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Prepositional Usage in the Expression of Static Spatial Relations
in Arabic Dialects

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Matthias Mauch B.A.

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ABSTRACT (IN ENGLISH)

The ability to express static spatial relations is one of the basic skills that languages provide their speakers with. Hereby, speakers make use of certain prototypical spatial arrangements, which are then transferred to less prototypical situations. This transferral is highly language-specific, as previous studies have shown. The present paper deals with this issue within the context of Arabic dialects and analyses the behaviour of speakers of Arabic dialects with respect to static spatial situations in a study, using the BowPed pictures series. The results of the study show significant differences in the conceptualisation of static spatial relations between the different major Arabic dialect groups.

ABSTRAKT (AUF DEUTSCH)

Die Fähigkeit, statische Raumsituationen auszudrücken, gehört zu den absoluten Grundfertigkeiten, die Sprachen ihren Sprechern bieten. Dabei bedienen sich die Sprecher bestimmter prototypischer Raumanordnungen, die dann auf weniger typische Situationen übertragen werden. Diese Übertragung ist hochgradig sprachspezifisch, wie frühere Studien zeigen konnten. Die vorliegende Arbeit beschäftigt sich mit eben diesem Thema im Kontext der arabischen Dialekte und analysiert das Verhalten von Sprechern arabischer Dialekte in einer Studie mit Hilfe der BowPed-Bildserie. Die Ergebnisse der Studie deuten auf große Unterschiede in der Konzeptualisierung statischer Raumanordnungen zwischen den verschiedenen Dialektgruppen hin.

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1. Introduction

Spatial relations are a common feature of the physical universe and expressing them is one of the fundamental abilities conferred on language speakers by their language. This skill is so frequently applied and ordinary that the used structures are omnipresent and often go unnoticed.

Yet, upon closer examination of the description of spatial relations through a comparative linguistic approach, two main differences become clear:

- On the one hand, the grammar systems of languages display differences in the features they use for conveying spatial relations. For instance, Arabic dialects use prepositional constructions, while Finno-Ugric languages use grammatical cases.
- On the other hand, the way speakers of different languages conceptualize spatial relations varies. This means that speakers of one specific language may assign different situations to certain prototypical spatial relation arrangements in a way speakers of another language would not. It is important to note that this division of physical relations into grammatical categories is not based on physiological or physical processes, but rather on conventions established within language communities.

The master's thesis at hand investigates this categorisation of physical reality in the language systems of Arabic dialects within the framework of a linguistic study. Due to the considerable variation among those dialects, which some researchers have labelled as distinct languages, it is likely that clear differences in the conceptualisation of static spatial relations between the dialects may be found.

Hereby, this study focuses on the following first-level static spatial relationships: "support", "containment", "being around", "being above", "being below", "being in front", "being around", and "being behind", which can be considered as the most basic concepts. Excluded are for example the concepts of "being right of", "being left of", "being inside" and "being outside", as they are second-level spatial relationships and thus involve more abstract or relational concepts compared to first-level spatial relationships.

To identify differences in the prepositional usage, native Arabic speakers were asked to complete an online questionnaire in their native dialects. This approach was necessary due to the wide geographical range that needed to be covered, spanning from North Africa to the Middle East and Mesopotamia.

To provide some background for the linguistic study, the study is preceded by a theoretical chapter that covers spatial relations in general as well as characteristics of Arabic dialects in this regard.

Then, the undertaken linguistic study is conceptually explained, and its procedure clarified in detail, including the results and their interpretation. It is important to stress that the study has a limited number of subjects, and thus, when working with the results presented, any generalisation of those results must be approached with great care.

2. Theoretical Background

2.1 Static Spatial Relations

The term "static spatial relations" refers to the orientation of typically two or even more physical objects in space, whereby these objects do not change their location, i.e., are at rest. The common scientific names for these objects were first introduced by Talmy (1972: 11) and are "Figure" (short: F) and "Ground" (short: G). The Figure is usually, at least in theory, a movable object whose orientation in space is described by means of another object, the Ground (see Table 1 for an example):

The car_F is parked in front of the house_G.

F = Figure	G = Ground
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Table 1: Exemplary sentence for the use of the linguistic terms "Figure" and "Ground": The orientation of the Figure in space is described with the help of the Ground.

When describing space, the human brain relies on certain prototypical mental concepts that are learned in childhood during brain development. These concepts are divided into first- and second-level concepts, with second-level concepts being shaped not only by spatial understanding but also by abstract influences such as cultural context, leading to their acquisition at a later stage in a child's development. The sequence in which children learn these spatial concepts reflects a complex interplay between conceptual difficulty, cognitive salience, and linguistic complexity, which varies across different languages. (cf. Levinson 2003)

Nevertheless, scientific studies have shown that, regardless of different grammaticalisation approaches in languages, children show cross-linguistic tendencies in the sequence of acquisition of these concepts for static spatial relations. This can be explained by certain conceptual developments in the brain that need to be fully completed before a concept can be verbalised by the child. (Johnson & Slobin 1979: 537f., 540ff.)

The study at hand, focuses solely on the following seven first-level static spatial relation concepts (shown in SMALL CAPS): SUPPORT, ENCLOSURE, AROUND, ABOVE, UNDER, FRONT and BEHIND, which are considered to be connected to the most basic concepts. Excluded are second-level concepts, such as RIGHT, LEFT, INSIDE or OUTSIDE, as they involve more abstract concepts compared to first-level spatial relationships. (Johnson & Slobin 1979: 530).

It is important to note, that spatial concepts are grammaticalised in different ways in different language systems. Some languages, such as the Arabic dialects (see section 2.2.2), use different prepositions to refer to these mental concepts, while others employ postpositions, such as the Turkic languages (cf. Johanson & Csató 1998). Still others place their nouns in specific grammatical cases instead, such as in the Finno-Ugric language systems (cf. Nanovfszky 2004).

2.1.1 Categorisation of Spatial Relations

As it has already been noted, not only the grammatical way of verbalising different static spatial relations differs cross-linguistically, but also how these relations are categorised. This categorisation is based on some few physical concepts (as listed before under 2.1), which can be regarded as prototypes. However, the extent to which these unambiguous, basic concepts are used for other, less prototypical spatial arrangements is highly language specific.

This was shown in a cross-linguistic study conducted by Bowerman & Pederson using 38 languages from 25 different language families. The results of this work were presented at the annual meeting of the American Anthropological Association in San Francisco and have otherwise only appeared in excerpts in various publications. (Bowerman & Pederson 1992a; Bowerman & Choi 2001)

From these results, it can be concluded that none of the languages studied categorised the various static spatial relations in exactly the same way as another language. Nevertheless, certain groups of languages could be identified that proceeded similarly in their categorisation:

Considering the concepts of ENCLOSURE and SUPPORT only, it was shown that in this case two gradients play a role (Bowerman & Choi 2001: 484ff.). These gradients work against each other and are applied hierarchically by the language systems to spatial arrangement situations (see figure 1 for a visualisation; brief explanations of the different conceptualisation types can be found in table 2). The first gradient, which works from left to right, is the "concept of support" (i.e. in English "ON"). Situation (a) can be assumed to be prototypical for this. Here the cup (Figure) is resting in a stable manner on the table (Ground), which supports it completely. The further one moves from the prototypical situation (a) to the right, the less prototypical they become for the "concept of support", for example, the support surface decreases or is no longer right beneath the figure.

The other gradient, which works from right to left, represents the "concept of enclosure" (i.e. in English "IN"). The prototype for this is situation (f), in which the apple (Figure) is almost completely enclosed by the bowl (Ground). Corresponding to the conditions for the first gradient, the further one moves from situation (f) to the left, the more untypical the situations become for the "concept of enclosure", as fewer parts of the figure are enclosed by the reference object (ground).

Type	Conceptualisation
1	overgeneralisation of the "concept of support"
2	specific expressions for both prototypes; non-prototypical situations are verbalised by other, more general means
3	overgeneralisation of the "concept of support" with simultaneous specification of the type of support
4	overgeneralisation of the "concept of enclosure"
5	one general expression for both concepts

Table 2: Brief explanation of the different classification types of static spatial relationships, based on the results of Bowerman & Choi 2001 (see also figure 1). A more detailed explanation of the types can be found at the end of this chapter.

These two gradients meet and can also overlap (as for example in group 4 - Berber languages, see figure 1). Each language system must decide for each individual situation which of the two concepts, and through that which verbalisation, is more significant for this specific spatial arrangement. It is important to emphasise that these are in no way laws imposed by the physical world, or that this decision would depend on human perception, but that this division is purely a matter of freely determined conventions developed by the respective language system.

It may be that one language defines situation (e), i.e. the apple (Figure) on the branch (Ground), as a situation of ENCLOSURE, with the apple being surrounded by branches and leaves, while another defines it as one of SUPPORT, with the apple being suspended from the branch. There is no compelling reason for either one of the options, but it was shown, that language systems proceed hierarchically, which means that if this non-prototypical situation (e) is defined as a situation of ENCLOSURE, then all situations to the right of it, i.e. more prototypical ones, are also classified and accordingly also verbalised in this way. If, on the other hand, this situation is

perceived as one of SUPPORT, this also applies to all of the more prototypical situations to the left of it. Thus, no language used the same form of expression for situations (a) and (d) and another for the situations (b) and (c) in between.

To summarise, we can therefore say that the differences that can be found between languages stem from where those languages draw the boundaries for the two concepts on this gradient.

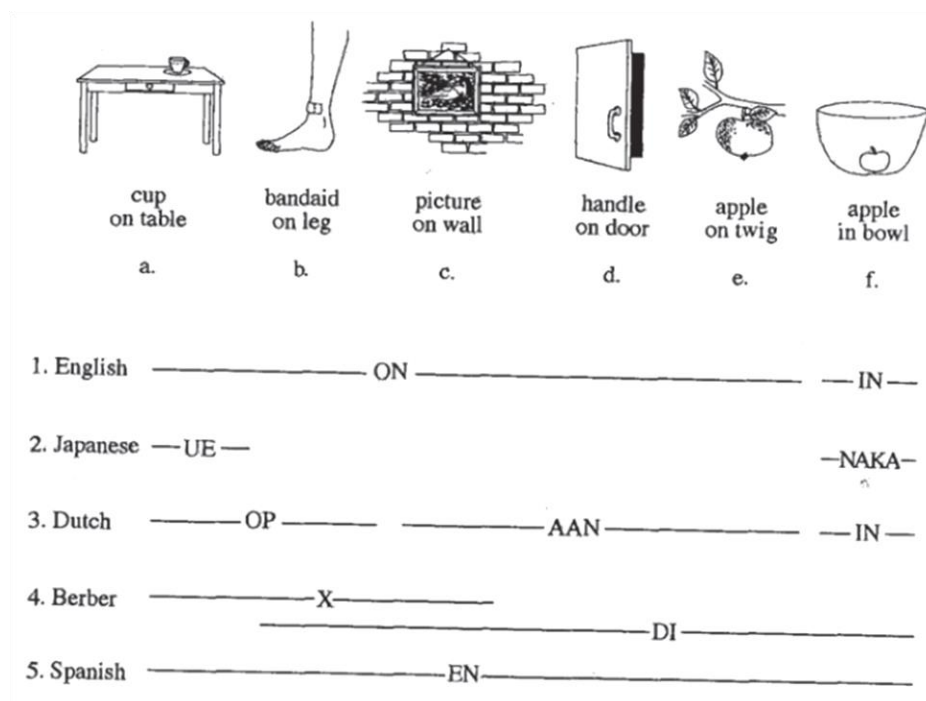


Figure 1: The five different conceptualisation types of the concepts of SUPPORT and ENCLOSURE using example languages. More detailed explanations of the respective groups follow below this figure (for a brief explanation of the types see table 2). (Image source: Bowerman & Choi 2001)

Explanation of the five different conceptualisation types:

Type 1: Languages in this group overgeneralise the "concept of support". For instance, English, employs the same expression for situations (a) through (e), i.e. that of SUPPORT and uses a different expression, i.e. that of ENCLOSURE, solely for situation (f). Besides English, Hebrew also falls into this category.

Type 2: Languages in this group, exemplified by Japanese, use quite a different system for the verbalisation of spatial relations compared to the other groups. In these languages, only highly prototypical spatial relations are assigned to the respective concept, i.e.

there is one term for situation (a) (prototype of SUPPORT) and another one for situation (f) (prototype of ENCLOSURE). For the remaining, non-prototypical situations, it is merely indicated that there is "some" spatial relation between the Figure and the Ground, as if in English, one would describe situation (c) as "the picture is in close vicinity to the wall", without specifying the exact circumstances.

Type 3: Languages in this group show a three-way division in the rendering of the concepts of ENCLOSURE and SUPPORT, with the "concept of support" still being overgeneralised, similar to Type 1 languages. For instance, in the example language Dutch, only for situation (f) a distinct expression is used (i.e. "concept of support"), while all other situations are treated as those of ENCLOSURE. However, unlike Type 1, those situations (a) through (e) (i.e. "concept of support") are further subdivided according to the direction of the supporting force acting on the Figure. If the force comes from below or the Figure is stably positioned on the Ground (situations (a) and (b)), one expression is used. A different term is used when the force comes from the side or from above and the Figure is only fixed to the Ground in a few places (situations (c) to (e)). German also belongs to this group.

Type 4: Languages in this group over-generalise the "concept of enclosure" so that the expression used by Types 1 and 3 only for situation (f) is applied to many more situations. At the same time, the expression for the "concept of support" is more restricted than in Types 1 and 3. This group includes Berber languages as well as Finnish. The former are also an example of an overlap in conceptualisation.

Type 5: Languages in this group use one term for all situations and generally make no distinction between the concepts of SUPPORT and ENCLOSURE. This does not mean, however, that the arrangement of objects cannot be specified in more detail, if the speaker so wishes. A representative of this type is Spanish.

2.2 The Arabic Language

Arabic belongs to the Semitic branch of the Afro-Asian language family and is by far the largest member of this group. Today, just over 300 million people worldwide speak Arabic as their mother tongue, making it one of the most widely spoken languages. Arabic is the main language of the Arab world, which includes the north of the African continent, the Levantine coast, the

Arabian Peninsula and, to the north-east, ancient Mesopotamia. (Kaye 2009: 560; cf. Eberhard et al. 2021)

There are also Arabic-speaking minorities outside this region, for example in Central Africa (Chad, Nigeria), the Mediterranean (Turkey, Cyprus) and Central Asia (Iran, Uzbekistan). Maltese, the indigenous language of the Maltese archipelago, occupies a unique position within the Arabic language as the only standardised dialect of Arabic (more on this under 2.2.1). As a result of recent migration, Arabic speakers can now be found all over the world, particularly in centres of Western culture such as the United States or Western Europe.

Additionally, because of its importance to Muslims - Allah is said to have revealed the Qur'an word for word in Arabic - Arabic is also of great importance to non-Arabic Muslim communities worldwide.

Arabic is written using the Arabic alphabet, in which the direction of writing is from right to left and in which there is no distinction between upper- and lower-case letters. Letters are rendered in a cursive style and are therefore mostly joined together. Almost exclusively consonants and long vowels are written, although there is an optional system of digraphs to represent short vowels. This very specific way of writing takes into account the particular linguistic structure of Arabic, in which the basic meaning of words can be traced back to so-called roots, which typically consist of three consonants. (Kaye 2009: 567f.) The Arabic alphabet in tabular form as well as the official transcription of the German Oriental Society (DMG) used for this thesis, can be found in table 7 under point 3.4.

It is also important to note that the term "Arabic" may refer to several varieties of the language. On the one hand, there is a high-level variety of Arabic, which in its current form as Modern Standard Arabic (MSA) serves as the official language of the countries of the Arab world. On the other hand, "Arabic" can also refer to a multitude of Arabic dialects used by people in everyday life. (Kaye 2009: 562)

The Arab world therefore lives in a situation of diglossia. This means that two different varieties of the same language are used simultaneously by its community of speakers for clearly defined, different tasks. In the case of Arabic, the first variety is Modern Standard Arabic, which is used almost exclusively used for writing and in rather sophisticated situations, such as studies, reporting or political and religious speeches. This variety has no native speakers and speakers

of Arabic dialects must learn it through the school system. (Kaye 2009: 569f.; Behnstedt & Woidich 2005: 10)

The second variety is the Arabic dialects, which are the actual mother tongues of Arabic speakers, regardless of their level of education or social class, and are used in everyday, informal situations, although they are often considered as inferior to the prestigious Modern Standard Arabic. A standardised written form of the dialects has never been officially established (except in the special case of Maltese, see 2.2.1), but they are nevertheless written by their speakers, not least on the internet and in the new media. Arabic and Latin letters may be used, and certain informal rules have emerged (see table 7 in section 3.4). (Kaye 2009: 569f.; Behnstedt & Woidich 2005: 10)

Arabic dialects can be very far apart linguistically, so that communication between Arabic speakers of different dialects is not always easy, forcing speakers of very different dialects to try to find a common middle ground (at least as best as they can). This usually takes the form of supra-regional prestige dialects that Arabic speakers of other dialects come into contact with through the media or music. Today, such prestige dialects are typically from the large cities of Syria and Egypt. (Kaye 2009: 569f.; Behnstedt & Woidich 2005: 10)

Understandably, the different varieties of Arabic did not and do not exist in a vacuum, so that MSA constantly influences the dialects, but the dialects also influence each other, especially the prestigious urban dialects, which have a strong influence on other, less prestigious dialects. But of course, the dialects also have an influence on the standard language, which therefore varies from region to region, for example in the lexicon used. In addition, the influence of other languages, especially at the borders of the Arabic linguistic area, has been and continues to be an important factor in the development of the language, that is important to keep in mind.

2.2.1 Arabic Dialects

Typological and lexical differences between Arabic dialects and standard Arabic (MSA) can be found at all levels of the language. One for this study particularly important difference, which applies to all the dialects known so far, is that the dialects' language systems have lost the three-case distinction (nominative, genitive, accusative) that still exists in MSA today (see table 3 for an example). (Behnstedt & Woidich 2005: 11f., 17f.; Fischer & Jastrow 1980: 41)

Modern Standard Arabic	Palestinian-Arabic (urban)	Translation
<i>al-ğamalu</i>	<i>iğ-ğamal</i>	the camel (N)
<i>al-ğamali</i>		the camel (G)
<i>al-ğamala</i>		the camel (A)

Table 3: Comparison of the forms for the phrase "the camel" in Modern Standard Arabic, which uses a case system with three cases indicated by different vowel suffixes (in bold), and the corresponding form for the Palestinian urban dialect, which lacks such a system. This example also shows some phonological differences between the two varieties, such as the assimilation of the article consonant in the dialect form, which does not occur with this consonant type in Modern Standard Arabic. (Fischer & Jastrow 1980: 41)

In general, it can be said that the dialects tend to be more analytical than standard Arabic, which is reflected, among other things, in the already mentioned reduction of the case system (see table 3). However, the dialects can by no means be classified as predominantly analytical, since agglutinative or even polysynthetic tendencies can be found, especially in verbal morphology (Behnstedt & Woidich 2005: 17ff.).

