schmidt (2003, 2004), to emphasise the representative nature of the process, and its product, as well as their selective and functional character. Accordingly, a transcript shall be treated as a temporal and spatial depiction⁶⁰ of interaction phenomena that were singled out (for a reason), and the tailored system to transcribe, i.e. romanise, Arabic utterances simply as an analytical means of representation alongside other constitutive elements, like the multidimensional interface of the transcription tool. Viewed in this light, I would advise against a hasty comparison with the transcription and romanisation systems that have been incorporated, modified, or evaluated as ineligible because they are aimed at other objectives and contexts (see section 4.2), as well as against any latent normative expectations from the linguistic performance of the speakers (e.g. an idealistic pronunciation, and articulation).

5.2 Guiding principles

Transcribing Spoken Arabic involves a high workload. Considering the analytical demands and the restrictive technological challenges, the solutions cannot meet the CA postulates⁶¹ without hitches. Not everyone is expected to be familiar with the graphemic characters, and the unconventional orthographic rendering which is lacking in social currency. The questions then are how to reach a broadly manageable and efficient process, and how to make the romanisation more accessible, teachable, and applicable for transcribers and users. Another issue to be resolved at this point is also how to harmonise the approach with other concepts, comparable to HIAT's, by establishing a common ground. The basic criteria, by which the HIAT system was developed, provide essential guidance, specifically (1) simplicity, (2) practicability and (long term) usefulness in spite of the analytic needs for precision, as well as (3) easy learnability, and others (Ehlich 1993: 125). In the following sections, I will explain the leading principles and decisions for systemising the departures from the standard, presupposed norms (orthography, display form), and what they mean in practical terms.

5.2.1 Readability and comprehensibility

By entering the Arabic utterances from left-to-right linearly, and sequentially, a musical score notation is rendered possible. It addresses (linguistic) scholars, and researchers. Persons proficient in Arabic shall be able to read, and analyse the transcripts. Offering a Latin script does not, per se, go against the reading habits of the recipients who are skilled and (digitally) literate in Arabic for it is ubiquitous in familiar surroundings (in virtual, usually private contexts or in public domains), albeit on a notably smaller scale. Since the concept is a scientific one after all, and the system expands the Latin or German alphabet inventory, reaching beyond common knowledge, the readership is confined to pertinent

⁶⁰ Kowal/O'Connell (1995) consider a transcript to be a model analogous to Olson's (1994: 89) account of writing as a "conceptual model for [...] speech". Schmidt (2009) conceives transcription as a modelling approach, and the script to serve its ends (2009), thereby shifting the focus away from the excessive script-centred arguments towards a holistic view of the transcription process (including the computerised architecture), in addition to the methodological principles of conversation analysis (sequentiality, temporality, etc.).

⁶¹ See e.g. O'Connell/Kowal (2009).

academics. Reconstructing the actual linguistic performance – being diverse, dynamic, and non-standard – has an impact on the readability as it is. As a result, the system ought not to impede the receptive process anymore, for instance by unburdening the transcripts of dispensable (phonetic) peculiarities and excessive information. The maxim is clear, yet challenging: “As much as necessary, as little as possible.” For the sake of an intelligible and less complicated representation, special characters (i.e. not a standard keyboard-friendly set) need to be used sparingly, in an attempt to relieve the readers who are not familiar with the DMG system or the like, and others who are not (well) versed in the regional varieties. So, the characters of choice should preferably bring utmost lexical clarity, without intersecting with the HIAT-inventory, thus causing ambiguities and confusion.

Furthermore, one has got to reflect on how to let the readers who are not proficient in Arabic or German access the data, thus facilitating wider dissemination. However, tackling the process of data translation and the immanent hurdles would go beyond the scope of the paper. This also applies to the aim of adding interlinear morpheme-by-morpheme glosses, which would be weighed and decided during the analysis.

Producing relatively readable transcripts could prove feasible by adhering to the principles of user-friendliness and machine compatibility. Even a qualitative, micro-analytical approach should allow quantification of relevant discursive phenomena (e.g. ratification requests and question tags) as well as intuitive, machine-aided querying and semi-automatic analysis of data-collections⁶². By way of illustration, the romanisation is expected not to hamper identifying meaningful linguistic units, and wordforms. To that end, the process calls for consistent guidelines and uniform practices.

5.2.2 Consistency

Regional varieties and standard language phrases are considered to be potential sources of misunderstandings and non-understandings. Their use might aggravate communication in certain circumstances, perhaps even cause tensions as regards content and relationship (e.g. because of resentments). Such key triggers ought to be evident from the transcripts. On these grounds, efforts are made for exact documentation of linguistic phenomena. For a transcription method to prove viable, it needs to exhibit some consistency, uniformity, and transparency. Linguistic units shall remain highly predictable undeterred by the divergent varieties and spoken linguistic diversity so that an in-context search of the corpus (for viewing, annotation, etc.) and its computer-assisted analysis (in quantitative terms, too) would be launched with ease. Another aim is, ergo, to reduce inconsistencies and error rates in transcription to a minimum, thence, for instance, creating as few variants of a word or a character string as possible. Individual variations of one and the same utterance (like the phonetic realisation of question tags, interjections, and stutters) that are neither meaningful (or contribute to distinguishing meanings) nor can be considered as interactionally relevant ought to be evened out and not get any coverage, unless when necessary. Morphological and lexical variations, by contrast, would still have to be visualised. The widely known DMG system, especially among Arabists and Orientalists, provides a benchmark for decisions in respect thereof. Only the demands of the study are entitled to determine when disregarding it would not be inadequate and when modifying and broadening it would deliver.

⁶² See e.g. Schmidt (2009, 2018) and Schmidt/Wörner (2009).

These aspirations shall, in turn, meet the criteria *readability* and *comprehensibility*. True to the principles of CA transcription, the transcripts are supposed to resemble the Arabic typeface to some degree. Accentuating the commonalities and shared standards is legitimate in so far as it does not infringe too much on the actual use of language, the authentic action, and smooths away corresponding peculiarities, thereby violating the ethical and analytical obligations.