As the following example from the dialect of the Tunisian capital shows, a whole English sentence can be expressed with just one word:

mā-ya-ṣṭī-ū-hū-l-kum-š

NEG-3.PRS-give-PL-DIROBJ.3.M.SG-INDOBJ-2.PL-NEG

"They don't give it to you (pl)."

Furthermore, some of the dialects are so different that it would be linguistically possible to define them as separate languages. For political and sociolinguistic reasons, however, this is not usually done, and the Arabic dialects are considered a single entity together with Modern Standard Arabic as their umbrella language. (Kaye 2009: 570; Kamusella 2018: 137ff.)

A major exception to this is Maltese, which was once undoubtedly part of the Arabic dialect family, but has since gone its own way, being heavily influenced by European languages such as Italian and English. Today, Maltese is the only standardised Arabic dialect with its own orthography, which, interestingly, uses Latin characters. Because of its standardisation, its status as an official language of the Republic of Malta, and the opinion of its native speakers,

Maltese is usually considered as a language in its own right, rather than a dialect of Arabic. In a linguistic sense, however, Maltese may still be treated as such and is therefore included in the analysis of this thesis. (cf. Scicluna 2018)

When and how the various dialects of Arabic arose is a matter of debate among scholars. The time of the Islamic conquests in the 7th and 8th centuries is a rough approximation, but whether the dialects existed before or as a result of the conquests is not clear. What is certain, however, is that there were already some differences in the language of the Arabic-speaking area at that time, as can be seen in the old Arabic dialects. Thus, it is debated as to whether and to what extent some grammatical features that have been preserved in Modern Standard Arabic had already then been lost in the vernacular(s). (Behnstedt & Woidich 2005: 10f., 21ff., 26; Fischer & Jastrow 1980: 15f.)

There is also disagreement about whether the dialects all evolved from a common ancestral variety, and whether this was also the ancestor of MSA, or whether they evolved from different regional variants. However, the great diversity within Arabic dialects as seen today makes the development from a single common language variety rather unlikely. (Behnstedt & Woidich 2005: 17f., 21ff.)

Modern scholarship classifies the Arabic dialects into five main groups, based on a mixture of the dialects' linguistic and geographical characteristics (see figure 2; cf. Fischer & Jastrow 1980):

- Maghrebi dialects in north-west Africa
- Egyptian dialects in north-east Africa
- Levantine dialects in the eastern Mediterranean region
- Peninsular dialects across the Arabian Peninsula
- Mesopotamian dialects in ancient Mesopotamia and Anatolia
- Maltese language on the Maltese archipelago, which originated in the Maghrebi dialects
- Peripheral dialects in Central Asia, Cyprus and Central Africa, which are difficult to classify within the five major groups, because they have been subjected to extensive linguistic contact with non-Arabic languages and have therefore acquired quite peculiar characteristics, very different from the other dialects. An example of this is Juba, spoken in South Sudan, whose grammatical system includes many features of African languages and which, because of the

mixture of the two grammatical systems, might rather be classified as a creole language. (cf. Mahmud 1983)



*Figure 2: Map depicting the vast area, where Arabic dialects indigenously are spoken, covering the north of the African continent, the Levantine coast, the Arabian peninsula and, ancient Mesopotamia. The area is divided by colour into the five main groups of Arabic dialects: **Maghrebi dialects** are shown in red, **Egyptian dialects** are shown in light blue, **Levantine dialects** are shown in green, **Peninsular dialects** are shown in ochre, **Mesopotamian dialects** are shown in dark blue. Additionally, **Maltese**, a distinct language which originated in the Maghrebi dialects, is shown in turquoise and **peripheral dialects**, which do not fit into any of the five main groups due to their specific characteristics, are shown in grey. (Image source: Wikipedia article "Varieties of Arabic", modified)*

It should be noted that Arabic dialects have developed not only on the basis of geography, i.e. where they are spoken, but also along social lines. There is a major divide between the dialects of the sedentary population on the one hand and the Bedouin population on the other, with the former also being divided into urban and rural dialects. However, these are historical terms which, as a result of migration or other developments, do not reflect the current situation. This is why, that, for example, certain Bedouin variants are today the dominant variety spoken in some cities in the Gulf region. Additionally, individual religious communities, such as Christians or Jews, have also developed their own distinctive dialects, at least in some regions, such as Tunisia. (Fischer & Jastrow 1980: 24ff.)

Furthermore, it must be assumed, that the Arabic dialects follow a dialectal continuum pattern over much of their range, and it would be wrong to believe that the boundaries of different dialects are distributed exactly along national borders. However, for a first scientific approximation of the multitude of dialects, such a categorisation based primarily on national borders, is the best option, as it allows for a simple, rough grouping. Accordingly, this categorisation is used in the questionnaire that collected the data for this study (see point 3.3) and in the subsequent analysis (see point 3.4).

It should also be noted that, as in many parts of the world, the turbulent history of the Arab world, with its wars, flight and expulsion, has blurred and continues to blur the boundaries between the different dialects.

2.2.2 Linguisation of Spatial Relations in Arabic dialects

In the linguistic systems of the Arabic dialects, spatial relations are expressed by means of prepositions which, unlike in the MSA system, do not require the following noun to be put into a particular case. It is noteworthy that the roots of many of these prepositions (in the case of true prepositions, i.e. not those derived from other roots) often consist of only two or even one root consonant, which is quite atypical for the structure of the Arabic language system (see chapter 2.2). This fact can be seen, for example in the prepositions لـ / *li-* "for, to", whose root consists only of the consonant L, or in من / *min* "from", whose root consists of the two consonants M-N.

- Which of the five types of categorisation might Arabic dialects belong to?

If we want to consider which of the five types identified by Bowerman & Choi (2001) and explained in detail in section 2.1.1, the Arabic dialects might belong to, we have to rely on clues and inferences, since Bowerman & Choi themselves did not state anything about the behaviour of Arabic or its dialects in their study.

Given that Hebrew, which belongs to the same language family and is closely related to Arabic, is included in group 1, this group seems to be a good guess for the Arabic dialects. This is supported by the fact, that groups 2 and 3 are relatively rare, with group 2 being specific to some Asian languages and group 3 to some Germanic languages. Furthermore, group 5 is rather unlikely, as Arabic does not have a single preposition that is used for many different static relations, but clearly indicates differences in spatial arrangement. The only other possible

option could be group 4, since the Berber languages, which are a representative of this group, are also related to Arabic, although not as closely as Hebrew.

- Relevant prepositions for expressing static spatial relations:

In the following, a list of prepositions is given that are most likely to appear in the linguistic data, i.e. those prepositions that native speakers should use when describing the provided drawings of static spatial situations. However, as there are many differences in the use of prepositions in the various dialects, this list is certainly not exhaustive. An example sentence for each situation is provided for the dialect of the Tunisian capital at the end of this chapter, in table 4.

Many morphological and phonological differences are known between the forms of prepositions in the Arabic dialects and also in comparison with their cognates in Modern Standard Arabic. However, this is not a major problem, since it is nevertheless always possible to group the different dialectal variants that are related, and to tell which MSA prepositions the dialectal variants are cognates to, due to the root consonant system, which is quite stable and subject to few and regular changes. Furthermore, the form of the preposition used does not affect the results of this study, since what is of interest is the concept chosen by the speaker for the different situations, i.e. how speakers of Arabic dialects categorise the different static spatial situations, not the form of the preposition used to refer to them.

Of course, some of the dialectal prepositions are new forms created in the language systems of the dialects and are not used in the same way as in MSA. In these cases, thanks to the root consonant system yet again, it is often possible to make a connection with an MSA root and its basic meaning. This allows some conclusions to be drawn about how the newly created preposition came into use. In a few cases, there is no connection to any MSA root traceable, which means that the new dialectal variant may have been borrowed from a neighbouring language.

It won't be possible to list all the existing forms of the prepositions, due to their great variety, but only the most common and general differences that can be seen when comparing the form of prepositions in dialects and in MSA. These differences tend to follow well-known patterns, making it easier to relate the dialectal form to the MSA form.

First and foremost, there are differences in vocalisation. The vowel systems of the dialects differ at times considerably from those of MSA, for example by the inclusion of additional sounds

such as /o/ and /e/ in the vowel system of Palestinian Arabic, or by showing signs of a vowel harmony system, as in Tunisian Arabic (Source), which understandably mixes up the vowel structure considerably.

Another regular difference is the absence of the final -a when compared to the MSA forms. This can be explained by the lack of a case system in the dialects, since the -a is actually an accusative marker, which in the MSA system is also used to derive adverbs and therefore also appears on some prepositions.

There are also differences in consonants, most of which are well described, such as, for instance, the change from ġ to g in Egyptian Arabic varieties. In addition, prepositions are often shortened and lose their third and/or second root consonant(s), so that they appear as a short, enclitic version before the nouns.

The form of the prepositions in the following list is taken from MSA:

tahta / تحت (root T-Ḥ-T) – used for concept of UNDER

Variations of this preposition can be found in almost the entire Arabic language area and are usually quite stable in their form. Only the absence of the -a ending and the adaptation of the vowels to the rules of the respective dialect are differences that typically occur. (Procházka 1993: 194ff.)

An exception to this are the Mesopotamian and also many Bedouin dialects, where the regular preposition used to denote the concept of UNDER is the preposition *ḡawwa* / جوا (root Ġ-W-W), which seems to be a loanword from another Semitic language, possibly Syriac-Aramaic, where it originally denotes the concept of INSIDE. The transition to the use for the concept of UNDER in the mentioned dialects is rather peculiar. (Procházka 1993: 221ff.)

ḥawla / حول (root Ḥ-W-L) – used for concept of AROUND

This preposition is widespread in the Arabic-speaking world, except in North African dialects, where other roots are used to describe the concept of AROUND (see table 4). In addition to the omission of the -a ending, forms with a long *ā* vowel, which retain the length of the Classical Arabic forms, are also typical of its variants. (Procházka 1993: 129ff.)

‘alā / على (root ‘-L-Y) – used for concept of SUPPORT

Cognates of this preposition are widespread throughout the entire Arabic-speaking area and are used in almost all dialects. The forms of the variants are generally very similar. However, the 2nd and 3rd root consonants may disappear, so that in these cases the mere presence of an *‘a-* in front of the noun is the only indication that the speaker has chosen the preposition *‘alā* to describe the situation in question. This choice is made primarily for phonological reasons. (Procházka 1993: 58ff.)

fawqa / فوق (root F-W-Q) – used for concept of ABOVE

Variations of this preposition exist in almost all known Arabic dialects, with few differences apart from predictable sound changes according to the phonological rules of the respective dialects. These differences are typically the monophthongisation of the diphthong *aw* as well as differences in the pronunciation of the original /q/. An extension of the meaning of *fawqa* to the concept of SUPPORT can be observed. (Procházka 1993: 116ff.)

fī / في (root F-Y) – used for concept of ENCLOSURE

This is another example of a preposition with a shorter root than is typical for the Arabic language structure. Cognates of this preposition can be found throughout the Arabic language area, with only minor differences such as the reduction of the 2nd root consonant, leaving a *f-* as the only sign that the speaker has chosen the preposition *fī* to describe the situation in question. (Procházka 1993: 120ff.)

An alternative preposition used by many dialects (e.g. Mesopotamian and Syrian dialects) in addition to *fī* is *bi-* / - ٥ (root B). In the language systems of these dialects, *bi-* and *fī* are used synonymously, but in different contexts, e.g. one before nouns, the other with suffixes, resulting in various combinations. All other dialects also make use of the preposition *bi-*, but use it for instrumental constructions. This abandonment of *bi-* in favour of *fī* when expressing the concept of ENCLOSURE is likely quite old, as there is evidence of it already in Classical Arabic. (Procházka 1993: 100ff.)

Another preposition that may be used instead of *fī* in some Arabic dialects east of Libya and also in Maltese is the already above mentioned preposition *ġawwa* / جوا (root Ġ-W-W). In these dialects, *ġawwa*, which before its borrowing into Arabic, was used for the concept of INSIDE, has slightly changed its meaning to denote the closely related concept of ENCLOSURE instead of *fī*. (Procházka 1993: 221ff.)

quddāma / قدام (root Q-D-M) – used for concept of FRONT

This preposition is widespread in the Arabic-speaking world, and its cognates show hardly any differences beyond those that would be expected according to the phonological rules of the various dialects. The differences lie in vocalisation patterns and in the realisation of the original /q/ sound. As has been regularly observed, the final *-a* is dropped in the dialectal variants. (Procházka 1993: 190ff.)

*warā`a* / وراء (root W-R-`) – used for concept of BEHIND

Cognates of this preposition are the main choice of speakers of Arabic dialects in much of the Arabic-speaking world to express the concept of BEHIND. In some areas, however, *ħalfa* and its cognates seem to be preferred. Again, the differences in the dialectal variants of *warā`a* are as expected due to the phonological rules of the dialects, such as the omission of the hamza and the resulting shortening of *ā*. (Procházka 1993: 200ff.)

Example sentence (in Tunisian Arabic)	MSA preposition	Explanation
<i>Il-qatṭūsa_F qāṣda taht iṭ-ṭāwla_G.</i>	<i>tahta</i>	concept of UNDER final <i>-a</i> dropped
The cat _F sits <u>under</u> the table _G .		
<i>Iz-zibla_F dāyira bi-l-pūbel_G.</i>	(<i>ħawla</i>)	concept of AROUND instead of <i>ħawla</i> , in Tunisian (North African dialect) <i>dāyir/a</i> (root D-W-R "round, turn") + <i>bi-</i> is used, comparable to "surrounding" in English
The trash _F is [scattered] <u>around</u> the bin _G .		
<i>Il-ktāb_F `a-l-aṛḍ_G.</i>	<i>‘alā</i>	concept of SUPPORT 2 nd and 3 rd root consonant dropped
The book _F [is] <u>on</u> the floor _G .		

<i>Iš-šams_F <u>fūq</u> iż-žbal_G.</i>	<i>fawqa</i>	concept of ABOVE final -a dropped, monophthongisation of aw
The sun _F [is] <u>over</u> the mountain _G .		
<i>Iš-stīlu_F <u>fī</u>-s-sāk_G.</i>	<i>fī</i>	concept of ENCLOSURE 2 nd root consonant dropped
The pen _F [is] <u>in</u> the bag _G .		
<i>Il-karḥba_F tāqif <u>quddām</u> id-dār_G.</i>	<i>quddāma</i>	concept of FRONT final -a dropped
The car _F stands in <u>front</u> of the house _G .		
<i>Iṭ-ṭful_F <u>warā</u> š-šažra_G.</i>	<i>warā 'a</i>	concept of BEHIND final -a and ' dropped, vocalisation adapted to dialect phonology
The boy _F [is] <u>behind</u> the tree _G .		

Table 4: Examples of the use of prepositions to describe static spatial relations, taken from the Arabic dialect of the Tunisian capital (prepositions underlined; F - figure, G - reference object). The corresponding MSA form, notable differences, as explained in chapter 2.2.2, and an English translation are added. Note the exchange of the preposition "ḥawla", which is typical for the group of North African dialects. The Tunisian dialect instead makes use of a participle of the root D-W-R, whose derivatives always convey a meaning of some kind of "turning" or "round, lap". The participle used, which in its closest possible translation could be something like "surrounding" in English, is the main word for stating the concept of AROUND in this dialect. Since Arabic does not use the verb "to be" in the present tense, many of the sentences shown are nominal sentences without a verb.

2.2.3 State of Research

So far, cross-dialectal research on prepositions in Arabic dialects has mainly focused on recording the multitude of forms that occur throughout the Arabic-speaking world, coupled with a definition of their geographical range and areas of use. In addition, etymological

considerations have been made for the different forms found, such as how they came to be and how they relate to the forms found in other varieties, including historical and standard varieties of Arabic.

The standard work on prepositions in Arabic dialects, is Procházka, S. (1993): *Die Präpositionen in den neuarabischen Dialekten*, (published in German) which covers every aspect of prepositions in Arabic dialects, including those prepositions that are cognate to MSA and older forms of Arabic, as well as those that are new to the dialects and found only in their language systems. Additionally, the geographical range of each preposition is discussed, and its usage, morphology and etymology are characterized.

The 4th volume of the *Wortatlas der arabischen Dialekte (WAD)* by Behnstedt & Woidich (2021) (published in German) provides numerous maps of the distribution of various basic prepositions in the Arabic-speaking world, always accompanied by a detailed page explaining the variants shown in the various dialects.

Although both books also include discussions of the meaning of prepositions, their approach differs from that of the work at hand, which focuses more on the conceptualisation behind the use of prepositions. To the best of the author's knowledge, such an approach has never been attempted on such a large scale, covering the entire Arabic-speaking world. There are, however, a few publications on conceptualisation in individual Arabic dialects:

In the article *Spatial Frames of Reference in aš-Šāniʿ Arabic: Preliminary Observations of Language-to-Cognition Correlation* from 2019, Cerqueglini takes a cognitive approach, but asks more generally, what features are used by this community of speakers to describe space and where the speaker positions him/herself in relation to the object. Cerqueglini concludes that the Intrinsic Frame of Reference is used extensively by speakers, which is precisely the frame that is relevant to the thesis at hand, since this frame is based on intrinsic properties of the object being described, e.g., "The cup is in front of the house". However, the article does not focus on different prepositions, and so its topic is situated at a higher level of abstraction than the present thesis.

One example of the few works that use a similar, if not identical, method to that used in this study, while focusing on MSA is Almuoseb's 2016 Ph.D. dissertation entitled *A lexical-semantic analysis of the English prepositions at, on and in and their conceptual mapping onto Arabic: a comparative investigation*. Almuoseb writes that while there is some overlap in

spatial usage, there are also significant differences between the Arabic and English systems. He also shows how English and Arabic speakers may conceptualize space differently based on the prepositional structures available in their languages.

3. Linguistic Study

3.1 Study Concept

The idea for this study is based on the work of Bowerman and Pederson (1992a), who investigated the conceptualisation of static spatial relations by speakers of different languages. Based on the results of a large-scale study of languages from different language families, they were able to postulate five different types of conceptualisation regarding the ENCLOSURE-SUPPORT gradient (see chapter 2.1.1. for a detailed explanation). So far, this type of study has not been carried out across different Arabic dialects yet. There are a few studies that deal with individual dialects (see 2.2.3), but they do not cover the entire Arabic-speaking area in a similar way as Bowerman and Pederson did at the cross-linguistic level, even though Arabic dialects are ideal candidates for this type of investigation because, as noted in section 2.2.1, there are many different and highly divergent varieties that may very well show different patterns of conceptualisation.