Bringing absolute clarity to the symbols and character sets is as important as maintaining consistency in the transcripts. In fact, the HIAT conventions are not identical with the punctuation rules of the Arabic written language. I refer in particular to the practices for indicating utterance boundaries as well as borrowing some symbols to express intrasegmental phenomena, like the undertie to tag latching or the diacritics to mark the tonal categories.

5.2.3 Authenticity

As can be gathered from the foregoing, guaranteeing the authenticity of the reconstructed data is a prerequisite for exploring aspects of telephone-based interpreting and other research contexts with an interest in interaction dynamics, or the like. Nonetheless, one has to bear in mind that close proximity to the raw data and source utterances cannot be ensured at the expense of its readability and subsequent usability. The nuanced phonological distinctions to a fault are neither pragmatically feasible nor conducive to this investigation.

The following is a model demonstration of how to translate the outlined principles to meet the requirements that have been framed above.

5.3 One sample

Below is a sample of an excerpt of a working transcript. I modified the visualisation of the data in figure 1 to serve the purposes in question and treated it according to the developed systematics⁶³ so as to re-order the interface into a one-directional, left-to-right flow:

⁶³ I refer Arabic speaking, linguistically versed readers who wish to gain deeper insight into the guidelines to section 8.2.

[1]

	948	949	950		
TD2 [sup]	soft				
TD2 [v]	n a c a m .				
TD2 [en]	Yes'				
K3 [v]	jmən h̬aifi c̬ala l̬ə-wlād s̬ābətni əž-žalṭa. ((holt Luft))				
K3 [en]	Out of fear for my children, I was hit by a stroke. ((draws breath))				
TD2 [k]	beginning is drowned out completely				

[2]

	951	952	953	954	955	956
TD2 [sup]		loud			louder	
TD2 [v]	Ja'	Ich hab den...			Ich hab den Schlaganfall	
TD2 [en]	Yes'	I have...			I suffered a stroke back then	
K3 [sup]			stretched			
K3 [v]	(w-Allāh) kont	ā c ed w-	•	-ya c ni c a...		
K3 [en]	(By God), I was sitting there and, well, =					

[3]

	957
TD2 [sup]	
TD2 [v]	erlitten, weil ich damals...
TD2 [en]	because I...

Fig. 7: Excerpt of a transcript from the TeDo-Corpus

The correct alignment of the events, as can be seen in figure 7, owes to omitting the Arabic characters and resorting to the inventory of Latin characters and diacritical marks, hereby allowing an adequate analysis of organisation activities during talk-in-interaction: In an attempt to get the turn (e.g. regarding the segments s951-s952) after the client has been explaining why he had to flee his home without ceasing, the interpreter starts up when the client takes a tiny breather (s950). But it is only after the client seems to stutter, produces a sound stretch of the conjunction “w-” (Engl. “and”) to hold the turn, and pauses for thought that he initiates an interruption and takes over (s956). According to the software and the reader’s perspective, the pauses, latches, utterances’ ends and interruptions as well as the symbols used to indicate them (bullet points, underties, periods, ellipsis symbol, etc.) are no longer misplaced. Correct temporal ordering shall be very useful for data interpretation, even pressing for searching the electronic corpus as well as analysing it and inducing quantification. The same goes for overlaps and co-occurring activities, along with further parallel structures, annotation tiers describing additional features, which I kept quite simple and illustrative this once. Preliminary observations of potential relevance touch upon the prosodic and articulatory actions (“loud”, “soft”, “stretched”) as well as the audibility of the utterances in both interaction spaces (s948).

Aside from the technological advantages, the romanisation has contributed to a fairly convincing reconstruction of Spoken Arabic in the wake of the phonetic-orthographic process. One can figure out which (regional) variety the Syrian client is speaking (province of Rif Dimashq) and discern the phenomena of natural speech, like hesitation (“and, well, =”; s954–956). The syntactic unit (s954–

956), shown deformed in figure 1, has been brought to order. So, one can read the pause (s955) within the lexical unit *وَيُقْرَأُ* (*w-yaⁿi*; Engl. “and, well”) and the subsequent words in a linear fashion.

6. Conclusion: Opportunities and limitations

Empirical research on Arabic data from talk-in-interaction does not look back on a long-standing tradition, beyond the fields of Arabic studies and dialectology, computational linguistics, socio-linguistics, acquisition studies or the like. One can hardly tap interaction corpora or linguistic resources that have been made or would be accessible for common benefit. Moreover, the data that have been published in form of excerpts lack transparency and (critical) methodical reflection on how they were collected and curated, the associated decisions that affect the logic behind the display format, analytical approach as well as sustainable dissemination. In this sense, this endeavour gives an impetus to elucidate and document methodical avenues in greater detail. Openness usually pays off, especially when the respective events get exposed to multiple reductions, while transferring (1) the primary data into secondary data, (2) an oral, auditive or audiovisual medium into a written, graphical medium (only as is often the case) of decreased modalities, and (3) temporal dimensions into spatial dimensions. Further transfer processes lead to the Latin script system as a means to reconstruct Arabic utterances and the language which mediates the events to the recipients do not have the language skills, i.e. the translation. The interaction (meaning its complexity and multifacetedness) gets reduced again in the hermeneutic course of handling the data and (re)selecting the relevant phenomena to be transcribed and carefully interpreted.

This article sheds light on the research practices conducted for the CA transcription of Arabic-German encounters. The aim of the project—analysing the linguistic-communicative activities in interpreter-mediated remote situations— and the limited technological solutions for the directionality issues as well as the peculiarities of Spoken Arabic (continuum of varieties, insufficient systemisation) have brought on an increasing need to develop a practical transcription system, allowing a unidirectional reconstruction of the communication. Event tiers should share the same orientation line so that the temporal relationships can be visualised and classified. Here you can think of the following questions and many more: When does one person claim and take the turn? When does a problem of understanding occur? How does it manifest itself? When and how is it treated? To set adequate guidelines, I picked existing methods, compared them and weighed whether they would be suitable or not. Then I drafted a model for computer-aided transcription by means of the Latin characters. It builds on the DMG romanisation system, but holds on to the features of the spoken daily languages, unlike what was originally stipulated (by the DMG and similar guidelines). This is why I have made recourse to dialectological work. The model heeds the principles of readability, comprehensibility, and consistency, while partly defying authenticity. One prior task was to guarantee that it conforms to the HIAT standards, however it could be reconciled with other conventions regardless.

It is now possible to merge multilingual data and different writing systems into one graphically organised transcript. This proves advantageous as it mends the ways to satisfy the demands of discourse and conversation analysis, in other words to reproduce linguistic actions as linear, reciprocal, and multimodal as well as to reconstruct their temporal, sequential structure, including disruptions in communication (overlaps, interruptions, etc.), and articulatory phenomena (e.g. back-channels,

hesitation marks, and false starts). Events and otherwise parallel items can be anchored correctly to the timeline, enabling synchronisation of the verbal and non-verbal activities of the participants, especially the interpreter, as an example. One basic assumption is that the participants continue to use kinetic resources in the face of the limited access to visual and acoustic cues (no visual perception of the party(ies) located at a separate site, limited auditory perception). For a multi-dimensional representation, a multi-layer tool, which generates a score format and facilitates vertical, synchronous arrangement and rightward navigation, is beneficial. The romanisation system designed for a literary transcription promotes sufficient resemblance of the verbal utterances as well, making it more likely for others to identify the varieties and annotate code switching. Paying closer attention to spoken language becomes more paramount for the documentation of what would or might have caused the interpreter or the client difficulties in understanding (e.g. because of incomprehensible regionalisms, technical or semi-professional terms). These triggers normally do not turn out as such until the first analytical steps are performed. Accordingly, basic transcripts should be customised to be as informative as possible.

Inherent disadvantages are the readership being narrowed, beside the system of notation that requires getting used to, since it is not purely orthographic. Assisted by a virtual keyboard in parts, it is relatively time-consuming, until one systemises and internalises the method. For curating an extensive data set, it would be presumably reasonable to recruit (more) human resources. Yet, one has to cope with these shortcoming on account of the analytical purposes and in the interest of discovery. This project prioritises curating the data and remedying the technical-technological problems of format and presentation. At the same time, it seeks to settle the question of how a non-scientific community can understand the data. The system is still under development, the adopted decisions have proved themselves in the first analysis round though. As part of this work, we open a specialised discussion about methodological and methodical aspects of empirical CA research within multilingual contexts. Other language constellations and leftward writing systems (e.g. Urdu and Dari) merit a similar review.

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Appendices

Appendix 1: Phonetic-orthographic transcription system for Spoken Syrian Arabic¹

Grapheme (in isolation)	Proposed romanisation for spoken, non-standard variety	IPA (Syrian Arabic) ²	DMG (standard or standard-like variety)	IPA (standard pronunciation) ²
Consonants				
/ ڻ / ! / ՚ / ՚ ³ ՚ / ՚	³⁴	[?]	՚	[?]
ب	b	[b]	b	[b]
ت	t	[t]	t	[t]
ث	t, s ⁵	[t], [s]	ت̄ ⁶	[θ]
ڙ	ڙ ⁵ g, k ⁷	[ڙ], [g], [k]	ڳ ⁶	[dڙ]
ڤ	ڤ	[h]	ڤ	[h]
ڦ	ڦ	[x]	ڦ	[x]
ڏ	d	[d]	d	[d]
ڏ	d, z ⁵	[d], [z]	ڏ ⁶	[ð]
ڙ	r	[r]	r	[d]
ڙ	z	[z]	z	[z]
س	s	[s]	s	[s]
ش	ش	[ʃ]	ش	[ʃ]
ص	ش	[s̪]	ش	[s̪]
ض	ڏ, z ⁵	[ڏ], [z̪]	ڏ	[d̪]

¹ Modified based on Kuhnt (1958) and Grotfeld (1965).

² Below are only prototypical manners of articulation.

³ The sound of *hamza* ՚ (IPA: [?]) occurs in five utterance positions.

⁴ The graphemes ՚ / ՚ / ! / ՚ / ՚ will be represented by the character ՚, a superscript small open o, looking like a turned letter c. Do not confuse it with the baselined IPA character [ɔ] (U+0254). It is already reserved for the open-mid back rounded vowel [ɔ] (“open-o”). For better legibility, the superscript right half ring ՚ (U+02BE) of the DMG system shall be avoided because it can be mistaken for an apostrophe ' (U+0027). According to the HIAT conventions (Rehbein et al. 2004: 77), an apostrophe will only be used to transcribe interjections (e.g. those showing a glottal stop).

⁵ Syrian varieties feature different manners of articulation.

⁶ Syrian Arabic articulation deviates from the standard articulation.

⁷ In foreign words.

⁸ For better legibility, the character ‘ (U+1D9C) will be used to represent the grapheme ፻ instead of the superscript left half ring ‘ (U+02BF) proposed in the DMG inventory, which could easily be confused with an apostrophe.

⁹ In foreign words and loanwords.

¹⁰ Syrian Arabic articulation deviates from the standard articulation.

¹¹ The system cannot cover the wide range of vowel qualities (see e.g. Grotfeld 1965: 6; Versteegh 2014: xvii).

¹² The long vowels *ɛ* / *ɪ* occur in two utterance positions.

Appendix 2: Guidelines for the computer-aided transcription of Arabic-German interactional data (extract)

The overview below offers guidelines to reconstructing Spoken Arabic data (within a multilingual framework) as uniformly, clearly, and authentically as possible as possible. Outlined in the following are a sample of the documented decisions and suggestions – here primarily concerning Syrian Spoken Arabic¹ – for a convenient and reader-friendly approach.