In order to fill this scientific gap, the aim of this study is to gain more insight into how speakers of Arabic dialects conceptualise space and whether differences in conceptualisation patterns can be identified between different dialects or dialect groups. To answer this question, it is necessary to analyse the use of prepositions by native speakers of Arabic dialects from across the entire Arabic linguistic area. As mentioned in chapter 2.1.1, this analysis focuses on first-level spatial relations, which are used to express the most basic type of relationship between two objects in space.

In the course of the study, 34 drawings depicting static spatial situations, mostly from the "BowPed" series (Bowerman & Pederson 1992b), but also five self-created drawings (see section 3.2), were presented to native speakers of Arabic dialects via an online questionnaire. This online approach was necessary due to the large geographical area that needed to be analysed, stretching from North Africa to the Levant coast, across the Arabian Peninsula and north-eastwards to Iraq. The study relied on the self-reported origin and dialect of the subjects. Potential problems with this approach are discussed in chapter 3.4.

As the study focuses on dialectal differences in conceptualisation, respondents were openly and repeatedly instructed to give their answers in dialect rather than Modern Standard Arabic. This was considered necessary because the situation of diglossia (see section 2.2) is likely to cause Arabic speakers to automatically respond in the more prestigious standard language, especially

when responding in writing. The responses collected show that this approach was successful and resulted in responses in Arabic dialect, as desired (see chapter 3.4 and for all responses appendix 6.3).

It was originally planned that ten speakers from each Arab country would participate and complete the questionnaire. During the course of the study this proved to be impossible, partly because of the lack of contact with certain countries and native speakers of their dialects, and partly because of the reluctance of many to take part or to forward the study to acquaintances. Section 3.4 lists the number of participants for each dialect, included in the results of this study. The highest number of respondents for a single country is ten, as was planned, but there are many countries that couldn't be included at all. Nevertheless, the study can be considered a success as the overall idea worked and differences in the conceptualisation of static spatial relations between the dialect groups were confirmed as expected (see the discussion of the results in 3.5). It is important to note that due to the limited number of respondents, the results of the present work should be considered as a pilot study and therefore its results should be interpreted with caution.

3.2 Selection of the Test Material

The test material used in the questionnaire consists mainly of a series of drawings known as "BowPed" by Bowerman and Pederson (1992b). These drawings were created by these two researchers to study the conceptualisation of static spatial relations in languages and led to the findings described in chapter 2.1.1. Over time, the drawings have been modified, adapted, and annotated and are now freely available to the research community to explore the linguistic and conceptual representation of static spatial relations in languages around the world.

The BowPed series consists of 71 drawings of static spatial relations. In each drawing, an object, the Figure, is highlighted in orange (see figure 3 for an example). Participants are instructed to describe the position of the Figure relative to the reference object, the Ground, which is shown in black. Bowerman and Pederson recommend using the question "Where is [the orange object]?" when collecting linguistic data from participants (Bowerman & Pederson, 1992b: 2).

A selection had to be made as to which drawings from the BowPed series would be included in the questionnaire, as the large number of drawings was beyond the scope of this paper. The

selection process is described below, and a summary table showing the decision made for each of the 71 drawings, together with an explanation, can be found in the appendix at section 6.1.

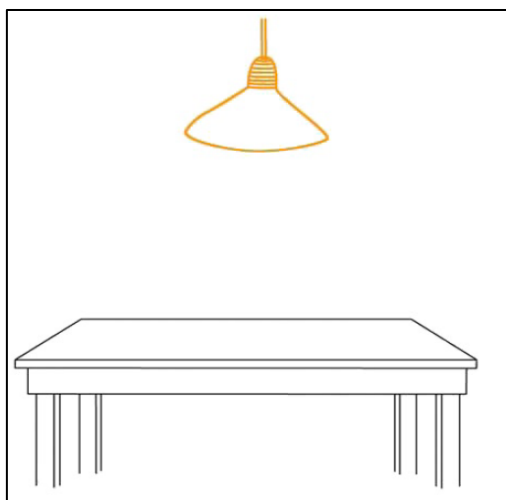


Figure 3: Example of a drawing from the BowBed picture series. The Figure, here the lamp, is shown in orange, the Ground, here the table, in black. During the collection of linguistic data, participants are asked: "Where is the lamp."; upon which they should describe the position of the Figure using the Ground as a reference. In this case a possible answer would be: "The lamp_F is hanging above the table_G."

First, the six drawings used by Bowerman and Choi (2001) as the basis for their conceptualisation types (see figure 1) were considered to be unquestionably integral to the questionnaire. This was done in order to be able to compare the results of the present study with Bowerman and Choi's grouping. The remaining drawings (65) were given to five native Arabic speakers for a preliminary test run, to identify possible problems with the different drawings. These Arabic speakers could give their answers in Latin letters or in Arabic script, to test the practicality of the two possible writing systems.

The answers obtained were clearly given in dialect, as the following example shows (all the answers from the pre-test can be found in the appendix under point 6.2). Respondent number 4 answered the question for picture 19 ("Where is the apple?") with *3a s7an*, which is a clear dialectal cognate (shortened preposition, vocalisation adapted to dialectal rules) to the MSA variant *على الصحن* / *'alā ṣ-ṣaḥni*.

This was taken as a proof that the chosen method of obtaining answers in dialect was working, and the same strategy was used for the final questionnaire. Furthermore, from the pre-test, where all five respondents chose to give their answers in Latin letters, it could be concluded

that there was no problem in allowing the Arabic speakers to write in both Latin and in Arabic letters, as all the answers received in the pre-test were understandable and analysable. The freedom to choose the writing system, i.e. Latin or Arabic letters, was therefore maintained in the actual data collection for the study.

Based on the data from the preliminary test run, all pictures were excluded that at least one of the five participants had problems with. This meant that either no answer was given, the picture was misunderstood, or the answer did not contain a preposition. This process led to the exclusion of 20 of the pictures, leaving 45 pictures that were left to choose from.

Then, from the remaining images (45), for each of the seven concepts (SUPPORT, ENCLOSURE, AROUND, ABOVE, UNDER, FRONT, BEHIND), one drawing was selected with an animated being as the Figure and another one with an inanimate object, whose arrangement was considered to be as prototypical as possible for each of the concepts. The choice of an animated and an inanimate object was based on the idea that animation might influence the preposition used, as animation can influence language use in many ways (e.g. it affects the case used in Slavic languages, cf. Comrie & Corbett 1994). However, this was not possible for the concept of AROUND as no animated being could be imagined in an AROUND position. Instead, two inanimate objects were chosen for AROUND.

For four of these prototypical situations, where none of the drawings in the PowBed series were considered appropriate, the author created his own drawings using the BowBed series as a model (see figure 4). These self-created static spatial relations are:

- ABOVE, animate: bird above tree
- BEHIND, inanimate: tree behind house
- FRONT, animate: cat in front of house
- FRONT, inanimate: tree in front of church

A further 12 pictures were included in the questionnaire because they were thought to be of interest for analysis. This means that the questionnaire contained a total of 32 drawings. These were:

- the 6 drawings of the SUPPORT-ENCLOSURE gradient
- the 14 prototypical situation drawings of the 7 concepts, each animated and inanimate (except for AROUND)
- the 12 drawings that were considered to produce interesting results

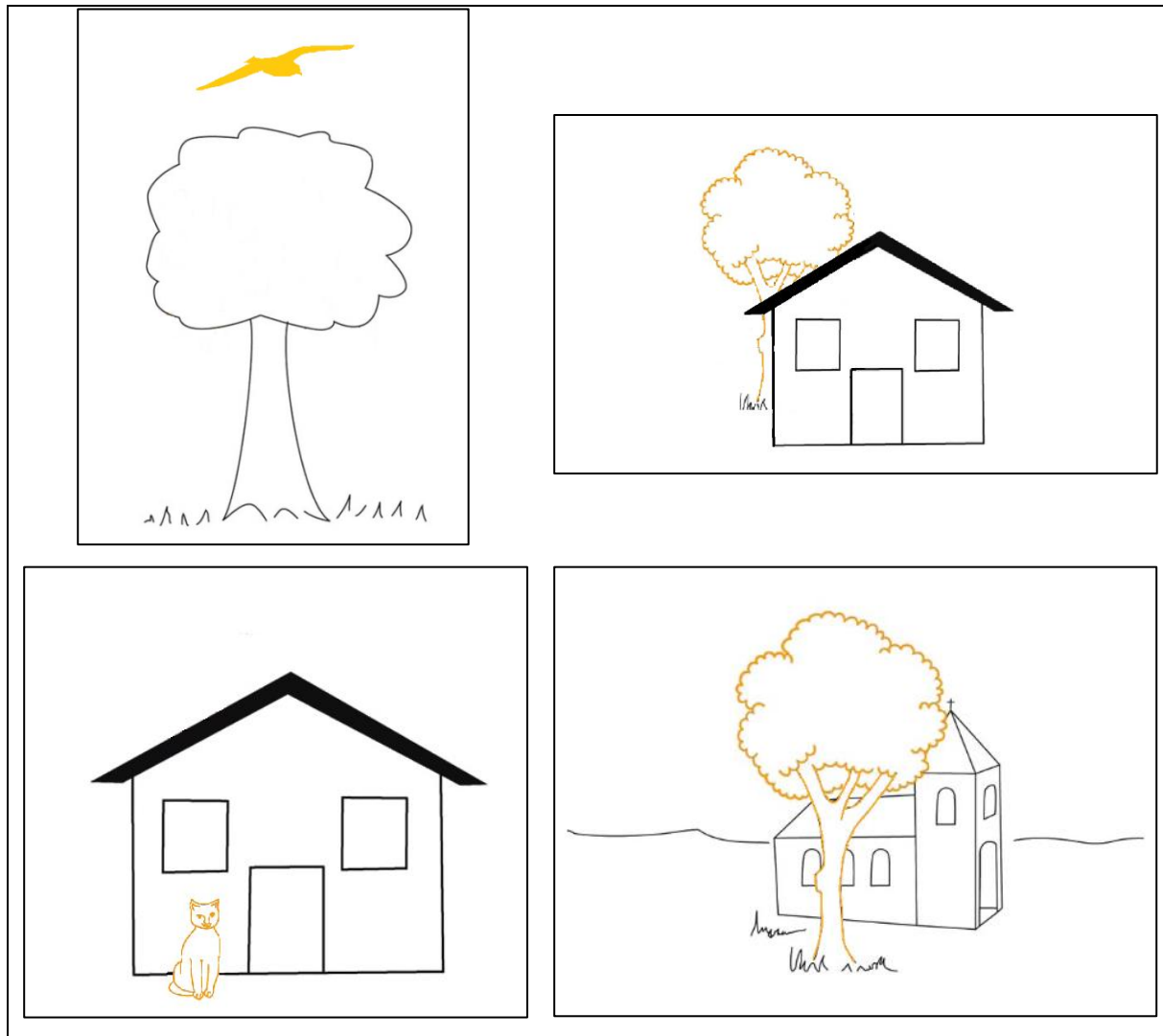


Figure 4: The four self-created drawings, inspired by the BowBed picture series (accordingly, the Figure is shown in orange and the Ground in black), for those static spatial relations for which no existing drawing was deemed usable. The drawings are (from top left) 72: bird above tree (ABOVE, animated), 74*: tree behind house (BEHIND, inanimate), 75*: cat in front of house (FRONT, animated) and 76*: tree in front of church (FRONT, inanimate).*

3.3 Questionnaire

The questionnaire used for this study was created using the free online application "Google Forms" and can be found at this link:

<https://forms.gle/iNGWtMML4NfUbZgG7>

The instructions and questions of the questionnaire were given in the three languages Modern Standard Arabic, English and French, in order to make the questionnaire accessible to as many native speakers of an Arabic dialect as possible.

As already mentioned in section 3.1, the subjects were explicitly asked several times to give the answers in their dialect and not in MSA. Due to the diglossia situation in the Arab world, Arabic speakers are very tempted to answer in the standard language MSA, as this is the prestige variant, especially if the answer is to be given in written form. It was therefore decided that several explicit references were necessary.

It cannot be ruled out that the instructions given, and the questions asked in the Modern Standard Arabic may have had an influence on the answers, i.e. may have triggered some sort of shift in the answers towards MSA, but this has to be accepted, as there is no other way. Ideally, the explanations and questions would have been asked in the respective dialects, but this is an impossible undertaking given the large number of dialects and their lack of standardisation. There is no alternative but to revert to Modern Standard Arabic.

The questionnaire consisted of two parts. After a short introduction, the subjects were asked to provide some personal information. Data was collected on their gender, age, country and city/area of upbringing, current country of residence and dialect spoken. This was done so that the prepositions used by the test subjects could later be categorised according to dialects and dialect groups. See section 3.4 for details of how this was done.

The gender question offered a choice between female, male and other and the age question divided respondents into six age groups. Both questions were not compulsory, as it was feared that respondents who didn't want to answer them would be prevented from completing the rest of the questionnaire. This was possible, as these data are not really essential for the analysis of the linguistic data.

The remaining questions in the personal data section were mandatory, as they were needed to classify the responses into the correct dialect regions. For the questions on country of upbringing and current country of residence, a drop-down list of all Arabic-speaking countries (including "outside the Arabic-speaking world") was provided for selection. The questions asking for the dialect spoken and the city/area of upbringing had a space for an open response (see figure 5 for screenshots).

After entering their personal data, respondents saw an instruction page and an example (see figure 6 for screenshots). The example used was one of the drawings from the BowPed series, namely the dog (Figure) in a hut (Ground).

Questionnaire / استبيان

This questionnaire is part of my Master's thesis in Arabic at the University of Vienna and is addressed to native speakers of Arabic. It will take only a few minutes to complete and your answers will help me a lot!

Ce questionnaire fait partie de mon mémoire de maîtrise de langue arabe à l'Université de Vienne et s'adresse aux locuteurs dont l'arabe est la langue maternelle. Il ne vous prendra que quelques minutes et vos réponses m'aideront beaucoup !

هذا الاستبيان جزء من رسالة الماجستير التي بصدد إعدادها في اللغة العربية في جامعة فيينا، وهو موجه إلى الناطقين باللغة العربية. لن يستغرق الأمر سوى بضع دقائق لإكماله وستساعدني إجاباتك كثيرًا

age / âge / عمر

☐ 20 or younger / 20 ou moins / أقل ٢٠

☐ 21 - 30 / ٣٠ - ٢١

☐ 31 - 40 / ٤٠ - ٣١

☐ 41 - 50 / ٥٠ - ٤١

☐ 51 - 60 / ٦٠ - ٥١

☐ 61 or older / 61 ou plus / أكبر ٦١

sex / sexe / جنس

☐ female / femme / أنثى

☐ male / homme / ذكر

☐ other / autre / آخر

In which city or area did you grow up? / Dans quelle ville ou région as-tu grandi? *

في أي مدينة أو منطقة نشأت؟ /

Teie vastus

In which country do you live nowadays? / Dans quel pays vivez-vous actuellement *

في أي بلد تعيش اليوم؟ /

Valige

Which Arabic dialect do you speak? / Quel dialecte arabe parlez-vous? * ما هي اللهجة العربية التي تتكلمها؟

Teie vastus

In which country did you grow up? / Dans quel pays avez-vous grandi? * في أي بلد نشأت؟

Valige

outside of the Arabic speaking world / en dehors du monde arabophone / خارج العالم العربي

Algeria / Algérie / الجزائر

Bahrain / Bahrein / البحرين

Chad / Tchad / تشاد

Comoros / Comores / جزر القمر

Djibouti / جيبوتي

Egypt / Égypte / مصر

Iraq / Irak / العراق

Israel / Israël / إسرائيل

Jordan / Jordanie / الأردن

Kuwait / Koweït / الكويت

Lebanon / Liban / لبنان

Libya / Libye / ليبيا

Malta / Malte / مالطا

Figure 5: Screenshots of the first part of the questionnaire, which collected the respondents' personal data. The questions about gender and age were optional, as they are not really necessary for the initial analysis of the linguistic data, and it was feared that some respondents might not want to provide this information and not answer the questionnaire at all. The two questions on countries (where did you grow up and where do you live now) provided a drop-down list of all Arabic-speaking countries and the option "outside the Arabic-speaking world", the other questions offered a field for an open answer.

The following tasks are dedicated to ARABIC DIALECTS.

The description should be as natural and informal as possible - think of how you would describe the position of the orange object to a family member or a good friend in an everyday situation.

Answer informally and spontaneously, purely according to your feeling.

Please enter your answer in the box below each drawing. You can give your answer in Latin or Arabic letters. The most important thing is that your answer reflects how you would describe the position of the orange object IN YOUR DIALECT.

For clarification, an example will follow.

Les questions suivantes sont consacrées aux DIALECTES ARABES.

Différents dessins seront présentés et la position de l'objet représenté en orange devra être décrite. Veuillez le faire dans votre DIALECTE ARABE (PAS EN FUSHA/ARABE STANDARD).

La description doit être aussi naturelle et informelle que possible - pensez à la façon dont vous décririez la position de l'objet orange à un membre de votre famille ou à un ami dans un moment ordinaire.

Répondez de manière informelle et spontanée, en fonction de votre sens de la langue.

Veillez inscrire votre réponse dans la case située sous chaque dessin. Vous pouvez donner votre réponse en lettres latines ou arabes. Le plus important est que votre réponse reflète la façon dont vous décririez la position de l'objet orange **DANS VOTRE DIALECTE**.

Pour plus de clarté, un exemple suivra.

المعام التالية مخصصة للجهات العربية

سيتم عرض رسومات مختلفة، ويجب وصف موضع الجسم لموضح باللون البرتقالي. يرجى القيام بذلك بلهجتك العربية (وليس الفصحى).