Lexical-morphological level		
Aspect	Method of transcription	Motive
Capitalisation rules	<p>Do not use capital initial letters when romanising the Arabic utterances, even direct speech, except for proper nouns (e.g. <i>Sūriya</i>; Engl. “Syria”). When a proper noun gets modified by an article, capitalise it, but lowercase its article, like in the toponym <i>al-Hasaka</i>. Continue transcribing in a lower case format after an utterance end symbol (period, question mark, exclamation point, ellipsis symbol, superscript period for modeless utterances) or after a colon:</p> <p>e.g. <i>šlōn bəddak təthammal? wal-mašākel wəd-dag̰t ‘alēna ktīr.</i> (Engl. “How can you bear this? And the problems and the pressure that we are under, too much.”).</p>	Consistency
Deviations in the transcription of identical lexical units	<p>Depending on the speaker, the very same word can be articulated in a different manner, for example the standard-like <i>lidālik</i> and the regionally tinged <i>lizālek</i> (Engl. “therefore”)². Avoid, however, reconstructing phonetic variations of one and the same speaker in his verbal tear. The transcription should just reflect the predominant speaking style of each participant. Yet, an exception to the premise of uniformity could be allowed in favour of representing an evident, deliberate code switching, from the initially selected regional variety into a standard variety, for example, to rectify an issue of understanding.</p>	

¹ The transcription system for Spoken Syrian Arabic is currently being optimised and expanded to match the requirements for a stringent reconstruction of other regional varieties in our data collection.

² The translations given here are only prototypical.

hamza	<p>Follow the DMG conventions and transcribe the sound of hamza³ (glottal closure; IPA: [?]) in the medial and final position only. You can drop it when it occurs before a vowel in an absolute initial position. It would certainly continue to be an integral consonant phoneme, other than the regionally articulated ﺵ³, which could or ought to be elided at the beginning of a word or a morpheme.⁴ Spoken language is not just subject to regional linguistic peculiarities, but to individual variations, language planning, and further impacts on speech production. Persons proficient in Arabic shall, however, be able to recognise the fully consonantal, disjunctive, strong <i>hamza</i> (Ar. <i>hamzat al-qat'</i>, Engl. “the <i>hamza</i> of cutting”) and the non-phonemic, conjunctive, weak (i.e. elidable) <i>hamza</i> in a sandhi position⁵ (Ar. <i>hamzat al-wasl</i>, Engl. “the <i>hamza</i> of joining”):</p> <p><i>ana</i> (Ar. اَنْ, Engl. “I”), <i>əštəgél</i> (Ar. اَشْتَغِلُ, Engl. “I work”), <i>əħtimāl</i> (Ar. اَحْتِمَالٌ, Engl. “maybe”, “possibility”), and <i>tneñ</i> (Ar. تَنَانٌ Engl. “two”).⁶</p> <p>Represent prefixed determiners (definite article) by a shwa <i>a</i> (<i>al-</i>) or a short vowel <i>a</i> (<i>al-</i>), without the audible glottal closure: <i>al-əħtimāi</i> (Ar. الْاَحْتِمَالِيُّ, Engl. “social”, “societal, “sociable”). You should not disregard the modified inflection patterns as is the case in the derived verbs of stems VII-X and their elided glottal sound, e.g. <i>stašart</i> (Ar. شَرَّطَ, Engl. “I consulted”) and <i>nkatab</i> (Ar. نَقَبَ, Engl. “it has been written”).</p> <p>Maintaining a certain degree of consistency in the transcription according to the CA principles is the reason behind graphically dropping the glottal sound in an initial position, especially because it gets mostly elided when followed by a vowel. The second reason would be to reduce phonological-morphological variations and phonetic characters in the transcript or other ongoing deviations from the typeface, thus making it more accessible to the reader.⁷ One syllable words are the sole exception, e.g. ²ē rather than ē (Engl. “yeah”) and ²au rather than au (Engl. “or”). Enhance semantic clarity and reconstruct the initial glottal stop.</p>
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³ The consonant *q* can be realised as an unvoiced glottal stop, especially in the urban varieties.

⁴ It seems unnecessary to mention and explain when a glottal stop is allowed or forced to be elided or preserved.

⁵ The term *sandhi* describes various phonetic changes when two juxtaposed morphemes join together (Hoberman 2018). In the case of Arabic, the accrued variation differs from the original, isolated *hamza* form. Yet, the orally unrealised glottal stop is represented in the Arabic script.

⁶ *hamza* is often reconstructed in all sound positions by socio-linguistic, dialectological, lexicographic, and didactically or phonetically motivated studies (e.g. Fischer/Jastrow 1980; Versteegh 2014; Wehr 1985; Woidich 2014).

⁷ (Tran)scripts in the Arabic chat alphabet from informal, oftentimes multilingual contexts only show the *hamza* in the medial or final position, as well. It is represented by the numeral 2.

Typographic splitting and joining	<p>Separate the following morpheme classes from the next morpheme with a hyphen⁸ to enhance the readability and clarity of the romanisation:</p> <ul style="list-style-type: none"> (a) the definite article <i>al-</i>, <i>al-</i> or their assimilated forms⁹, like <i>a-</i> or <i>a-</i> + consonant, <i>l-</i> as an initial sound or after a vowel in the final position of a preceding morpheme or <i>lə-</i> in the initial position of a morpheme that begins with two consonants, e.g. <i>lə-wlād</i> (Engl. “the children”); (b) prepositions being prefixed or elided as particles, e.g. <i>b-Bērūt</i> (Engl. “in Beirut”) and <i>‘a-aqall šī</i> (Engl. “at least”); (c) conjunctions, like <i>w-nəħna</i> (Engl. “and we”). 	Readability, comprehensibility, clarity of wordforms
	<p>Do not graphically separate prefixed conjunctions and other inseparable compounds with a hyphen as long as they represent a lexical-semantic unit:</p> <p><i>walla</i> (not <i>wa-lla</i>; Engl. “or”), <i>labēn</i> (not <i>la-bēn</i>; Engl. “until”), <i>māli</i>¹⁰ (not <i>mā-li</i>; Engl. “I’m not”). Insert a hyphen as soon as forming a closed compound (one-word spelling), seems to threaten comprehensibility, for example in <i>la-hatta</i> (Engl. “until”, “so that”).</p>	Readability, comprehensibility
	<p>Treat borrowed conjunctional units from the standard variety that are realised as two or more words in the regional variety, mostly in combination with the particle <i>mā</i>¹¹, as an open compound and space them apart in writing, like <i>kəll mā</i> (Engl. “whenever”, “every time that”) and <i>mən wa’t mā</i> (Engl. “(ever) since”, “since then”).</p> <p>Neither is it necessary to merge the words nor to hyphenate them because both the unit and the grammatical determination are clearly discernible.</p> <p>Join them to form a single word if they occur in a rather standard, written-like form, e.g. <i>tālama</i> (Syr. <i>tūl mā</i>; Engl. “as long as”).</p>	

⁸ The HIAT conventions stipulate that substrings are to be marked with a hyphen as well, especially when a word features a silent or a filled pause (Rehbein et al. 2004: 33, 77). The pause or delay would be embedded in spaces: *bəl- eh -koridōr* (Engl. “in the corridor”).

⁹ See *Assimilation*.

¹⁰ The shortened vowel in final position is transcribed as such to avoid any possibility of confusion with the homophone *māli* (Engl. “my money”) that might be caused if a one to one correspondence to the typeface were to be attempted (see shortening of long vowels).

¹¹ Do not mistake the function word *mā* here for a negation particle, like when it occurs often times in a suffixed form in the standard variety (e.g. in temporal sentences).

	Separate and space discontinuous conjunctions , which comprise an adverbial or a prepositional determination, e.g. <i>mən šān</i> (not <i>mənšān</i> ; Engl. “for”, “so that”) and <i>yōm alli</i> (not <i>yōməlli</i> ; Engl. “when”, “on the day”). The conjunctional unit and grammatical determination are not hard to distinguish. You can consider a compound spelling for the transcription of phonetic contractions (see description further below): <i>mšān</i> (Engl. “for”, “so that”).	Consistency
	Nouns and numerals can form a word group when combined with prefixed conjunctions, prepositions or a definite article. Separate an article and a subsequent affix as a prefix unit from the determined noun with a hyphen, e.g. <i>wəl-mawdū^c</i> (Engl. “and the topic”) and <i>fəs-sābe^c</i> (Engl. “in the seventh”). Avoid splitting (i.e. hyphenating) the prefix unit to mark each and every morpheme.	Readability, comprehensibility
	Hyphenate verb and prefixed modifier for the future tense , e.g. <i>ha-halli</i> (Engl. “I will”, “I am going to”). This is also true for the future prefix <i>sa-</i> borrowed from the Standard variety (e.g. <i>sa-təhki</i> , Engl. “she will tell”, “she will say”).	Readability, comprehensibility
	Do not graphically separate verb and b-imperfect , alias b-present , which is used to indicate future indeterminacy, desire or certainty, like <i>bhabrak</i> (Engl. “I’ll let you know”) and <i>bšufak</i> (Engl. “See ya”)	Readability, comprehensibility, lexical-semantic unity
	Prefixes that express future indeterminacy, desire or intention form a lexical-semantic unit with the following verb. So do not hyphenate them, e.g. <i>mn̥iži¹²</i> (Engl. “we’re coming”), <i>mənrūh</i> (Engl. “we’re going”)	
	Do not split up specific relative pronouns¹³ , introducing syndetic relative clauses to refer to a definite antecedent, and hyphenate their constitutive elements (definite article and anaphoric affix), like <i>alli</i> , <i>ləlli</i> , <i>lalli</i> , <i>yalli</i> , etc.	
	Transcribe one syllable, elided specific relative pronouns , such as <i>əll¹⁴</i> (long form: <i>alli</i>), as one word. Do not unite it with the following morpheme, even with a hyphen: e.g. <i>əl-²alf šahs əll ha-yəhsənu ya³məlu lamm šaml</i> (Engl. “the thousand persons who will be able to reunite with their families”).	

¹² On the grapheme ⓘ, which represents a prop vowel (anaptyxis) as an initial sound, see *consonant cluster breaking*.

¹³ On relatives in spoken varieties see e.g. Brustad (2000).

¹⁴ The shortened form *əll* ends often on a prop vowel as a final sound. On the graphical omission of the prop vowel see *consonant cluster breaking*.