يجب أن يكون الوصف طبيعياً وغير رسمي قدر الإمكان - فكر في الطريقة التي ستصف بها موضع الجسم البرنقالي لأحد أفراد العائلة أو لصديق، فملاحظة عابدة

أجب بشكل تلقائي، و غير رسمي، وفقاً لمشاركتك

الرجاء إدخال إجابتك في المربع الموجود أسفل كل رسم. يمكنك إعطاء إجابتك بالأحرف اللاتينية أو العربية. الشيء الأكثر أهمية هو أن إجابتك تعكس كيف تصف موضع الجسم البرقالي في لهجتك

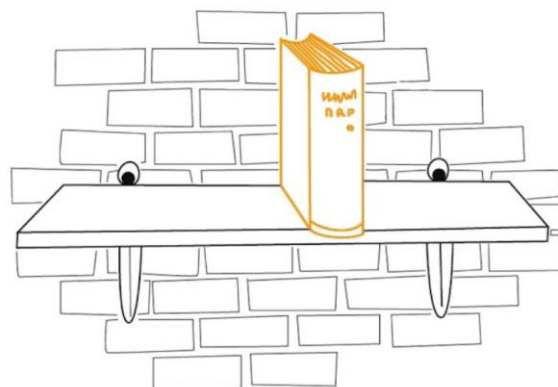
للتوضيح، سيُتبع مثال

Where is the dog? / Où est le chien ? / أين هو الكلب؟



Possible answer: / Réponse possible : / الإجابة المحتملة:
el-kalb fil-bet

Where is the book? / Où est le livre ? / أين الكتاب ؟



Please give the answer in your ARABIC DIALECT.
Veuillez donner la réponse dans votre DIALECTE ARABE.
من فضلك أعط اجابتك بلهجتك العامية

Teie vastus

Where is the rabbit? / Où est le lapin ? / أين الأرنب؟

30

The 34 drawings were shown last. These were automatically presented by the questionnaire in a different order for each respondent to avoid sequence effects. Above each of the drawings stood the question "Where is [the orange object]? / Où est [l'objet orange] ? / أين [الشيء البرتقالي]؟". Below the drawings, respondents were again reminded to answer in dialect, and then there was a field to enter the answer.

Respondents for the study were recruited primarily through friends and acquaintances, but also via the internet on social media, after which the link to the questionnaire was sent to the respondents once they had given their consent to participate. Preference was given to respondents who indicated that they were born and still live in the same area, as this increases the likelihood of receiving unmixed dialect responses. As mentioned above, the original plan was to gather ten responses per country, which proved to be quite difficult.

Once the questionnaires had been completed, the linguistic data was downloaded and entered into spreadsheets. These spreadsheets, from which the data for the summary tables in 3.5 was taken, can be found in the appendix at 6.3.

3.4 Evaluation of the Data

The linguistic data collected was sorted by country and then the countries were assigned to the corresponding dialectal area of Arabic (see 2.2.1). Next, the linguistic data was analysed according to the prepositions used in the responses and first entered into spreadsheets (see appendix 6.3), after which the data was condensed into summary tables showing each preposition used by 25 % or more of the respondents (see the discussion of the results, under 3.5). For an overview of the different forms of writing used by the native speakers in their answers, see table 6 at the end of this chapter.

It can be concluded that the method chosen for data collection was appropriate and that relevant linguistic data was collected for the analysis section of this study. Almost all the responses could be analysed and only a few were formulated without a preposition or were left blank and therefore omitted from the results. In addition, there are clear indications, that the answers were given in dialect and not in Modern Standard Arabic, such as the answer of respondent 90, who is from the United Arab Emirates, and whose answer to the question "Where is the man?" is "الريال فوق البيت". In this response, the sound shift from /ğ/ to /y/, which is typical of Emirati dialects, is clearly seen in the use of the Arabic letter ي in the word for "the man" (الريال).

However, it must also be noted that for many of the countries it was not possible to find enough native speakers who would have been willing to take part in the study. Instead of the planned ten respondents per country, the actual numbers were far lower.

<u>Dialect Group</u>	<u>Country</u>	<u>Participants</u>
Maghrebi	total	13
	Morocco	1
	Algeria	2
	Tunisia	10
Egyptian	total	8
	Egypt	5
	Sudan	3
Levante	total	10
	Syria	10
Mesopotamia	total	1
	Iraq	1
Gulf	total	12
	Kuwait	4
	Saudi Arabia	1
	UAE	7
Maltese	total	10
	Malta	10
<u>total</u>		<u>54</u>

Table 5: Overview of respondents for the data included in the linguistic study. A total of 54 respondents answered the questionnaire, with the Maghrebi dialects forming the biggest group (13 respondents in total), followed by the Gulf dialects (12 respondents in total). Both Levantine dialects and Maltese are represented by 10 respondents each. Egyptian dialects are represented by 8 respondents, which is quite low for this type of study, and Mesopotamian by only 1 respondent, which makes the results rather unreliable. Each of the dialect groups is further broken down by country of origin of the respondents, with only Tunisia, Syria and Malta reaching the initial target of 10 respondents per country.

Only for three countries (Tunisia, Syria, Malta) the initial target of ten respondents willing to complete the questionnaire was reached. Two countries (Egypt, United Arab Emirates) had five

or more respondents, and three countries (Algeria, Sudan, Kuwait) had two or more. Three countries (Morocco, Iraq, Saudi Arabia) were represented by only one single person, giving a total of 54 respondents, whose answers were used for the analysis (see table 5 below for an overview of all respondents). This means that for around 15 countries in the Arab world, no responses at all could be included in this study.

This is very unfortunate, because the fewer respondents, and therefore the fewer linguistic data, the less precise the results and the lower the quality of the conclusions that can be drawn. This means that in most cases it is not possible to draw conclusions about individual countries, but the data can still be used to analyse trends for the major dialect groups, four of which have 10 or more responses (Maghrebi, Levantine, Gulf dialects, and Maltese) and one of which has eight (Egyptian dialects). Only the data for the Mesopotamian dialects, which have only one respondent, is so poor, that nothing can really be said about the behaviour of this dialect group.

It should also be pointed out that it was not possible to ensure the accuracy of the personal details given by the respondents regarding their place of upbringing and country of residence, as most of the respondents were not personal acquaintances. This fact cannot be changed, however, as there is no other option, as so many people are needed, often found via the internet, and it is not feasible to review the origins of all. The best way to solve this problem is to have as many respondents as possible, as this reduces the influence of people who are untruthful about their origins.

Forms of the written answers in Arabic:

As described in section 2.2, there are several ways of writing in Arabic, both official and informal. However, in order to understand how the prepositions used could easily be identified, no matter what writing system was used, an overview of the different ways of writing (see table 6) used by the respondents is given below. Listed are the Arabic alphabet, the official transcription of the German Oriental Society (Deutsche Morgenländische Gesellschaft, DMG), which was established in 1935, as well as the informal transcription options commonly used on the internet today (cf. Björnsson 2010).

It is important to bear in mind that these are informal rules and that, in the end, everyone writes in dialect just as he or she pleases, no matter what script they use. Thus, in addition to the sounds present in the standardised MSA and listed in table 6, some other letters may be found in the responses that represent sounds that are only used in the dialects and not in Modern Standard

Arabic letter	DMG Transcription	Informal Transcription
ا	ʾ	2 / ' /
ب	b	b
ت	t	t
ث	<i>t̤</i>	th
ج	ǧ	j / dj
ح	ħ	7
خ	ħ	5 / kh
د	d	d
ذ	<i>d̤</i>	dh
ر	r	r
ز	z	z
س	s	s
ش	š	sh / ch
ص	ṣ	9 / s
ض	<i>ḍ</i>	9' / d
ط	<i>ṭ</i>	6 / t
ظ	<i>ẓ</i>	6' / z
ع	ʿ	3 / c
غ	ǧ	3' / gh
ف	f	f
ق	q	q / k
ك	k	k
ل	l	l
م	m	m
ن	n	n
ه	h	h
و	w	w
ي	y	y
vowel lengthening	-	double vowel / not indicated

Table 6: The Arabic alphabet and the official transcription of the Deutsche Morgenländische Gesellschaft (DMG, 1935), which was used for the transcription of Arabic in this work, are listed. The last column also contains informal ways of transcribing Arabic as used by Arabic speakers on the internet (cf. Björnsson 2010).

Arabic. An example of this is *g*, which is not a phoneme in MSA, but is found in many dialects, such as Sudanese. An example of the use of the *g* can be seen in the following example, written by participant 91 from Sudan: *fog al shagara*. This means that the list provided in table 6 is not exhaustive but shows those sounds that are also found in MSA.

It is interesting to note that, as can be seen from the linguistic data collected, the way a respondent chooses to write is also strongly influenced by the country from which they come.

While French has a strong influence on speakers of Maghrebi dialects, who write the digraph *ch* (as in French orthography) to represent the /ʃ/ sound, speakers of Egyptian dialects, where English has a stronger influence, chose to write *sh* (as in English orthography) instead.

It is also interesting to note the respondents of which countries, such as Tunisia, chose to answer mainly in Latin letters, while respondents from the Gulf area almost exclusively used Arabic letters. This is due to the situation in each country: while French is very influential in Tunisia, where higher education is mainly conducted in French, MSA has a very strong position in the United Arab Emirates.

This excursion is intended to show that there are many other interesting aspects to the linguistic data collected, which unfortunately could not be studied and analysed within the framework of this study. Another example is the differences in the word choice of the speakers of the different dialects when writing the answers.

3.5 Discussion of the Results

As the amount of data collected through the questionnaires is vast and too much to analyse everything in detail, the following discussion will focus on the SUPPORT-ENCLOSURE gradient proposed by Bowerman and Pederson, the concepts of AROUND and ABOVE, as well as on three drawings whose results were considered interesting.

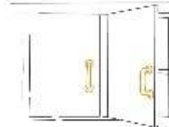
The summary tables, which precede the discussion of the results show all the prepositions that were used in the answers by more than 25% of the respondents. The fact that the figures do not always add up to 100% is because some respondents did not answer at all or misunderstood the picture (as can be seen from the answer). These cases account for the missing percentages.

While the numbers in the tables after the prepositions show the percentages of their use in the linguistic data collected, the numbers next to the different dialect types show the number of

respondents who answered the questionnaire and thus on how many answers the percentages after the prepositions are based.

It should be noted that the tables do not show the dialectal variants found in the responses, but rather the cognate MSA variant or the related root, when a newly created dialectal variant is used.

SUPPORT-ENCLOSURE Gradient (as in Bowerman & Pederson (1992a)):

						
<u>Berber</u>	x	x / di		di		
Maghrebi (13)	<i>fawqa</i> (92)	<i>fī</i> (77)		<i>fī</i> (92)	<i>fī</i> (100)	
Morocco (1)	<i>fawqa</i> (100)	<i>fī</i> (100)				
Algeria (2)	<i>fawqa</i> (100)	<i>‘alā</i> (50) <i>fī</i> (50)		<i>fī</i> (100)		
Tunisia (10)	<i>fawqa</i> (90)	<i>fī</i> (80)		<i>fī</i> (90)	<i>fī</i> (100)	
Egyptian (8)	<i>‘alā</i> (50) <i>fawqa</i> (38)	<i>fī</i> (63) <i>‘alā</i> (25)	<i>fī</i> (75)			<i>fī</i> (63)
Egypt (5)	<i>‘alā</i> (80)	<i>fī</i> (60) <i>‘alā</i> (40)	<i>fī</i> (100)	<i>fī</i> (80)	<i>fī</i> (60)	<i>fī</i> (80)
Sudan (3)	<i>fawqa</i> (100)	<i>fī</i> (66) <i>ḡuwwa</i> (33)	<i>fī</i> (33) <i>‘alā</i> (33) <i>fawqa</i> (33)	<i>fī</i> (66) <i>fawqa</i> (33)	<i>fī</i> (100)	<i>fī</i> (50) <i>ḡuwwa</i> (50)

<u>English</u>	on					in
Levante (10)	‘alā (90)	‘alā (70)	‘alā (100)	‘alā (80)	‘alā (70)	ḡuwwa (50) bi- (50)
Syria (10)	‘alā (90)	‘alā (70)	‘alā (100)	‘alā (80)	‘alā (70)	ḡuwwa (50) bi- (50)
Mesopotamia (1)	bi- (100)	‘alā (100)	‘alā (100)	‘alā (100)	‘alā (100)	bi- (100)
Iraq (1)	bi- (100)	‘alā (100)	‘alā (100)	‘alā (100)	‘alā (100)	bi- (100)
<u>Dutch</u>	op	aan				in
Gulf (12)	fawqa (67)	‘alā (92)		‘alā (58)	‘alā (58) fī (25)	fī (42) dāxila (25)
Kuwait (4)	fawqa (75)	‘alā (100)		‘alā (75)	bi- (25) fī (25) ‘alā (25)	fī (25) dāxila (25) bi- (25) ‘alā (25)
Saudi Arabia (1)	‘alā (100)	‘alā (100)		‘alā (100)	‘alā (100)	bi- (100)
UAE (7)	fawqa (71)	‘alā (86)		‘alā (43) fī (29)	‘alā (71) fī (29)	fī (57) dāxila (29)
<u>Japanese</u>	ue	(exact circumstances not specified)				naka
Maltese (10)	fawqa (90)	ma ‘a (60) fawqa (40)	ma ‘a (80)	ma ‘a (80)	fī (40) ma ‘a (30)	fī (60) ḡuwwa (40)

Table 7: Summary of the responses of speakers of Arabic dialects to the six pictures used by Bowerman and Pederson to postulate the five types of conceptualisation. On the left are the different dialect groups and the countries from which they are made up. The numbers in the brackets after the country / dialect

groups indicate the number of speakers used to generate the data. The numbers after the prepositions show the percentage of responses containing that preposition. The table lists each preposition that was used by 25% or more of the respondents. The colours of the cells in the table indicate the predominant concept used in the responses.

The results clearly show that the various dialect groups show different patterns of conceptualisation, which makes it possible to group them into different types of conceptualisation: Maghrebi and Egyptian dialects behave like languages of group 4, Levantine (and possibly Mesopotamian) dialects like group 1, Gulf dialects like group 3 and Maltese like group 2.

The results for the SUPPORT-ENCLOSURE gradient (Bowerman and Pederson (1992a), discussed in detail in section 2.2.1) show, that in most cases one preposition was preferred by a clear majority of the native speakers, with often only small numbers for other prepositional choices. The next common result is that there are two dominant prepositions in the responses and only in a few cases are the responses split between three or even less common four prepositions.

This phenomenon of many different prepositions being used is particularly evident in the Sudanese and Kuwaiti responses, which have a small number of respondents, and exactly this may be the reason for the effect seen. One of the characteristics of this type of study, which is based on a relatively large number of respondents, is that its results become more precise as the number of responses increases, since this dilutes individual errors, misunderstandings or phenomena due to respondents' idiolects.

Another reason for the diversity in the use of prepositions in the responses of participants from some countries could be a dialectal divide running through these countries. This fact would be exacerbated if the prepositional split persisted for a larger number of respondents, making it necessary to analyse these responses in more detail, i.e. by breaking them down by exact dialect. This could be done by using the information on the town or area where the respondent grew up, as provided in the personal information section of the questionnaire.

Maghrebi and Egyptian dialects:

The prepositions used by the respondents clearly show a pattern of overgeneralisation of the concept of ENCLOSURE, which places Maghrebi and Egyptian dialects in group 4. Prepositions associated with ENCLOSURE are used by virtually all the dialects studied, even for the drawing "plaster on leg", which is the closest drawing to the highly prototypical drawing for the concept of SUPPORT "cup on table". The weakest support for this can be found in the Sudani responses,

where respondents showed less clear use of prepositions than in the other dialects. The small number of respondents may be a reason for this, as mentioned initially.

The exemplary language for group 4 used by Bowerman & Pederson are the Berber languages that happen to be spoken or were the indigenous languages of the area where Maghrebi Arabic is spoken today. It has long been established that Berber had a strong influence on many aspects of this dialect group, and the data presented above suggests that the influence of Berber on Arabic was so strong that even the conceptualisation of space was affected and the Berber system adopted into Arabic. This explanation does not make sense for the group of the Egyptian dialects, since no Berber language was spoken in that area.

When analysing the prepositions used by the respondents, it is very obvious that the preposition *fawqa* has essentially replaced *‘alā* as the preposition used to denote the concept of SUPPORT in all of the Maghrebi dialects as well as in Sudan. This is a well-known process and has already been mentioned in 2.2.2.

In addition, *ḡuwwa* was used as the preposition to denote the concept of ENCLOSURE in some responses of the Sudani dialects, but the distribution of these responses does not allow the establishment of a clear rule. The use of this preposition instead of *fī* in several parts of the Arabic-speaking world is also known and was described in 2.2.2.

An interesting phenomenon (not shown in table 7) is that in the Tunisian responses, the word *waṣṭ* (English: middle) was added after the preposition *fī* in 50% of the responses to the drawing with the highly prototypical ENCLOSURE situation "apple in bowl", but nowhere else. This could indicate that a different construction is used in the case of a true prototypical ENCLOSURE situation. This would lead to a tripartition of the prepositional system, similar to group 3, where the concept of SUPPORT is further subdivided, except that here the overgeneralised concept is that of ENCLOSURE. If this were true, a hitherto unaccounted for type of conceptualisation would have to be created: overgeneralisation of the concept of ENCLOSURE with specification of the type (prototypical or not).

Levante and Mesopotamian dialects:

The prepositions chosen by the respondents from Syria (Levantine dialects) show very little variation for almost all situations. *‘alā* was the preposition chosen by 70% or more of the respondents for all situations except the highly prototypical ENCLOSURE situation "apple in bowl". This clearly shows an overgeneralisation of the concept of SUPPORT, as is typical for

languages of conceptualisation type 1, such as English or Hebrew. Since closely related languages such as Hebrew use this type of conceptualisation, this grouping was initially expected for Arabic dialects in general.

With regard to the concept of ENCLOSURE, which was only used for the highly prototypical situation "apple in bowl", the responses from Syria were evenly split between the two prepositions *ḡuwwa* and *bi-*, both of which are known alternative prepositions to *fī* (see chapter 2.2.2).

The responses for the Mesopotamian group, which are based on only one respondent from Iraq and therefore need to be analysed with great care, seem to contradict the rules of conceptualisation established by Bowerman & Pederson in that the same preposition, namely *‘alā*, is used for both the highly prototypical situation of ENCLOSURE and also for that of SUPPORT, but a different preposition, namely *bi-*, is used in between. This result is most likely due to problems with the responses of the single respondent from Iraq and should disappear with more participants. It certainly needs to be checked again.

Ignoring the *bi-* as a response to the highly prototypical SUPPORT situation, since *bi-* is nowhere known to denote SUPPORT, but is very well known to denote ENCLOSURE, the rest of the responses seem to indicate a grouping of Mesopotamian dialects with group 1.

Gulf dialects:

The responses from respondents speaking Gulf dialects, show a clear overgeneralisation of the concept of support, with little variation in the prepositions chosen, showing figures of 71% or more for the different countries. Looking more closely at the prepositions used, it is clear that, with the exception of the Saudi Arabian respondent (based on only one response), respondents clearly chose *fawqa* as the preposition for the highly prototypical drawing of SUPPORT "cup on table", while a different preposition, *‘alā*, was chosen for the other, less prototypical drawings, conceptualised as situations of SUPPORT.

This distribution pattern is undoubtedly similar to the conceptualisation type of languages in group 3, such as Dutch or German: overgeneralisation of the concept of SUPPORT with a specification of the force acting on the Figure. This result, especially in such a quite robust form, since the prepositions do not show much variation and are based on the responses of twelve native speakers, comes as a surprise. There is no good explanation for this other than the fact that the dialects themselves have developed this tripartite division, while *fawqa* was in

the process of taking over the former usage of *ʿalā* and developing a more specialised task, to be used only in highly prototypical situations. Further research is definitely needed to confirm this finding and to understand how it developed.

The prepositions used for the concept of ENCLOSURE, on the other hand, are very diverse and do not give a clear picture. This is especially true for the Kuwaiti responses, where each respondent chose a different preposition. An increase in the number of participants should solve this problem and make the picture clearer.

Three different prepositions were used in the responses from the Gulf to denote the concept of ENCLOSURE, the aforementioned *fī* and *bi-* and, in addition, also cognates of the preposition *dāxila*, found only in the responses from Kuwait and the United Arab Emirates. The use of this preposition is unique to the Gulf dialects in the data collected for this thesis. According to Procházka (1993: 217ff.), *dāxila* is a preposition found in many different dialects, originally denoting the concept of INSIDE, and is very popular in Modern Standard Arabic. It is most likely not an original development of the dialects, but rather a loan word from literary language. This makes sense in the context of the Gulf, where standard Arabic is very strong, more so than in other Arabic-speaking areas.

Maltese:

The responses of the Maltese participants give a rather clear picture, with many prepositions reaching usage levels of 60% and much higher. As in the Maghrebi dialects, the probable ancestors of the Maltese language, *fawqa* is the only preposition used for prototypical situations of SUPPORT, while *ʿalā* seems to have been completely displaced. Prototypical situations of enclosure are predominantly expressed with *fī*, but cognates of *ġuwwa* can also be found in the responses.

The real peculiarity can be observed in the analysis of the non-prototypical situations in the middle of the gradient. Here, the majority of respondents chose cognates of the preposition *maʿa*, which in English is usually translated as "with". This behaviour is very reminiscent of languages with the conceptualisation type 2, which are mainly found in Asia and of which Japanese is an example. The language systems of type 2 languages provide only highly prototypical static relations with distinct prepositions, as seen in the Maltese responses: highly prototypical SUPPORT situations – *fawqa* vs. highly prototypical ENCLOSURE situations – *fī* / *ġuwwa*. The remaining situations, which are considered non-prototypical, are not described

with a local preposition, but rather paraphrased using a different construction, just like the Maltese use of *ma'a*: instead of saying that the Figure is "on" or "in" the Ground, the Maltese respondents chose to say that it is "with" the Ground, thus not conveying any information about the exact position of the Figure and the Ground in relation to each other.

This very surprising result, in that Maltese is to be considered a type 2 language, needs to be confirmed by including more participants (although the number of participants for Maltese is already quite high) and by contemplating how this change in conceptualisation could have come about, since neither the Maghrebi dialects, where Maltese has its roots, nor the two languages that have shaped Maltese into what it is today, Italian and English, show this kind of conceptualisation pattern.

Concepts of AROUND and of ABOVE:

				
Maghrebi (13)	<i>D-W-R (85)</i>	<i>D-W-R (54)</i>	<i>fawqa (85)</i>	<i>fawqa (100)</i>
Morocco (1)		<i>D-W-R (100)</i>	<i>fawqa (100)</i>	<i>fawqa (100)</i>
Algeria (2)	<i>D-W-R (50)</i> <i>ġanba (50)</i>	<i>L-W-Y (50)</i> <i>L-F-F (50)</i>	<i>fawqa (100)</i>	<i>fawqa (100)</i>
Tunisia (10)	<i>D-W-R (100)</i>	<i>D-W-R (60)</i>	<i>fawqa (80)</i>	<i>fawqa (100)</i>
Egyptian (8)	<i>ḥawla (75)</i>	<i>ḥawla (50)</i>	<i>fawqa (40)</i> <i>ḥī (40)</i>	<i>fawqa (88)</i>
Egypt (5)	<i>ḥawla (100)</i>	<i>ḥawla (80)</i>	<i>fawqa (57)</i> <i>ḥī (43)</i>	<i>fawqa (100)</i>
Sudan (3)	<i>barra (33)</i> <i>ḥawla (33)</i>	<i>L-F-F (33)</i>	<i>ʿalā (66)</i> <i>ḥī (33)</i>	<i>fawqa (66)</i>

Levante (10)	<i>ḥawla</i> (100)	<i>ḥawla</i> (40) <i>L-F-F</i> (40)	<i>fawqa</i> (80)	<i>fawqa</i> (90)
Syria (10)	<i>ḥawla</i> (100)	<i>ḥawla</i> (40) <i>L-F-F</i> (40)	<i>fawqa</i> (80)	<i>fawqa</i> (90)
Mesopotamia (1)	<i>D-W-R</i> (100)	<i>L-F-F</i> (100)	<i>fawqa</i> (100)	<i>fawqa</i> (100)
Iraq (1)	<i>D-W-R</i> (100)	<i>L-F-F</i> (100)	<i>fawqa</i> (100)	<i>fawqa</i> (100)
Gulf (12)	<i>ḥawla</i> (75)	<i>L-F-F</i> (58)	<i>fawqa</i> (58)	<i>fawqa</i> (75)
Kuwait (4)	<i>ḥawla</i> (75)	<i>L-F-F</i> (50) <i>D-W-R</i> (25) <i>R-B-Ṭ</i> (25)	<i>fawqa</i> (75) <i>bi-</i> (25)	<i>fawqa</i> (75) <i>bi-</i> (25)
Saudi Arabia (1)	<i>ḥawla</i> (100)	<i>ḥawla</i> (100)	<i>fawqa</i> (100)	<i>fawqa</i> (100)
UAE (7)	<i>ḥawla</i> (71) <i>H-W-Ṭ</i> (29)	<i>L-F-F</i> (71)	<i>fawqa</i> (43) <i>ḥi</i> (29)	<i>fawqa</i> (71)
Maltese (10)	<i>D-W-R</i> (100)	<i>D-W-R</i> (80)	<i>fawqa</i> (80)	<i>fawqa</i> (80)

Table 8: Summary of the responses of speakers of Arabic dialects to two of the drawings representing the concept of AROUND ("fence around house" and "hose around trunk") and to two of the pictures representing the concept of ABOVE ("lamp above table" and "bird above tree"). On the left are the different dialect groups and the countries from which they are made up. The numbers in the brackets after the country / dialect groups indicate the number of speakers used to generate the data. The numbers after the prepositions show the percentage of responses containing that preposition. The table lists each preposition that was used by 25% or more of the respondents. The colours indicate the predominant preposition or root. If a cell is grey, no single preposition / root was predominant and if it is white, no preposition / root could be extracted from the responses.

The results show that the pictures depicting situations related to the concept of ABOVE led to a very straightforward choice of propositions, with a large majority across all dialect types choosing fawqa. The fact that the situation "bird above tree" shows even less variation may indicate that this situation is perceived as more prototypical for the concept of ABOVE, in that no other concepts are activated when the situation has to be named, compared to the situation "lamp above table", where some respondents used other prepositions, besides fawqa. The results for the pictures depicting situations related to the

concept of AROUND show that the prepositions denoting the concept of ABOVE seem to be rather unstable in the dialects and tend to be exchanged with other roots, often in the form of adjectives, whose meaning is related to this concept, such as D-W-R (round, turn) or L-F-F (roll, wrap). In addition, the drawing "hose around trunk" seems to evoke a different type of conceptualisation, at least in some dialects, which could be due to the fact that the Figure (hose) is much closer to the Ground (trunk) compared to the other drawing, where the fence (Figure) is quite far from the house (Ground).

Comparing the responses to the four pictures of the two concepts AROUND and ABOVE, it is immediately clear that the prepositions used to denote the concept of ABOVE are by far more uniform than those used for the concept of AROUND.

To express the concept of ABOVE, in almost every single dialect group for the situations depicted ("lamp above table" and "bird above tree"), *fawqa* was predominantly chosen, which is the preposition originally used to name this concept and it was retained in this way in almost every dialect. The only case where *fawqa* was not present in any of the responses was in the Sudanese responses to the drawing of "lamp above table". There, *ʿalā* was used by the majority of native speakers, which makes some sense since the lamp is above the table, as it would be for the concept of SUPPORT (i.e. *ʿalā*), although there is no supporting force at play. In order to understand whether the chosen prepositions are indeed the result of a different conceptualisation by Sudanese Arabic speakers or a misunderstanding of the drawing on their part, more Sudanese participants would have to be found, and their responses included in the data.

The other option used by the Sudanese for the drawing "lamp above table" was *fī*, which is also found in the responses from Egypt and the United Arab Emirates, although it is never the most commonly chosen preposition. Only one other preposition was used, *bi-* in the responses from Kuwait for both drawings. These two prepositions *fī* and *bi-* are regularly associated with the concept of ENCLOSURE, and it is difficult to see how this concept fits into the picture here. As noted above in relation to *ʿalā* in the Sudanese responses, the same applies here: In order to understand whether the chosen prepositions are indeed the result of a different conceptualisation or a misunderstanding of the drawing on their part, more participants of the respective dialects would have to be found.

The fact that *fawqa* was chosen by virtually all of the respondents for "bird above tree", while there are more divergent responses for "lamp above table", may indicate that this situation was perceived by respondents as more prototypical for the concept of ABOVE, with the bird being

free in the sky above the tree and nothing to limit it, whereas in the other situation with the lamp above table, there has to be a ceiling above the lamp, which may make the situation less prototypical for conceptualisation and lead respondents to activate other concepts in addition to the concept of ABOVE.

As for the idea that animation could be a decisive factor in the choice of prepositions, this does not seem to play a role here. However, this cannot be ruled out completely, until this study has been carried out with a similar drawing showing an inanimate object above the tree, such as for example: aeroplane above tree. If the responses to such a drawing would also show such a strong dominance of *fawqa*, as with "bird above tree", it could be considered certain that animation has no effect here.

Looking at the results of the drawings of situations representing the concept of AROUND ("fence around house" and "hose around trunk"), it is noticeable that *hawla*, the preposition originally used for this concept, seems to be very unstable and has lost at least a part of its meaning in almost all of the dialects (the only exception being the dialect of Egypt, where *hawla* was used in the majority of the responses for both drawings). As a result, many dialects make use of other ways of expressing the concept of AROUND, mostly adjectives of roots that in some way include the notion of AROUND in their meaning. Over time, as the dialects change, these adjectives may become true prepositions in their own right.

Of these roots that have taken over where *hawla* is no longer used, by far the most common are *D-W-R* (English: round, turn) or *L-F-F* (English: roll, wrap). *D-W-R* is used in the vast majority of the Maltese responses for both drawings, amounting to 80% for "hose around trunk" and 100% for "fence around house". It is also the root of choice in most Maghrebi dialects for both pictures, as well as in the Mesopotamian dialect for the drawing "fence around house". The other widely used root, *L-F-F*, is used in Levantine, Mesopotamian and Gulf dialects and to a lesser extent in Algeria, but always for the drawing "hose around trunk". It is not used once for the drawing "fence around house".

This peculiarity leads to the second fact that immediately comes to mind when analysing the responses to the drawings of the concept of AROUND, namely that the answers are much less uniform and show much more variation than the responses for the drawings of the concept of ABOVE. On the one hand, this is an effect of the aforementioned fact that the preposition *hawla* seems to be instable and tends to disappear and dialects may choose different roots for their newly created prepositions denoting the concept of AROUND. On the other hand, it seems to be

due to a different conceptualisation of the two depicted situations, at least in a part of the dialect groups.

This is particularly clear in the responses from the Levant, Mesopotamia, the Gulf, Sudan and Algeria, where *L-F-F* is almost always the most frequently chosen option for "hose around trunk", whereas it is not chosen in any case for "fence around house", in which case it is either *D-W-R* or *hawla*. One reason for this very clear, different conceptualisation of the drawing "hose around trunk", could possibly be the fact that the hose (Figure) is closer to the trunk (Ground), there is even some sort of physical connection between the two. In contrast to this, there is no physical connection at all between the fence (Figure) and the house (Ground), on the contrary, there are many meters between them. Another possibility might be that the hose is wrapped around the trunk several times, while the fence is wrapped around the house once, which might evoke a difference in conceptualisation.

It could be argued that in the data we see the emergence of a different concept in relation to the concept of AROUND. The original concept, which included all cases of Figures being around Grounds, did not differentiate in terms of the contact between the Figure and the Ground, or how often the Figure is wrapped around the Ground. However, this seems to be the case for quite a few of the Arabic dialects included in this study. More drawings would need to be created depicting different situations for the concept of AROUND, in order to understand whether this division is an actual thing and where the native speakers of Arabic dialects draw the line in this hypothetical division of the concept of AROUND.

As before, there are a few responses to the concept of AROUND which suggest that respondents may have misunderstood the situations in the drawings. These are for example *ġanba* (English: next to) for Algeria and *barra* (English: outside) for Sudan, as there seems to be no connection between these two prepositions and the concept of AROUND. As always, a larger number of respondents is needed to be sure that these prepositions were not chosen because of different ways of conceptualising the situations, but because of misunderstandings.

Drawings that produced interesting responses:

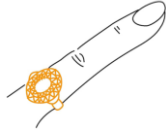
			
Maghrebi (13)	<i>fī</i> (100)	<i>fī</i> (46) / <i>‘alā</i> (46)	<i>fī</i> (100)
Morocco (1)	<i>fī</i> (100)	<i>fī</i> (100)	<i>fī</i> (100)
Algeria (2)	<i>fī</i> (100)	<i>fī</i> (50) / <i>‘alā</i> (50)	<i>fī</i> (100)
Tunisia (10)	<i>fī</i> (100)	<i>‘alā</i> (50) / <i>fī</i> (40)	<i>fī</i> (100)
Egyptian (8)	<i>fī</i> (75)	<i>‘alā</i> (75)	<i>fī</i> (88)
Egypt (5)	<i>fī</i> (80)	<i>‘alā</i> (100)	<i>fī</i> (100)
Sudan (3)	<i>fī</i> (66)	<i>‘alā</i> (33) / <i>fawqa</i> (33)	<i>fī</i> (66) / <i>fawqa</i> (33)
Levante (10)	<i>bi-</i> (70) / <i>‘alā</i> (30)	<i>‘alā</i> (90)	<i>bi-</i> (70) / <i>‘alā</i> (30)
Syria (10)	<i>bi-</i> (70) / <i>‘alā</i> (30)	<i>‘alā</i> (90)	<i>bi-</i> (70) / <i>‘alā</i> (30)
Mesopotamia (1)	<i>bi-</i> (100)	<i>‘alā</i> (100)	<i>bi-</i> (100)
Iraq (1)	<i>bi-</i> (100)	<i>‘alā</i> (100)	<i>bi-</i> (100)
Gulf (12)	<i>fī</i> (50) / <i>bi-</i> (25)	<i>‘alā</i> (75)	<i>fī</i> (67)
Kuwait (4)	<i>bi-</i> (75) / <i>fī</i> (25)	<i>‘alā</i> (75) / <i>bi-</i> (25)	<i>bi-</i> (50) / <i>fī</i> (50)
Saudi Arabia (1)	<i>‘alā</i> (100)		<i>‘alā</i> (100)
UAE (7)	<i>fī</i> (71)	<i>‘alā</i> (86)	<i>fī</i> (86)
Maltese (10)	<i>fawqa</i> (50) / <i>fī</i> (40)	<i>fawqa</i> (100)	<i>ma ‘a</i> (60) / <i>fī</i> (40)

Table 9: Summary of the responses of speakers of Arabic dialects to three drawings showing different non-prototypical spatial relations ("ring on finger", "writing on shirt" and "earring in ear"). On the left

are the different dialect groups and the countries from which they are made up. The numbers in the brackets after the country / dialect groups indicate the number of speakers used to generate the data. The numbers after the prepositions show the percentage of responses containing that preposition. The table lists each preposition that was used by 25% or more of the respondents. The colours indicate the predominant preposition. If a cell is grey, no single preposition was predominant and if it is white, no preposition could be extracted from the responses.

The results shown in the table confirm that no dialect conceptualises the situations in the same way as another, and that general tendencies in the conceptualisation of the different dialect groups can also be seen in the conceptualisation of the three situations analysed here. One of these is evident in the analysis of how the respondents conceptualised the situation "writing on shirt", for which the overwhelming majority used *ʿalā* and thus conceptualised it as a situation of *SUPPORT*, but in the responses from the Maghreb, many respondents (almost 50%) used *fī* instead, and thus conceptualised this situation as one of *ENCLOSURE*. This proves the strong overgeneralisation of the concept of *ENCLOSURE* in the Maghrebi dialects, which is typical for languages of the conceptualisation type 4. Maltese is the outlier in the data, showing a distinctly different pattern, which seems to indicate that three different conceptualisation types were active at the same time: The English way (conceptualisation type 1), where the "ring on finger" situation is conceptualised as one of *SUPPORT* and the "earring in ear" situation as one of *ENCLOSURE*; the Arabic way, where both are conceptualised via the concept of *ENCLOSURE* and the Maltese way (conceptualisation type 2), where non-prototypical situations are not described with spatial prepositions, but rather described in a non-spatial way, i.e. using *maʿa* (English: with) in the responses to the situation "earring in ear".

The three pictures analysed show different static spatial situations ("ring on finger", "writing on shirt" and "earring in ear"), which must be regarded as non-prototypical and should therefore lead to different conceptualisation patterns for different dialects. When analysing the responses, it should be possible to identify some of the general tendencies that have been established for the dialects, with the *SUPPORT-ENCLOSURE* gradient for the different dialect groups.

That this is indeed the case can be seen, for example, in the responses from the Maghreb, where every single respondent chose *fī* as the preposition to describe both the "**ring on finger**" and "**earring in ear**" situations. In the Egyptian dialects, *fī* is also the preposition of choice for at least 75% of respondents in both situations. This shows the typical overgeneralisation of the concept of *ENCLOSURE* for languages of conceptualisation type 4 and also for these two dialect groups, which have been grouped into type 4 in the course of this thesis.

It is true that speakers of other dialect groups also conceptualised these two situations as those of *ENCLOSURE*, but their numbers are much lower, and other conceptualisations also occur, such as the concept of *SUPPORT*, as seen in the Syrian responses, where 30% chose *ʿalā* for each of

the two drawings. This shows that the overgeneralisation of the concept of ENCLOSURE is less prevalent in the Levantine dialects.