Phonetic-phonological level		
Phenomenon	Method of transcription	Motive
Assimilations	<p>Respect the total assimilation of the phoneme /l/ of a preceding definite article (<i>al-</i>, <i>al-</i>) to the subsequent morpheme, when its initial consonant is one the following coronals: <i>t</i>, <i>t̄</i>, <i>z̄</i>¹⁵, <i>d</i>, <i>d̄</i>¹⁶, <i>r</i>, <i>z</i>, <i>s</i>, <i>š</i>, <i>š̄</i>, <i>d̄</i>, <i>t̄</i>, <i>z̄</i>, <i>l</i>, and <i>n</i> (so called sun letters, Ar. <i>hurūf šamsiyya</i>).¹⁷ One example is <i>ət-talab</i> (Engl. “the application”). Other consonants that follow the article normally do not get assimilated: <i>ʔ</i>, <i>b</i>, <i>h</i>, <i>ħ</i>, <i>ʕ</i>, <i>g</i>, <i>f</i>, <i>q</i>¹⁸, <i>k</i>, <i>m</i>, <i>h</i>, <i>w</i>, and <i>y</i> (so called moon letters, Ar. <i>hurūf qamariyya</i>), like <i>al-yōm</i> (Engl. “the day”, “today”).</p>	Authenticity, yet maintaining comprehensibility; orthographical orientation; practicability for various Arabic dialects
	<p>Disregard partial assimilations:</p> <p><i>‘ahsan lak</i> rather than <i>‘ahsallak</i> (Engl. “it would be better for you”), <i>mənruh</i> rather than <i>mərruh</i> (Engl. “we’re going”), <i>sā‘adtni</i> rather than <i>sā‘attni</i> (Engl. “you’ve helped me”).</p>	
Consonant cluster breaking	<p>When speaking, a sequences of consonants (cluster) in an initial, medial or final position or in a sandhi can be resolved by inserting a (very) short vowel ¹⁹ (anaptyctic vowel) to facilitate the pronunciation, e.g. <i>šah̄s</i> (Engl. “person”) and <i>šukran</i> <i>ktir</i> (Engl. “Thanks a lot”).²⁰ It can be heard, being a prominent spoken language feature, but it is not of a phonemic or morphological value nonetheless. As a prop element, it is neither meaningful nor distinctive and does not contribute to the morphological complexity of the entities. That is why, its reconstruction is not deemed relevant</p>	Consistency

¹⁵ The definite article is assimilated into the non-standard sound *ž̄*, causing it to be articulatorily doubled, and does not retain its distinctive sound, unlike its Standard, fully articulated form *ğ*: *əž-žawāb*, not *əl-žawāb* (Engl. “the answer”).

¹⁶ The sound of *tā'*, the voiceless dental fricative *d* (IPA: [θ]), is borrowed from the standard variety for a (semi-)standard articulation. In the spoken language it is mostly realised as /d/ or /z/.

¹⁷ This paper cannot present other cases of total assimilations and ways to transcribe them. Generally, the reconstructed utterances have to be as comprehensible as possible and their morphemic structure relatively recognisable.

¹⁸ The phoneme /q/ is borrowed from the standard variety. In the spoken language it is mostly realised as a glottal closure ².

¹⁹ There is no grapheme for the anaptyctic vowel. Accordingly, it was not included in the DMG inventory. Following the dialectological approach, it is represented as a superscripted phonemic character ^ə (U + 1D4A) to avoid confusion with the short vowel *schwa* (ə; U + 01DD).

²⁰ For an insight into cases of occurrence, functions, and timbres as well as some characteristics of syllable structures and vowelisation in spoken varieties see e.g. Grotfeld (1965: 14–16), Sabuni (1980: 61–64), and Zemánek (2018).

	although it may help to identify the particular regional variety better. An explanation of the linguistic background and peculiarities of the participants in the speaker table (meta information) shall be enough. Let us look at an example: If an anaptyctic vowel is added in a recurrent pattern to the endings of the first or second person singular of a present perfect tense, but does not affect the morphemic structure and the construction of meaning in any way, then it would not be necessary for the (present) analytic interest to transcribe it: <i>addamt talab</i> , not <i>addam^t talab</i> (Engl. “I filed an application”).	
Emphasis	Overlook any emphatic articulatory variations of the consonants <i>b</i> , <i>r</i> , <i>l</i> , <i>m</i> , and <i>n</i> that do not make a difference to the meaning: <i>rsāṣ</i> , not <i>rṣāṣ</i> (Engl. “lead”, “shots”).	Consistency
Elisions	Incorporate elisions and changes of inflection patterns, provided that they do not affect the readability, making the root or stem of the word not or barely recognisable. One notable example is the loss of the phoneme /h/ in the final position (e.g. after a long vowel), in the last syllable or in a pronoun suffix: <i>yədahlūha</i> (not <i>yədahlūa</i> ; Engl. “let her in”), <i>mālha</i> (Engl. “What’s up with her”; not <i>māla</i> , Engl. “she’s not”), but <i>btaržemla</i> (not <i>btaržem laha</i> ; Engl. “I’m translating for her”), <i>qarāro</i> (not <i>qarāroh</i> ; Engl. “his decision”). You could transcribe suffixed personal pronouns (possessives) and object pronouns of the verb as follows: ²¹	Readability, comprehensibility

²¹ Further cases of elided phonemes (after a contraction, suffixation, etc.) cannot be addressed within this framework. Figure 8 and the examples serve only as an initial reference for decision-making.

	Noun		Verb				
			Direct object		Indirect object		
	after a consonant	after a vowel	after a consonant	after a vowel	after a consonant	after a vowel	
Singular							
1 st pers.	-i	-yi	-ni		-li		
2 nd pers. (m.)	-ak	-k	-ak	-k	-lak		
2 nd pers. (f.)	-ek	-ki	-ek	-ki	-lek		
3 rd pers. (m.)	-o(h) ²²	-h ^{*23}	-o(h) ²⁶	-h ^{*27}	-lo(h) ²⁶		
3 rd pers. (f.)	-ha*	-ha	-ha		-la		
Plural²⁴							
1 st pers.	-na		-na		-lna		
2 nd pers.	-kon		-kon		-lkon		
3 rd pers.	-hon*	-hon	-hon*	-hon	-l(h)on ²⁶		

Fig. 8: Pronoun suffixes to nouns and verbs in Damascus Arabic (own compilation, according to Aldoukhi/Procháza/Telič 2014: 29, 142-143 and Grotfeld 1965: 19, 41-42)

* Elisions that shall be disregarded are indicated in bold.