In general, then, it can be said that although there are some differences between the dialect groups of Arabic in the conceptualisation of the "ring on finger" and "earring in ear" drawings, overall, the respondents tended to use the same conceptualisation for both situations, i.e. they were conceptualised as either a situation of SUPPORT or ENCLOSURE. This once again illustrates how differently native speakers of different languages conceptualise spatial situations and how difficult this fact makes language translation, because in English, for example, these two situations would never be conceptualised with the same concept, but clearly belong to different concepts, i.e. "ring ON finger" – concept of SUPPORT vs. "earring IN ear" – concept of ENCLOSURE.

Other trends in the SUPPORT-ENCLOSURE gradient can also be seen in the responses to these three drawings, for example that Maghrebi and Egyptian dialects use *fī* to indicate the concept of ENCLOSURE, whereas dialects of the Levante and Mesopotamia prefer *bi-*. The responses for the Gulf dialects are again quite diverse, with the responses from the United Arab Emirates following the conceptualisation type seen in the responses from Egypt. This is true for as well as the choice of concept (ENCLOSURE), the choice of preposition (*fī*) and the numbers (around 70 and 80% respectively). The responses from the other Gulf dialects, i.e. Kuwait and Saudi Arabia, vary widely and language data from more respondents would be needed to draw any real conclusions.

Turning to the third situation, "**writing on shirt**", it becomes clear that this situation was generally perceived as one of SUPPORT by the majority of respondents, with very high percentages of 75 or more choosing *‘alā* in their response. This effect is particularly strong in the Levant and Mesopotamia, but also in Egyptian and Gulf dialects. Interestingly, in the Maghrebi responses, this conceptualisation is not so straightforward, but is actually split evenly between the concept of SUPPORT (*‘alā*) and the concept of ENCLOSURE (*fī*), once again demonstrating the very strong overgeneralisation of the concept of ENCLOSURE in the conceptualisation of speakers of Maghrebi dialects. Once again, this proves the classification of the Maghrebi dialects into conceptualisation type 4.

The theory stated above that the Gulf dialects may behave like type 3 languages, with an overgeneralisation of the concept of SUPPORT and a division based on whether the situation is perceived as prototypical or not, seems to be supported by the responses to the drawing "writing

on shirt", since no response contains *fawqa*, which is theorised to be used only for highly prototypical situations. The analysed situation of "writing on shirt" is not considered to be prototypical for the concept of SUPPORT, since the letters are not really supported by the cloth in a literary way. If *fawqa* and *‘alā* were freely interchangeable in their use, one would expect for *‘alā* to appear in the response of at least some of the participants, but this is not the case.

Interestingly, the **Maltese responses** show a very different pattern of conceptualisation, compared to all the other Arabic dialect groups. For the situation "writing on shirt", 100% of the Maltese respondents chose *fawqa* to verbalise the drawing, thus conceptualising it as a situation of SUPPORT and using the preposition that is regularly used in Maltese for this purpose. So, there is nothing unusual here, yet.

However, comparing the responses to the drawings "ring on finger" and "earring in ear", the Maltese were the only group where the majority did not conceptualise these situations with the same concept. For the "ring on finger" drawing, the majority chose the concept of SUPPORT, i.e. *fawqa*, while for "earring in ear", 40% (which is not a majority, but still a significant number) chose the concept of ENCLOSURE, i.e. *fi*. This pattern of conceptualisation is very similar to what an English speaker would choose for these situations, and so the conclusion that this might be due to English influence is very reasonable, since this pattern is not found in any of the other Arabic dialect groups, and it is known that the English language has had, and still has, a very strong influence on Maltese.

Looking again at the responses for "earring in ear", we see that the majority of speakers chose to use *ma ‘a* in their response. As explained earlier, this is most likely to happen in cases where speakers see the situation as non-prototypical and prefer not to state what the exact relationship between the Figure and the Ground is. This is exactly what the Maltese did by answering along the lines of "the earring is with the ear". As mentioned above, this way of dealing with non-prototypical situations can be seen in type 2 languages, where Maltese was included because of the results seen in the SUPPORT- ENCLOSURE gradient. This sorting seems to be supported by the responses to the drawing "earring in ear", but these responses also imply that the other two situations "ring on finger" and "writing on shirt" are perceived as prototypical enough by Maltese speakers to use a real spatial preposition instead of resorting to the use of the paraphrase with *ma ‘a*.

Summarising the Maltese results, it can be argued that there is a kind of transitional moment visible in Maltese conceptualisation, where different conceptualisation strategies coexist. On

the one hand, the original Arabic system is still used, where both the situations "ring on finger" and "earring in ear" are treated as situations of ENCLOSURE (*fī* was used by 40% for each of the drawings), which corresponds to the conceptualisation in the Maghrebi dialects, the closest relatives of Maltese, while at the same time the English system of conceptualisation is used, as can be seen from the 50% of respondents who chose *fawqa*, i.e. the concept of SUPPORT, for "ring on finger", and the 40% who chose *fī*, i.e. the concept of ENCLOSURE, for "earring in ear". In addition, the Maltese system of conceptualisation, which does not specify the relationship between Figure and Ground when the situation is not perceived as prototypical enough (as in type 2 languages), is seen in the use of *ma'a* for "earring in ear" by 60% of the respondents.

This highly unusual and diverse result for obtained for Maltese definitely deserves further research and, if confirmed, would fit very well with the overall character of the Maltese language as a kind of transitional system where many different tactics are used for the same task at the same time, such as can be seen in plural formation, where the old Arabic broken plural system coexists with the plural -s of English.

4. Summary and Outlook

In conclusion, the initial question of whether Arabic dialects differ in their conceptualisation of static spatial relations has been answered in the course of this thesis, so that the chosen method was appropriate for obtaining the necessary data. The results, based on language samples from more than 50 native speakers of different Arabic dialects, do indeed show differences in the use of prepositions and also in the conceptualisation of the different situations analysed.

This study has made it possible to classify the five main groups of Arabic dialects, as well as Maltese, according to the conceptualisation type system introduced by Bowerman and Pederson. The results indicate that Arabic dialects are even more diverse in terms of conceptualisation than initially thought, as it was possible to classify the different dialects into four of the five existing types: Maghrebi and Egyptian dialects behave like type 4 languages, Levantine (and possibly Mesopotamian) dialects like type 1, Gulf dialects like type 3 and Maltese like type 2. In addition, there is some evidence that Maghrebi dialects may in fact conceptualise space in a way not described by Bowerman and Pederson, and thus a sixth type may be required. These findings once again underline the enormous diversity found in Arabic dialects.

There were also indications that the basic spatial concept of AROUND might be subject to change, at least in some of the dialects. It seems that its meaning might be split, creating two new, more detailed concepts: one where the Figure is closely connected to the Ground, and the other where there is a lot of space between the Figure and the Ground.

All of these results have been obtained while most of the data hasn't even been analysed. The huge amount of data collected provides still much more information, that could be analysed in further work. 21 of the 32 drawings have not yet been analysed, nor have the personal data, so analysing the results by age group, gender or separating the responses by exact place of birth rather than country of origin, are possible starting points for new work.

Although the data and results look interesting and promising, they must be treated with great caution and will undoubtedly have to be confirmed by follow-up studies with more participants. It has already been said that this type of study becomes more accurate with more participants. 10 should really be the minimum, but if possible this number should be increased. Furthermore, many dialects of the Arabic-speaking world are not included in the data due to difficulties in finding respondents. This shortcoming should be remedied in any follow-up study. As it proved

very difficult to get responses, when planning a follow-up study, a tactic should be developed to reach more people in the countries where no responses were received and to motivate them to participate in the study. The general method of an online questionnaire is probably still the best option for data collection.

Once the results of this thesis have been tested and verified in a follow-up study with a larger number of participants, it will be necessary to consider how some of the more peculiar findings might have occurred, under what influences, or whether they might have been the result of the dialects' own developments. Examples of this are the grouping of Maltese as a type 2 language or the Tunisian dialect using a possibly new type of conceptualisation, which was not described by Bowerman and Pederson.

Another question raised by the results of this study is how Modern Standard Arabic, which has no native speakers, behaves in terms of conceptualisation. Does it have its own type of conceptualisation, or does each native speaker of an Arabic dialect bring his or her native type of conceptualisation with them, i.e. does a Tunisian who speaks MSA conceptualise static spatial relations the "Tunisian way", thus like a type 4 language, while a Syrian conceptualises them in the "Syrian way", thus like a type 1 language, or do they switch to a general MSA type of generalisation?

Ultimately it remains to be concluded that, as much as has been discovered in the course of this thesis, as many questions have been raised and as many opportunities for future research have been identified.

5. Sources

- ALMUOSEB, M. A. (2016): *A lexical-semantic analysis of the English prepositions at, on and in and their conceptual mapping onto Arabic: a comparative investigation*. PhD Thesis. SOAS, University of London.
- ARNOLD, W. & KLIMIUK, M. (Hrsg.) (2019): *Arabic dialectology: methodology and field research*. Wiesbaden: Harrassowitz Verlag.
- AZOUAOU, F. & GUELLIL, I. (2017): *ALG/FR: A step by step construction of a lexicon between Algerian Dialect and French*. Auf der Konferenz: The 31st Pacific Asia Conference on Language, Information and Computation PACLIC 31.
- BEHNSTEDT, P. & WOIDICH, M. (2021): *Wortatlas der arabischen Dialekte. Band IV: Funktionswörter, Adverbien, Phraseologisches: eine Auswahl*. Leiden: Brill.
- BEHNSTEDT, P. & WOIDICH, M. (2005): *Arabische Dialektgeographie: eine Einführung*. Leiden: Brill.
- BJØRNSSON, J. A. (2010): *Egyptian Romanized Arabic: A Study of Selected Features from Communication Among Egyptian Youth on Facebook*. Masterarbeit an der Universität von Oslo.
- BOWERMAN, M. (1996): *The origins of children's spatial semantic categories: Cognitive versus linguistic determinants*. In: Gumperz J. & Levinson S. (Ed.): *Rethinking Linguistic Relativity*. Cambridge: Cambridge University Press. S. 145-176.
- BOWERMAN, M. & CHOI, S. (2001): *Shaping meanings for language: Universal and language-specific in the acquisition of spatial semantic categories*. In: Bowerman, M. & Levinson, S. (Ed.): *Language Acquisition and Conceptual Development (Language Culture and Cognition)*. Cambridge: Cambridge University Press. S. 475-511.
- BOWERMAN, M. & PEDERSON, E. (1992a): *Cross-linguistic perspectives on topological spatial relationships*. Präsentiert auf der Jahrestagung der American Anthropological Association in San Francisco, CA. Ein zugehöriger Artikel ist eventuell in Vorbereitung.
- BOWERMAN, M. & PEDERSON, E. (1992b): *Topological relations picture series*. In: Levinson, S. C. (Ed.), *Space stimuli kit 1.2*: November 1992, 51. Nijmegen: Max Planck Institute for Psycholinguistics.

CERQUEGLINI, L. (2019): *Spatial Frames of Reference in aṣ-Ṣānīʿ Arabic: Preliminary Observations of Language-to-Cognition Correlation*. In: Studi e Saggi Linguistici (SSL), 57/1, pp. 71-128.

COMRIE, B. & CORBETT, G. (1994): *The Slavonic Languages*. London: Routledge.

DEUTSCHE MORGENLÄNDISCHE GESELLSCHAFT (1935): *Die Transliteration der arabischen Schrift in ihrer Anwendung auf die Hauptliteratursprachen der islamischen Welt: Denkschrift dem 19. internat. Orientalistenkongress in Rom*. Leipzig: Morgenlaend. Ges. / Brockhaus.

EBERHARD, D. M. ET AL. (Hrsg.) (2021): *Ethnologue: Languages of the World (24. Aufl.)*. Dallas, Texas: SIL International.

FISCHER, W. ET AL. (1991): *Lehrgang für die arabische Schriftsprache der Gegenwart – Bd 1 (4. Aufl.)*. Wiesbaden: Reichert.

FISCHER, W. & JASTROW, O. (Hrsg.) (1980): *Handbuch der arabischen Dialekte*. Wiesbaden: Harrassowitz.

HETZRON, R. (2009): *Semitic Languages*. Überarbeitet von: Kaye, A.S.; In: Comrie, B. (Ed.): *The World's Major Languages*, (2nd Edition). New York: Routledge. S. 551-559.

JOHANSON, L. & CSATÓ É. Á. (1998): *The Turkic Languages*. London: Routledge.

JOHNSON, J. R. & SLOBIN, D. I. (1979): *The development of locative expressions in English, Italian, Serbo-Croatian and Turkish*. In: *Journal of Child Language*, 6(3). S. 529-545.

KAMUSELLA, T. (2018): *The Arabic Language: A Latin of Modernity?* In: *Journal of Nationalism Memory & Language Politics*, 11(2). S. 117-145.

LEVINSON, S. C. (2003): *Space in Language and Cognition*. Cambridge University Press.

KAYE, A. S. (2009): *Arabic*. In: Comrie, B. (Ed.): *The World's Major Languages*, (2nd Edition). New York: Routledge. S. 560-577.

MAHMUD, A. A. (1983): *Arabic in the Southern Sudan: History and the Spread of a Pidgin-Creole*. Khartoum.

NANOVFSZKY, G. (Hrsg.) (2004): *The Finno-Ugric world*. Budapest: Teleki László Foundation.

PROCHÁZKA, S. (1993): *Die Präpositionen in den neuarabischen Dialekten*. Dissertation an der Universität Wien.

SAYAH, L. (2014): *Diglossia and Language Contact: Language Variation and Change in North Africa*. Cambridge University Press.

SCICLUNA, K. ET AL. (2018): *Inħaddem il-Malti tajjeb – Manwal prattiku tal-grammatika*. Ħal Tarxien: BDL Publishing.

TALMY, L. (1972): *Semantic structures in English and Atsugewi*. PhD-Dissertation am Department of Linguistics der University of California, Berkeley.

Picture:

Wikipedia: https://en.wikipedia.org/wiki/Varieties_of_Arabic last checked on 10.09.2024

6. Appendix

6.1 Picture Series BowPed

Table 10 below gives an overview of all 71 drawings in the BowPed image series, as well as the 4 drawings that were created specifically for this work (see 3.2), and the decisions that were made for each of them regarding their inclusion or exclusion from the questionnaire. A detailed explanation of the decision-making process can be found in section 3.2.

The 32 drawings used for this work are highlighted in grey in the table.

Image Number	Included in Questionnaire	Reason
1	yes	part of support-enclosure gradient
2	yes	part of support-enclosure gradient
3	no	
4	no	problems in pre-test
5	no	problems in pre-test
6	no	concept not relevant
7	no	
8	yes	standard for concept support, inanimate
9	no	problems in pre-test
10	yes	situation deemed interesting
11	no	
12	no	
13	yes	standard for concept above, inanimate
14	yes	standard for concept enclosure, inanimate
15	yes	standard for concept around
16	yes	standard for concept below, inanimate
17	yes	situation deemed interesting
18	no	
19	yes	situation deemed interesting
20	no	
21	no	problems in pre-test
22	no	problems in pre-test
23	no	

24	no	
25	no	
26	no	
27	yes	part of support-enclosure gradient
28	no	
29	yes	situation deemed interesting
30	no	
31	yes	standard for concept below, animate
32	no	
33	yes	situation deemed interesting
34	yes	standard for concept support, animate
35	yes	part of support-enclosure gradient
36	yes	standard for concept above, inanimate
37	no	problems in pre-test
38	no	
39	no	
40	no	
41	yes	situation deemed interesting
42	no	problems in pre-test
43	no	problems in pre-test
44	yes	part of support-enclosure gradient
45	no	
46	no	
47	no	
48	no	problems in pre-test
49	no	problems in pre-test
50	no	
51	no	problems in pre-test
52	yes	situation deemed interesting
53	no	problems in pre-test
54	yes	standard for concept enclosure, animate
55	yes	standard for concept around
56	no	problems in pre-test
57	no	

58	yes	situation deemed interesting
59	no	
60	no	problems in pre-test
61	yes	part of support-enclosure gradient
62	no	problems in pre-test
63	no	problems in pre-test
64	yes	standard for concept behind, animate
65	yes	situation deemed interesting
66	no	problems in pre-test
67	no	
68	yes	situation deemed interesting
69	yes	situation deemed interesting
70	no	
71	no	
72*	yes	standard for concept above, animate
73*	no	
74*	yes	standard for concept behind, inanimate
75*	yes	standard for concept front, animate
76*	yes	standard for concept front, inanimate

Table 10: Overview of all 71 drawings in the BowPed image series and the five drawings created for this thesis. Information is given as to whether or not they were included in the questionnaire and the reason for this.

6.2 Results of the preliminary Test

The results of the pre-test carried out with five respondents are given in table 11 below. A description of the pictures used for the pre-test can be found in section 3.2, as well as the conclusions drawn from the test. For example, the results of the test led to the exclusion of any drawing that caused problems, e.g. that the respondents didn't understand.

respondent	drawing	answer	preposition	problem?
1	1	Fouk tawla 3al imine	<i>fawqa</i>	no
2	1	fuk etawla	<i>fawqa</i>	no
3	1	El kes fuk etawla	<i>fawqa</i>	no
4	1	Kes 3la tawla	<i>ʕalaa</i>	no
5	1	Fou9 tawla	<i>fawqa</i>	no
1	2	Fi 9a3 sa7fa	<i>fii</i>	no
4	2	9odem esa7fa	<i>quddāma</i>	yes, didnt understand the drawing

2	2	fi wisit esa7fa	<i>fii wasaṭi</i>	no
3	2	Tofa7a fi sa7fa	<i>fii</i>	no
5	2	Fi sa7fa	<i>fii</i>	no
1	3	Fou9 jweb fi tarkina	<i>fawqa</i>	no
2	3	3al enveloppe	<i>ṣalaa</i>	no
3	3	Timbri fou9 el jweb	<i>fawqa</i>	no
4	3	Fi jweb	<i>fii</i>	no
5	3	3alimine mil fou9 fil enveloppe	<i>fii</i>	no
1	4	Fi wisit echam3a	<i>fii wasaṭi</i>	yes, didnt understand the drawing
4	4	Fi wisit el cham3a	<i>fii wasaṭi</i>	yes, didnt understand the drawing
5	4	Gorbita fil wisit mta3 cham3a	<i>fii wasaṭi</i>	yes, didnt understand the drawing
2	4	deyra cham3a	<i>d.w.r (act part)</i>	no
3	4	Gorbita fi cham3a	<i>fii</i>	no
1	5	Lebisha erajil	...	yes, no preposition
2	5	fou9 rasou	<i>fawqa</i>	no
3	5	Chapeau fou9 rasou	<i>fawqa</i>	no
4	5	3la rasou	<i>ṣalaa</i>	no
5	5	Fou9 ras erajil	<i>fawqa</i>	no
1	6	Bahdha bitou	<i>bahḍa (b ḥḍw)</i>	no
2	6	Ba7dha darou	<i>bahḍa (b ḥḍw)</i>	no
3	6	El kalib bahdha darou	<i>bahḍa (b ḥḍw)</i>	no
4	6	Bahdha el bit	<i>bahḍa (b ḥḍw)</i>	no
5	6	B jnab darou	<i>bi-ḡānibi</i>	no
1	7	Fi s9af	<i>fii</i>	no
2	7	fi s9af	<i>fii</i>	no
3	7	Elankbouta fi s9af	<i>fii</i>	no
4	7	Fi s9af	<i>fii</i>	no
5	7	Fi s9af	<i>fii</i>	no
1	8	Fou9 tawla	<i>fawqa</i>	no
2	8	al étagère	<i>ṣalaa</i>	no
3	8	Lekteb fil étagère	<i>fii</i>	no
4	8	3al étagère	<i>ṣalaa</i>	no
5	8	3la raf	<i>ṣalaa</i>	no
1	9	M3al9a	...	yes, no preposition
2	9	m3ali9	...	yes, no preposition
5	9	M3al9a 3alisar	...	yes, no preposition
3	9	El vest m3al9a fil ma3lé9	<i>fii</i>	no
4	9	Fil mi3lé9	<i>fii</i>	no
1	10	Fi sbo3	<i>fii</i>	no
2	10	fi sob3ou	<i>fii</i>	no
3	10	Khatim fi sob3ou	<i>fii</i>	no
4	10	Fi sbo3	<i>fii</i>	no
5	10	Fi sbo3	<i>fii</i>	no
1	11	Fil b7ar	<i>fii</i>	no
2	11	fi wisit leb7ar	<i>fii wasaṭi</i>	no
3	11	El bateau fil mé	<i>fii</i>	no
4	11	Fil b7ar	<i>fii</i>	no

5	11	Fil b7ar	<i>fii</i>	no
1	12	Fi sikina	<i>fii</i>	no
2	12	fi sikina	<i>fii</i>	no
3	12	Edam 3a sikina	<i>ʕalaa</i>	no
4	12	3a sikkina	<i>ʕalaa</i>	no
5	12	3la sikina	<i>ʕalaa</i>	no
1	13	Fou9 tawla	<i>fawqa</i>	no
3	13	Lambouba fou9 tawla	<i>fawqa</i>	no
2	13	fou9 tawla	<i>fawqa</i>	no
4	13	Fiil bit	<i>fii</i>	no
5	13	Fi s9af	<i>fii</i>	no
1	14	Fi sac	<i>fii</i>	no
2	14	fi wisit esac	<i>fii wasafi</i>	no
3	14	El bakou fi sac	<i>fii</i>	no
4	14	Fi sac	<i>fii</i>	no
5	14	Fi sac	<i>fii</i>	no
1	15	Dayir b zriba	<i>d.w.r (act part)</i>	no
2	15	dayir b dar	<i>d.w.r (act part)</i>	no
4	15	Dayir b dar	<i>d.w.r (act part)</i>	no
3	15	Esour dayir b dar	<i>d.w.r (act part)</i>	no
5	15	Dayir b dar	<i>d.w.r (act part)</i>	no
1	16	ta7it el korsi	<i>taḥta</i>	no
2	16	ta7it el korsi	<i>taḥta</i>	no
3	16	El koura ta7it el Korsi	<i>taḥta</i>	no
4	16	Ta7it el korsi	<i>taḥta</i>	no
5	16	Ta7it el korsi	<i>taḥta</i>	no
1	17	Fi jbal	<i>fii</i>	no
2	17	fi jbal	<i>fii</i>	no
3	17	Chejra fi jbal	<i>fii</i>	no
4	17	Chejra fi jbal	<i>fii</i>	no
5	17	Fil habta 3al imine	<i>fii</i>	no
1	18	Fil mandila	<i>fii</i>	no
2	18	fil mandila	<i>fii</i>	no
3	18	Ta9ti3a fil manchfa	<i>fii</i>	no
4	18	Fil mandila	<i>fii</i>	no
5	18	Fil mandila éli 3al isar	<i>fii</i>	no
1	19	Fi tba9	<i>fii</i>	no
2	19	fi s7an	<i>fii</i>	no
3	19	Tofe7a fi s7an	<i>fii</i>	no
4	19	3a s7an	<i>ʕalaa</i>	no
5	19	Fi tba9	<i>fii</i>	no
1	20	Marbouta fil la3sa	<i>fii</i>	no
2	20	marbouta fil la3sa	<i>fii</i>	no
3	20	Chkara marbouta fil la3sa	<i>fii</i>	no
4	20	Amboula fil 3oud	<i>fii</i>	no
5	20	M3al9a fi 7arf la3sa	<i>fii</i>	no
1	21	Fi se9 lemra	<i>fii</i>	no

2	21	lébsitou	...	yes, no preposition
3	21	Sabat fi sé9ha	fii	no
4	21	Sabbat fi se9	fii	no
5	21	Fi se9	fii	no
1	22	Lawra9 fil épingle	fii	no
2	22	fil épingle	fii	no
3	22	Lawra9 maghrousine fi ?	fii	yes, doesnt know word
4	22	Ma7toutine 3al punaise	ʒalaa	no
5	22	Fil pic note	fii	no
1	23	Fou9 el chejra el ma9sousa	fawqa	no
2	23	3a chijra	ʒalaa	no
3	23	El cawitchou fou9 echejra el ma9sousa	fawqa	no
4	23	3al tronc	ʒalaa	no
5	23	3la ghosn chejra	ʒalaa	no
1	24	Ta7it el mandila	taħta	no
2	24	ta7it el mandila	taħta	no
3	24	El 5obza ta7it el mandila	taħta	no
4	24	Ta7it el mandila	taħta	no
5	24	Ta7it el mandila	taħta	no
1	25	Talifoun m3ala9 fil 7it	fii	no
2	25	m3ala9 fil 7it	fii	no
3	25	Télifoun fil 7it	fii	no
4	25	Fil 7it	fii	no
5	25	M3ala9 fil 7it	fii	no
1	26	Fil kes	fii	no
2	26	fi 7arif el kes	fii	no
3	26	Cha9a fil kés	fii	no
4	26	Fil kes	fii	no
5	26	Fi 7arf el kes	fii	no
1	27	Fi chejra	fii	no
2	27	fi chijra	fii	no
3	27	Borgdéna fi chejra	fii	no
4	27	Fi chejra	fii	no
5	27	M3al9a fi chejra	fii	no
1	28	Fi timbri	fii	no
2	28	3a tinbri	ʒalaa	no
3	28	Mra fi timbre	fii	no
4	28	3a timbre	ʒalaa	no
5	28	Fi tembri	fii	no
1	29	Fou9 tawla	fawqa	no
2	29	fou9 étawla	fawqa	no
3	29	Nap fou9 tawla	fawqa	no
4	29	Fou9 tawla	fawqa	no
5	29	Fou9 tawla	fawqa	no
1	30	Fi tofe7a	fii	no
2	30	fi wisit tofé7a	fii wasaṭi	no
3	30	Fleche fil tofe7a	fii	no

4	30	Fi wisit tofe7a	<i>fii wasaṭi</i>	no
5	30	Dékhil fi tofe7a	<i>fii</i>	no
1	31	Ta7it etawla	<i>taḥta</i>	no
2	31	Ta7it etawla	<i>taḥta</i>	no
3	31	Katoussa ta7it tawla	<i>taḥta</i>	no
4	31	Ta7it tawla	<i>taḥta</i>	no
5	31	Ta7it tawla	<i>taḥta</i>	no
1	32	7outa fil bocal	<i>fii</i>	no
2	32	fil bocal	<i>fii</i>	no
3	32	7outa fil bocal	<i>fii</i>	no
4	32	Fil bocal	<i>fii</i>	no
5	32	Fil bocal	<i>fii</i>	no
1	33	Misek fi chrita	<i>fii</i>	no
2	33	fi chrita	<i>fii</i>	no
3	33	Chikel fi chrita	<i>fii</i>	no
4	33	Fi chrita	<i>fii</i>	no
5	33	M3ala9 fi chrita	<i>fii</i>	no
1	34	Rajil fou9 sta7	<i>fawqa</i>	no
2	34	fou9 sta7	<i>fawqa</i>	no
3	34	Rajil fou9 s9af	<i>fawqa</i>	no
4	34	3a sta7	<i>ṣalaa</i>	no
5	34	3a sta7	<i>ṣalaa</i>	no
1	35	Fasma fi se9	<i>fii</i>	no
2	35	3la sé9ou	<i>ṣalaa</i>	no
3	35	Fasma fi se9	<i>fii</i>	no
4	35	Fi sa9iya	<i>fii</i>	no
5	35	Fi se9	<i>fii</i>	no
1	36	Fi smé	<i>fii</i>	yes, in the sky, not above the mountain
2	36	Fi smé	<i>fii</i>	yes, in the sky, not above the mountain
4	36	Fi smé	<i>fii</i>	yes, in the sky, not above the mountain
5	36	Fi smé	<i>fii</i>	yes, in the sky, not above the mountain
3	36	S7aba fou9 jbal	<i>fawqa</i>	no
1	37	Manchourine fi chrita	<i>fii</i>	no
2	37	manchourine	...	yes, no preposition
3	37	7wéyij fi chrita	<i>fii</i>	no
4	37	Fi chrita	<i>fii</i>	no
5	37	M3al9in fi chrita	<i>fii</i>	no
1	38	Bahdha nar	<i>bahḍa (b ḥḍw)</i>	no
2	38	ba7dha énar	<i>bahḍa (b ḥḍw)</i>	no
3	38	Rajil ba7dha nar	<i>bahḍa (b ḥḍw)</i>	no
4	38	Bahdha ennar	<i>bahḍa (b ḥḍw)</i>	no
5	38	Bjnab ennar	<i>bi-ḡānibi</i>	no
1	39	Fi fom érajil	<i>fii</i>	no
2	39	fi fomou	<i>fii</i>	no
3	39	Sigarou fi fomou	<i>fii</i>	no

4	39	Fi fommou	<i>fii</i>	no
5	39	Fi fom erajil	<i>fii</i>	no
1	40	3a zarbiya	<i>ʕalaa</i>	no
2	40	fou9 zarbiya	<i>fawqa</i>	no
3	40	Katoussa fou9 zarbiya	<i>fawqa</i>	no
4	40	3a zarbiya	<i>ʕalaa</i>	no
5	40	Fou9 zarbiya	<i>fawqa</i>	no
1	41	Fil ghosine	<i>fii</i>	no
2	41	fil ghosn	<i>fii</i>	no
3	41	Awra9 fil ghosin	<i>fii</i>	no
4	41	Fi chajra	<i>fii</i>	no
5	41	Fil ghosin	<i>fii</i>	no
1	42	fi taille lemra	<i>fii</i>	no
2	42	fi 7zemha	<i>fii</i>	no
3	42	Sabta lébsitha	...	yes, no preposition
4	42	Fi rouba	<i>fii</i>	yes, didnt understand the drawing
5	42	Lebsetha el mra	...	yes, no preposition
1	43	Bahdha jechra el ma9sousa	<i>bahḍa (b ḥḍw)</i>	yes, didnt understand the drawing
2	43	ba7dha chejra	<i>bahḍa (b ḥḍw)</i>	yes, didnt understand the drawing
3	43	Cawitchou bahdha chijra	<i>bahḍa (b ḥḍw)</i>	yes, didnt understand the drawing
4	43	Bahdha chejra	<i>bahḍa (b ḥḍw)</i>	yes, didnt understand the drawing
5	43	3al 9a3a	<i>ʕalaa</i>	no
1	44	M3ala9 fil 7it	<i>fii</i>	no
3	44	Couatrou fil 7it	<i>fii</i>	no
2	44	m3ala9	...	yes, no preposition
4	44	Fil 7it	<i>fii</i>	no
5	44	Fil 7it	<i>fii</i>	no
1	45	Fi chajra	<i>fii</i>	no
2	45	fi chijra	<i>fii</i>	no
3	45	Tofe7 fi chejra	<i>fii</i>	no
4	45	Fi chejra	<i>fii</i>	no
5	45	Fi chejra	<i>fii</i>	no
1	46	3a jbine	<i>ʕalaa</i>	no
2	46	fi rasou	<i>fii</i>	no
3	46	Bondana fi rasou	<i>fii</i>	no
4	46	3la rasou	<i>ʕalaa</i>	no
5	46	3la rasou	<i>ʕalaa</i>	no
1	47	Fi bitou	<i>fii</i>	no
2	47	fi bitou	<i>fii</i>	no
3	47	Kalib fi farchou	<i>fii</i>	no
4	47	Fi niche	<i>fii</i>	no
5	47	Fi espace mté3ou	<i>fii</i>	no
1	48	El barra	<i>il-barra</i>	yes, didnt understand the drawing
2	48	mi chibek	...	yes, didnt understand the drawing
3	48	Mtar el barra	<i>il-barra</i>	yes, didnt understand the drawing
4	48	El barra	<i>il-barra</i>	yes, didnt understand the drawing
5	48	El barra	<i>il-barra</i>	yes, didnt understand the drawing

1	49	Wra9 chejra	<i>warāʔa</i>	yes, didnt understand the drawing
2	49	ba7dha dar	<i>baḥḍa (b ḥḍw)</i>	yes, didnt understand the drawing
3	49	Awra9 chejra bahdha l'eglise	<i>baḥḍa (b ḥḍw)</i>	yes, didnt understand the drawing
4	49	Fi chejra	<i>fii</i>	yes, didnt understand the drawing
5	49	Fou9 chejra	<i>fawqa</i>	yes, didnt understand the drawing
1	50	M3ali9 fil 7it	<i>fii</i>	no
2	50	m3al9ine fil 7it	<i>fii</i>	no
3	50	Ma3le9 fl 7it	<i>fii</i>	no
4	50	Ma3le9 fi tarkina	<i>fii</i>	no
5	50	M3ala9 fil 7it	<i>fii</i>	no
1	51	Fi ra9bit lemra	<i>fii</i>	no
2	51	fi ra9bitha	<i>fii</i>	no
4	51	Fi ra9ba	<i>fii</i>	no
3	51	Charka lebsetha	...	yes, no preposition
5	51	Fi ra9bit el mra	<i>fii</i>	no
1	52	Fou9 la7yout	<i>fawqa</i>	no
2	52	3al 7yut	<i>ʕalaa</i>	no
3	52	Les insecte fil lo7yout	<i>fii</i>	no
4	52	Fil 7it	<i>fii</i>	no
5	52	3al 7it	<i>ʕalaa</i>	no
1	53	Fi s9af etawla	<i>fii</i>	no
2	53	lesak fi tawla mil louta	<i>fii</i>	no
3	53	7aja les9a ta7it tawla	<i>taḥta</i>	no
4	53	Fi tawla mil louta	<i>fii</i>	yes, didnt understand the drawing
5	53	9fé tawla les9a	...	yes, didnt understand the drawing
1	54	Fil 9fas	<i>fii</i>	no
2	54	fil cage	<i>fii</i>	no
3	54	Arnib fil cage	<i>fii</i>	no
4	54	Fil cage	<i>fii</i>	no
5	54	Fil 9fas	<i>fii</i>	no
1	55	Dayir b chejra el ma9sousa	<i>d.w.r (act part)</i>	no
2	55	déyir b chejra	<i>d.w.r (act part)</i>	no
3	55	Cawitchou dayir b chejra	<i>d.w.r (act part)</i>	no
4	55	Dayir bih	<i>d.w.r (act part)</i>	no
5	55	Dayir bil ghosin	<i>d.w.r (act part)</i>	no
1	56	Fou9 el 3oud	<i>fawqa</i>	no
2	56	fil Poteau	<i>fii</i>	no
3	56	3alam m3ali9	...	yes, no preposition
4	56	Fil 3oud	<i>fii</i>	yes, didnt understand the drawing
5	56	M3ali9 Fil poteau	<i>fii</i>	yes, didnt understand the drawing
1	57	Fi charka	<i>fii</i>	no
2	57	fi charka	<i>fii</i>	no
3	57	Pendentif fi charka	<i>fii</i>	no
4	57	Fi cherka	<i>fii</i>	no
5	57	Fi charka	<i>fii</i>	no
1	58	Wé9if 3al 7it	<i>ʕalaa</i>	no
2	58	3al 7it	<i>ʕalaa</i>	no

3	58	Saloum 3al 7it	<i>ʕalaa</i>	no
4	58	3al 7it	<i>ʕalaa</i>	no
5	58	Métaki 3al 7it	<i>ʕalaa</i>	no
1	59	Fou9 el birou	<i>fawqa</i>	no
2	59	fou9 el birou	<i>fawqa</i>	no
3	59	9lam fou9 elbirou	<i>fawqa</i>	no
4	59	3al birou	<i>ʕalaa</i>	no
5	59	Fou9 el birou	<i>fawqa</i>	no
1	60	Fi wisit jnina	<i>fii wasafi</i>	no
3	60	Dar dayra biha jnina	<i>d.w.r (act part)</i>	no
4	60	Fi seniya	<i>fii</i>	no
2	60	...	...	yes, no preposition
5	60	Fi wisit el cloture	<i>fii wasafi</i>	no
1	61	Fil biben	<i>fii</i>	no
2	61	fil biben	<i>fii</i>	no
3	61	Yed fi beb el placar	<i>fii</i>	no
4	61	Fi beb lekhzena	<i>fii</i>	no
5	61	les9a 3al biben	<i>ʕalaa</i>	no
1	62	Fi dabouza	<i>fii</i>	no
3	62	El bouchon fi dabouza	<i>fii</i>	no
4	62	Fi dabouza	<i>fii</i>	no
2	62	msakir dabouza	...	yes, no preposition
5	62	Mghoti dabouza	...	yes, no preposition
1	63	Fi s9af	<i>fii</i>	no
2	63	fi s9af	<i>fii</i>	no
4	63	Fi s9af	<i>fii</i>	no
3	63	Lambouba m3al9a	...	yes, no preposition
5	63	M3al9a fil cable	<i>fii</i>	no
1	64	Wra divon	<i>warāʔa</i>	no
2	64	wra el korsi	<i>warāʔa</i>	no
3	64	Tfol m5obi wra el fauteuil	<i>warāʔa</i>	no
4	64	Wra el Korsi	<i>warāʔa</i>	no
5	64	Mot5obi wra el bank	<i>warāʔa</i>	no
1	65	Fi ras jbal	<i>fii</i>	no
2	65	fou9 jbal	<i>fawqa</i>	no
3	65	Chejra fou9 jbal	<i>fawqa</i>	no
4	65	Fou9 jbal	<i>fawqa</i>	no
5	65	Fi 9imit el jabal	<i>fii</i>	no
3	66	Yed sac les9a fih	<i>fii</i>	no
1	66	Fi sac	<i>fii</i>	yes, didnt understand the drawing
2	66	...	...	yes, no preposition
4	66	Fi sac	<i>fii</i>	yes, didnt understand the drawing
5	66	M5ayta fi sac	<i>fii</i>	no
1	67	Fi wisit chejra	<i>fii wasafi</i>	no
2	67	fi chijra	<i>fii</i>	no
3	67	El bouma fi no9ba fi chejra	<i>fii</i>	no
4	67	Fi wisit echejra	<i>fii wasafi</i>	no

5	67	7afra fi wisit echejra	<i>fii wasati</i>	no
1	68	Fou9 el maryoul	<i>fawqa</i>	no
2	68	maktouba fi maryoulou	<i>fii</i>	no
3	68	Lektiba 3al maryoul	<i>3alaa</i>	no
4	68	3al maryoul	<i>3alaa</i>	no
5	68	Fi maryoul erajil	<i>fii</i>	no
1	69	Fil wdhin	<i>fii</i>	no
2	69	fi wdhenha	<i>fii</i>	no
3	69	Balouta fi widhnou	<i>fii</i>	no
4	69	Fil wdhin	<i>fii</i>	no
5	69	Fil wdhin	<i>fii</i>	no
1	70	Fi sikina	<i>fii</i>	no
2	70	fi wisit	<i>fii wasati</i>	no
3	70	Borgdena maghrousa fil 3oud	<i>fii</i>	no
4	70	Fil 3oud	<i>fii</i>	no
5	70	Fil ibra	<i>fii</i>	no
1	71	Fi bitou	<i>fii</i>	no
2	71	fi darou	<i>fii</i>	no
3	71	El kalib fi dar	<i>fii</i>	no
4	71	Fil bit	<i>fii</i>	no
5	71	Fi niche mté3ou	<i>fii</i>	no

Table 11: Results of the pre-test carried out with five respondents. Any problems during the pre-test led to the exclusion of the drawing,

6.3 Data used for Analysis

The following four tables 12, 13, 14 and 15 show the collected answers of the 54 participants, the country they come from and the dialect group they belong to. The prepositions from the answers are listed separately and highlighted in colour.