²² Elided phonemes that shall be regarded and not transcribed are put in brackets and highlighted in grey. Omitting the grapheme *dh* in a Latin-based format is a common practice, which would (in all likelihood) not lead to readability issues. If you would insert the grapheme, you would thereby change the syllable structure and alter the oral realisation of the lexical unit after causing a shift (or clash) of accents and a clustering of consonants. One example would be attaching the object pronoun *-lhon* to the verb *katab* (*katab^dhon*, Engl. “he wrote them”). Disregarding the elision would entail inserting a prop vowel (/ə/) to help break the consonant cluster and ease the (otherwise impossible) articulation. The morphological status of anaptyxis can be raised, hence resolving the verbal unit into a verb and a standalone prepositional object including a suffixed personal pronoun (*katab l^dhon*). Dropping the grapheme *dh* (*katablon*), on the other hand, is reader-friendly and comes close to the actual linguistic utterance. Besides, Arabic-proficient readers would not perceive it as alienating when it is added to nouns and pseudoverbs, but also to particles, prepositions and conjunctions:

bæddø (not *bæddoh*; Engl. “he wants”), *ma^oø* (not *ma^oh*; Engl. “he’s got”), *ənno* (not *ənnoh*; Engl. “that”, “that he”), *mənno* (not *mənnoh*; Engl. “from him”).

²³ If a word in 3rd person singular ends on a vowel, add the phoneme /h/ to the suffixed unit or else you might create a (pseudo-)homograph in the Latin script. Do not be misguided by its inaudible nature when the vowel is stretched and the last syllable is therefore stressed:

šafū (Engl. “they saw”; rather in spoken language use), not *šafū* (rather in written language use);

šafūh (Engl. “they saw him”; rather in written language use), not *šafū* (rather in spoken language use).

²⁴ Spoken varieties usually do not mark the gender of the suffixed pronominal, plural forms.

	If (a group of) words are phonetically (not semantically) condensed and merged to a new word (lexical unit) while speaking, pay attention to the contraction and reconstruct it as one word: <i>al-hamdəllah</i> rather than <i>al-hamd əllāh</i> (Engl. “Thank God”), <i>nšāllah</i> rather than <i>an šā’ allāh</i> (Engl. “if God wills”).	Authenticity
Gemination	A geminate is marked in a vocalised Arabic script by a diacritic character (<i>šadda</i>). In your romanised transcript, however, just duplicate the respective grapheme, like in <i>sayyed</i> (Engl. “mister”).	Readability, comprehensibility
	Apply the graphemic duplication even if an actually-to-be geminated consonant is not lengthened in a closed syllable, as in <i>kəll</i> rather than <i>kəl</i> (Engl. “all”).	
Shortening of long vowels	Long vowels are neutralised when they occur in an unstressed syllable. Reconstruct their shortening in a final position as it is typical for spoken language and derogate thereby from the Arabic typeface and DMG principles as long as its rendition does not threaten to make the transcript incomprehensible or ambiguous: <i>‘ala</i> (Engl. “on”), <i>hāda</i> (Engl. “this”, “that”), <i>haṣalu</i> (Engl. “they received”). You would create a somewhat alienating visualisation if you stick to the typeface and orthographical conventions. Dropping the macron placed above the grapheme (˘), which would indicate a long articulation, is a reader-friendly action. This assertion is supported by the fact that <i>Arabizi</i> and similar means of virtual communication do not feature any diacritics. Exclude, however, articulatory shortenings of the final sound in one syllable words: <i>fī</i> rather than <i>fi</i> (Engl. “there is”), <i>mā</i> rather than <i>ma</i> (Engl. “not”), <i>šī</i> rather than <i>si</i> (Engl. “thing”).	Authenticity
	When a long vowel is produced as a short, unstressed one in the last syllable (often an ending or suffix), use the macron anyway. The visible lengthening in the Arabic script is the decisive factor here: <i>qarārāt</i> rather than <i>qararāt</i> (Engl. “decisions”), <i>qānūniyye</i> rather than <i>qānuniyye</i> (Engl. “legal”).	

Sound changes of the consonants	<p>Regional varieties hold on to a lot of the consonant phonemes intact (see the characters' inventory in section 8.1). Yet, some phonemes are changed, replaced by other phonemes (substitutes) to be exact, such as <i>t</i>, <i>g</i>, and <i>z</i>, even in borrowings from the standard variety for they are quite unusual for (some) everyday languages.</p> <p>In view of their prominence for featuring a used variety, you should try to integrate sound shifts in the transcripts, provided that their rendition would not prove incomprehensible.</p> <p>To name a few examples:</p> <ul style="list-style-type: none"> • <i>t</i>: <i>hadīt</i> rather than <i>hadis</i> (Engl. “talk”), <i>mən hēt</i> rather than <i>mən hēs</i> (Engl. “in terms of”), but <i>mətl</i> rather than <i>mətl</i> (Engl. “like”); • <i>z</i>: <i>mwazzafe</i> rather than <i>mwazzafe</i> (Engl. “employee”), but <i>dall</i> rather than <i>zall</i> (Engl. “he stayed”); • When the semivowel <i>w</i> occurs in an initial position before a consonant or in a final position following a consonant, render it as it is and not as articulated by a long vowel (<i>ū</i>): <i>wlād</i> rather than <i>ūlād</i> (Engl. “children”); • When the semivowel <i>y</i> is produced as an initial or medial sound before a single consonant or as a final sound after a consonant, do not change its consonantic spelling and represent it as an articulated vowelic <i>i²⁵</i> or <i>i²⁶</i>, especially in present tense verbs²⁷ that have the basis vowel <i>ā</i>, <i>i</i> or <i>ū</i>: <i>bylāmmu</i> rather than <i>bilāmmu</i> (Engl. “they’re collecting”), <i>byrīd</i> rather than <i>birīd</i> (Engl. “he wants”), and <i>byšūf</i> rather than <i>bišūf</i> (Engl. “he’s looking at”). The b-imperfect is here an inflectional prefix to mark the simple present tense. An orientation towards the articulation, not the spelling could hamper comprehension in general. 	
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²⁵ Bergsträsser (1915: 46–47), Dietrich (1956: 325), Ferguson (1997: 102), and others prefer the short vowel.

²⁶ Cantineau/Helbaoui (1953) used the long vowel more than once. Other dialectologists followed his approach (see Grotfeld 1964: 58).

²⁷ Known as verba mediae infirmae (see e.g. Grotfeld 1965: 36–37 and Aldoukhi/Procháza/Telič: 2014: 48–49).

Stretching	Do not reproduce the stretched Arabic sounds by duplicating the corresponding grapheme in the verbal tier or else they would be easily mistaken for a germination (see above) Annotate them separately in a tier for suprasegmental phenomena (i.e. prosodic features, like tempo and pitch), which you can assign to the respective speaker. You can render extended stretchings in the verbal tier though, by a graphemic tripling.	Readability, comprehensibility, orthographical orientation
Tones	Reconstruct the tonal movements, when necessary, according to the HIAT conventions over the respective graphemes and use the common diacritics, like in <i>hm̄</i> . The steady or rather floating tone ²⁸ is to be treated differently. Annotate it in a suprasegmental tier to prevent confusing it with the similar looking diacritical mark, the macron, which is reserved for the romanisation of the long Arabic vowels (<i>ā, ē, ī, ō, ū</i>).	Consistency
Velarisation	Do not render the aspiration of a vowel adjacent to a velarized consonant (<i>ṣ, d, t, z, l</i>): <i>ṣabāh</i> rather than <i>ṣpbāh</i> (Engl. “Morning”).	

Interactional level		
Phenomenon	Method of transcription	Motive
Fillers	For the transcription of fillers that are not restricted to Spoken Arabic follow the HIAT conventions and orthographic standards, e.g. the planner “eh” and “ähm”. Start the planners with the grapheme <e> when they are produced by an Arabic speaker, and with the grapheme <ä> within the German turns. Disregard any phonetic variations in your transcription and annotation as long as they are not semantically relevant.	Consistency
Hesitation markers	Phonological disruptions in the speech flow arise for various reasons, such as irritations, surprises or hesitations as well as other problems of verbal planning, sometimes forcing the speaker to pause for breath or thought. A recurrent phenomenon is the hesitation marker with a final glottal stop after a falling tone, like <i>è'</i> and <i>èh'</i> . Do not confuse it with the Syrian Arabic utterance <i>è</i> (Engl. “yes”, “yeah”). It can also be produced before aborting an utterance or when claiming the turn. Abide by the HIAT conventions and use an apostrophe ' (U+0028), not a superscript right half ring ' (U+02BE). The character indicates ' a glottal stop indeed, but it is	Readability, comprehensibility

²⁸ On the significance of capturing the floating or slightly rising tone of utterances' ends for the investigation of coordinating activities in telephone-based interpreted settings see Farag (2020).

	reserved for visualising the graphemes ﴿،﴾, ﴿ِ﴾, ﴿ِ﴾, ﴿ِ﴾, ﴿ِ﴾, and ﴿ِ﴾. Unlike the DMG system, the apostrophe is not supposed to represent elisions and changes of inflectional features. These are not to be graphically highlighted in any way as practiced in the literary transcriptions.	
Interjections	Transcribe the interjections that are not considered to be an exclusive peculiarity of a spoken Arabic variety orthographically, not phonemically, e.g. “hm̑”. As for the interjections featuring a different phonetic realisation from the German ones, fall back on the inventory of the romanisation system as much as possible ²⁹ (e.g. ²⁹ āh, Engl. “oh”, “aha”) and add a gloss if needed.	Consistency
Repairs	Mark a repair sequence (self-initiated correction) according to the HIAT conventions with a forward slash immediately after the deficient utterance part (reparandum), then insert a space after the slash to introduce the repairing element (reparans). ³⁰ When any kind of deficiency is repaired after a prefixed article or a prefixed unit, do not drop the hyphen. It provides a lexical-semantic clarity to these graphically dependent units or rather substrings to be repaired: <i>wəl-</i> / (Engl. “and” + definite article/).	Readability, comprehensibility

²⁹ To date, the transcription of Arabic interjections and back-channels has not been systemised yet, which could be traced back to the poor CA, interaction-oriented research on Arabic data. For a German insight into the Egyptian Arabic and Syrian Arabic interjections see e.g. Woidich (2006: 110) and Sabuni (1980: 204). Contributions to the problems associated with the translation of interjections in literary texts and Standard Arabic talk-in-interaction are made by Abdulla/Talib (2009), Farghal/Borini (1996), and Thawabteh (2010).

³⁰ This three-step process is the simplest form of repair sequences. A speaker locates the source of the problem and eliminates it. Complex cases and further forms of repair organisation cannot be discussed in this context.

Guidelines for names

Applying the (optimised) DMG system for the transcription of Arabic names or proper nouns would be pointless within a CA framework. Besides, authentic data ought to be anonymised anyway. Choose pseudonyms that are common in the respective region and transcribe them according to the German pronunciation habits and the phonemic inventory without drawing on diacritics. Multigraphs would be appropriate in this respect.

Guidelines for punctuation

For punctuation, let the HIAT conventions guide you. You can simply adopt their **marks for intrasegmental phenomena**, such as the undertie for latching.

Regarding the Arabic sequences, you can draw on the rules for punctuation of the written varieties as long as they prove suitable to reconstruct spoken communicative events. The abundant use of **commas** in Arabic texts is a proof to the contrary. So use them purposefully and sparingly. Utterances which begin with a conjunction (e.g. a coordinating one) or a (prefixed) cohesive device express new linguistic actions on their own, syntactically and punctuation-wise detached from the preceding one. You should therefore transcribe them in a new segment, after indicating the end of the former one, like a period if it is an assertion.³¹

In case of emphasis, disapproval, excitement, surprise, desire or any other forms of emotional involvement set an **exclamation mark** in Arabic. Do not treat the following illocutionary actions as an exclamation and let the German conventions influence you: salutation, greeting, request, command or prohibition, and warning.

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³¹ On the graphic design of a musical score notation in practical terms see Schmidt (2011).