Participant ID	Drawing	Dialect Type	Country	Preposition	Answer
2	1	Maghreb	Algeria	<i>fawqa</i>	Foug tabla
2	2	Maghreb	Algeria	<i>fī</i>	Fel bassina
2	27	Maghreb	Algeria		Mdeliya
2	35	Maghreb	Algeria	<i>fī</i>	Fi kar3iha
2	44	Maghreb	Algeria	<i>fī</i>	Lasse9 fel hayte
2	61	Maghreb	Algeria	<i>fī</i>	Fel beb
3	1	Egyptian	Egypt	<i>3alaa</i>	الفنجان عالترابيزة
3	2	Egyptian	Egypt	<i>fī</i>	التفاحة في الطبق
3	27	Egyptian	Egypt	<i>fī</i>	التفاحة متعلقة في الشجرة
3	35	Egyptian	Egypt	<i>3alaa</i>	الضمادة ملزوقة عالرجل
3	44	Egyptian	Egypt	<i>3alaa</i>	الصورة متعلقة عالحيطة
3	61	Egyptian	Egypt	<i>fī</i>	المقابض في الباب
4	1	Egyptian	Egypt	<i>fawqa</i>	الفنجان فوق التربيظه

4	2	Egyptian	Egypt	3alaa	التفاحه علي الفنجان
4	27	Egyptian	Egypt	3alaa	التفاحه علي الشجرة
4	35	Egyptian	Egypt	fī	الضماده في الرجل (اللزقه علي الرجل)
4	44	Egyptian	Egypt	3alaa	الصوره متعلقه علي الحيطه
4	61	Egyptian	Egypt	fī	المقابض ركبين في علي الببيان
5	1	Egyptian	Egypt	3alaa	عالمكتب
5	2	Egyptian	Egypt	fī	في الكروانه
5	27	Egyptian	Egypt	fī	مدلله في الشجرة
5	35	Egyptian	Egypt	3alaa	ملزوقه علي الرجل
5	44	Egyptian	Egypt	3alaa	متعلقه عالحيطه عادي جدا
5	61	Egyptian	Egypt	fī	اسمها الاوكر وهم في الابواب
6	1	Mesopotamia	Irak	bi-	بلاباب
6	2	Mesopotamia	Irak	bi-	بلطاسه
6	27	Mesopotamia	Irak	3alaa	بعدها علجذع
6	35	Mesopotamia	Irak	3alaa	علرل
6	44	Mesopotamia	Irak	3alaa	معلكه علحايط
6	61	Mesopotamia	Irak	3alaa	على الابو
7	1	Malta	Malta	fawqa	it-tazza fuq il-mejda
7	2	Malta	Malta	jawwa	it-tuffieha gos-skutella
7	27	Malta	Malta	fawqa	it-tuffieha fuq is-sigra
7	35	Malta	Malta	ma3	l-faxxa mal-gharqub
7	44	Malta	Malta	ma3	L-inkwatru mwahħhal mal-ħajt
7	61	Malta	Malta		il-pum tal-kabord
8	1	Malta	Malta	fawqa	Il-kikkra qegħda fuq il- mejda
8	2	Malta	Malta	jawwa	It-tuffieha qegħda ġol- bowl
8	27	Malta	Malta	fī	It- tuffieħa mdendla fis-sigra
8	35	Malta	Malta	fawqa	L-istick qegħda fuq is-sieq
8	44	Malta	Malta	fawqa	Il-pittura qegħda fuq il-ħajt
8	61	Malta	Malta	ma3	Il-pummijiet qegħdin imwahħlin mal- cupboards
9	1	Malta	Malta	fawqa	Il-kikkra qieghda fuq il-mejda.
9	2	Malta	Malta	fī	It-tuffieħa qieghda fil-bowl.
9	27	Malta	Malta	min	It-tuffieħa mdendla mis-sigra.
9	35	Malta	Malta	fawqa	L-istikk qieghda fuq siequ.
9	44	Malta	Malta	ma3	Il-pittura mdendla mal-ħajt.
9	61	Malta	Malta	fawqa	Il-pumi qegħdin fuq il-bibien
10	1	Malta	Malta	fawqa	il-kikkra fuq il-mejda
10	2	Malta	Malta	fī	it-tuffieha fil-bowl
10	27	Malta	Malta	fī	It-tuffieha fis-sigra
10	35	Malta	Malta	ma3	l-istick mal-ghaksa
10	44	Malta	Malta	ma3	il-pittura mal-ħajt
10	61	Malta	Malta	ma3	il-manki mal-bibien
11	1	Malta	Malta	fawqa	Fuq il mejda
11	2	Malta	Malta	fī	Fil fruttiera
11	27	Malta	Malta	ma3	Mal fergha
11	35	Malta	Malta	ma3	Mas-sieq
11	44	Malta	Malta		Imwahla
11	61	Malta	Malta	ma3	Mal bibien

12	1	Malta	Malta	<i>fawqa</i>	fuq il-plattina	
12	2	Malta	Malta	<i>fī</i>	fil-fruttiera	
12	27	Malta	Malta	<i>ma3</i>	maż-żokk	
12	35	Malta	Malta	<i>ma3</i>	ma' sieqha	
12	44	Malta	Malta	<i>ma3</i>	mal-hajt	
12	61	Malta	Malta	<i>ma3</i>	mal-bibien	
13	1	Malta	Malta			
13	2	Malta	Malta	<i>jawwa</i>	Go l-iskutella	
13	27	Malta	Malta	<i>ma3</i>	Maz-zokk	
13	35	Malta	Malta	<i>ma3</i>	Mas-sieq	
13	44	Malta	Malta	<i>ma3</i>	Mal-hajt	
13	61	Malta	Malta	<i>ma3</i>	Mal-bibienfuq il-mejda	
14	1	Malta	Malta	<i>fawqa</i>	Il-kikkra qieghda fuq il-mejda.	
14	2	Malta	Malta	<i>fī</i>	It-tuffieħa qieghda fil-bowl.	
14	27	Malta	Malta	<i>fī</i>	It-tuffieħa qieghda fīs-sigra.	
14	35	Malta	Malta	<i>ma3</i>	L-istikk qieghda mar-rigēl.	
14	44	Malta	Malta	<i>ma3</i>	Il-pittura qieghda mal-hajt.	
14	61	Malta	Malta	<i>ma3</i>	Il-pumi qegħdin mal-bibien.	
15	1	Malta	Malta	<i>fawqa</i>	Fuq id-desk	
15	2	Malta	Malta	<i>jawwa</i>	Ġot-tagēn	
15	27	Malta	Malta	<i>fī</i>	Fis-sigra	
15	35	Malta	Malta	<i>fawqa</i>	Fuq siequ	
15	44	Malta	Malta	<i>ma3</i>	Il-pittura mall-hajt	
15	61	Malta	Malta	<i>ma3</i>	Mall-bibien	
16	1	Malta	Malta	<i>fawqa</i>	Fuq il-mejda	
16	2	Malta	Malta	<i>fī</i>	Fl-iskutella	
16	27	Malta	Malta	<i>min</i>	Imdendla miz-zokk tas-sigra	
16	35	Malta	Malta	<i>fawqa</i>	Fuq quddiem tal-ghaksa	
16	44	Malta	Malta	<i>ma3</i>	Mal-hajt	
16	61	Malta	Malta	<i>ma3</i>	Mal-bibien	
31	1	Egyptian	Sudan	<i>fawqa</i>		فوق التريزه
31	2	Egyptian	Sudan	<i>jawwa</i>		جوه الكبايه
31	27	Egyptian	Sudan	<i>fī</i>		في الشدره
31	35	Egyptian	Sudan	<i>jawwa</i>		جوه الصندوق
31	44	Egyptian	Sudan	<i>fī</i>		في الحيطه
31	61	Egyptian	Sudan	<i>fī</i>		في الباب
32	1	Egyptian	Sudan	<i>fawqa</i>		فوق الطريزه
32	2	Egyptian	Sudan			
32	27	Egyptian	Sudan	<i>fī</i>		في الشجره
32	35	Egyptian	Sudan	<i>fī</i>		في الرجل
32	44	Egyptian	Sudan	<i>3alaa</i>		على الحايط
32	61	Egyptian	Sudan	<i>fī</i>		في الباب
33	1	Levante	Syria	<i>3alaa</i>		على الطاولة
33	2	Levante	Syria	<i>bi-</i>		بالزبيده
33	27	Levante	Syria	<i>3alaa</i>		على الشجرة
33	35	Levante	Syria	<i>3alaa</i>		على الرجل
33	44	Levante	Syria	<i>3alaa</i>		على الحيط

33	61	Levante	Syria	3alaa	عالدرفات
34	1	Levante	Syria	3alaa	عالطاولة
34	2	Levante	Syria	bi-	بالصحن
34	27	Levante	Syria	taht	تحت الشجرة
34	35	Levante	Syria	3alaa	عالرجل
34	44	Levante	Syria	3alaa	عالحيط
34	61	Levante	Syria	3alaa	عباب الخزانة
35	1	Levante	Syria	3alaa	على الطاولة
35	2	Levante	Syria	bi-	بالزبدية
35	27	Levante	Syria	3alaa	عالعصن
35	35	Levante	Syria	3alaa	على الرجل
35	44	Levante	Syria	3alaa	عالحيط
35	61	Levante	Syria	3alaa	على الابواب
36	1	Levante	Syria	3alaa	عطاولة
36	2	Levante	Syria	jawwa	جوا الفنجان
36	27	Levante	Syria	min	معلقة من الغصن
36	35	Levante	Syria	fawqa	فوق المشط من قدام
36	44	Levante	Syria	3alaa	معلقة عالحيط
36	61	Levante	Syria	3alaa	على ايد البواب من برا
37	1	Levante	Syria	3alaa	عالطاولة
37	2	Levante	Syria	jawwa	جوا الجاط
37	27	Levante	Syria	min	متدلية من غصن الشجرة
37	35	Levante	Syria		عأسفل الإجر من قدام
37	44	Levante	Syria	3alaa	عالحيط
37	61	Levante	Syria	3alaa	على ابواب الخزانة
38	1	Levante	Syria	fawqa	فوق الطاولة
38	2	Levante	Syria	jawwa	جوا الزبدية
38	27	Levante	Syria	3alaa	عالعصن
38	35	Levante	Syria	3alaa	على الرجل
38	44	Levante	Syria	3alaa	عالحايط
38	61	Levante	Syria	3alaa	ع ابواب الخزانة
39	1	Levante	Syria	3alaa	عل الطاولة
39	2	Levante	Syria	bi-	بالطاجة / بالطاسة/ بالزبدية
39	27	Levante	Syria	3alaa	عالعصن
39	35	Levante	Syria	3alaa	على رجلو / رجلها
39	44	Levante	Syria	3alaa	معلقة عل الحيط
39	61	Levante	Syria	bi-	مثبتين بالبواب
40	1	Levante	Syria	3alaa	ع الطاولة
40	2	Levante	Syria	bi-	بالزبدية
40	27	Levante	Syria	3alaa	ع الشجرة
40	35	Levante	Syria	3alaa	ع الاجر
40	44	Levante	Syria	3alaa	ع الحايط
40	61	Levante	Syria	3alaa	ع القبالة
41	1	Levante	Syria	3alaa	ع طاولة السفرة
41	2	Levante	Syria	bi-	بالزبدية
41	27	Levante	Syria	3alaa	عالشجرة
41	35	Levante	Syria		لزقة جروح
41	44	Levante	Syria	3alaa	معلقة ع الحيط

41	61	Levante	Syria		مسكة الخزانة
48	1	Maghreb	Tunisia	3alaa	l kess aal tawla
48	2	Maghreb	Tunisia	fī w-s-t	el tofeha fi wesst l sahfa
48	27	Maghreb	Tunisia	fī	l tofeha fel chojra
48	35	Maghreb	Tunisia	3alaa	l pansement aal sek
48	44	Maghreb	Tunisia	fī	l tableau maalak fel hit
48	61	Maghreb	Tunisia	fī	les poignées fi hafet l beb
49	1	Maghreb	Tunisia	fawqa	Fou9 etawla
49	2	Maghreb	Tunisia	fī w-s-t	Fi wisit esa7fa
49	27	Maghreb	Tunisia	fī	fi chejra
49	35	Maghreb	Tunisia	fī	fi se9ou
49	44	Maghreb	Tunisia	fī	fil 7it
49	61	Maghreb	Tunisia	fī	rekbaïne fil beb
50	1	Maghreb	Tunisia	fawqa	el finjan fou9 el tawla
50	2	Maghreb	Tunisia	fī	tofe7a fil sa7fa
50	27	Maghreb	Tunisia	fī	el borgdena fi chejra
50	35	Maghreb	Tunisia	fī	el fasma fi se9
50	44	Maghreb	Tunisia	fī	soura m3al9a fil 7it
50	61	Maghreb	Tunisia	fī	el ma9abidh fil biben
51	1	Maghreb	Tunisia	fawqa	فوق الطاولة
51	2	Maghreb	Tunisia	fī	في الصفحة
51	27	Maghreb	Tunisia	fī	في الغصن
51	35	Maghreb	Tunisia	3alaa	على ساقو
51	44	Maghreb	Tunisia	fī	معلقة في الحيط
51	61	Maghreb	Tunisia	3alaa	على الباب
52	1	Maghreb	Tunisia	fawqa	fou9 el birou
52	2	Maghreb	Tunisia	fī w-s-t	fi wesit el sa7fa
52	27	Maghreb	Tunisia	fī	f chijra
52	35	Maghreb	Tunisia	fī	mlas9a fi se9ou
52	44	Maghreb	Tunisia	3alaa	m3ali9 3al 7it
52	61	Maghreb	Tunisia	fī	les9a fil beb
53	1	Maghreb	Tunisia	fawqa	فوق الطاولة في الصحن
53	2	Maghreb	Tunisia	fī w-s-t	في وسط الصفحة
53	27	Maghreb	Tunisia	fī	مشدودة في الشجرة
53	35	Maghreb	Tunisia	fī	ضمادة في معصم ساقى
53	44	Maghreb	Tunisia	fī	معلقة في الحيط الي مقابل
53	61	Maghreb	Tunisia	fī	شادين في الببيان
54	1	Maghreb	Tunisia	fawqa	فوق الطاولة
54	2	Maghreb	Tunisia	fī	في الصفحة
54	27	Maghreb	Tunisia	fī	في الشجرة
54	35	Maghreb	Tunisia	fī	في الساق ملوطة
54	44	Maghreb	Tunisia	fī	في الكواطرو
54	61	Maghreb	Tunisia	fī	في الببيان
55	1	Maghreb	Tunisia	fawqa	Fou9 tawla
55	2	Maghreb	Tunisia	fī w-s-t	Fi wost il sa7fa
55	27	Maghreb	Tunisia	fī	Fi o8sen il chojra

55	35	Maghreb	Tunisia	<i>fī</i>	Fi se9 min louta fou9 bechwaya min ka3boura	
55	44	Maghreb	Tunisia	<i>fī</i>	Fi 7it ma3la9	
55	61	Maghreb	Tunisia	<i>fī</i>	Fi biben il e8zéna	
56	1	Maghreb	Tunisia	<i>fawqa</i>	fou9 tawla	
56	2	Maghreb	Tunisia	<i>fī</i>	fel sa7fa	
56	27	Maghreb	Tunisia	<i>fī</i>	fel chejra	
56	35	Maghreb	Tunisia	<i>fī</i>	fel se9	
56	44	Maghreb	Tunisia	<i>3alaa</i>	3al 7it	
56	61	Maghreb	Tunisia	<i>fī w-s-t</i>	fi west elbeb	
57	1	Maghreb	Tunisia	<i>fawqa</i>	Fenjen fou9 tawla	
57	2	Maghreb	Tunisia	<i>fī</i>	Toufe7a fi sa7fa	
57	27	Maghreb	Tunisia	<i>fī</i>	Toufe7a mazelet fi chojra	
57	35	Maghreb	Tunisia	<i>fī</i>	Elfasfa fi sagek	
57	44	Maghreb	Tunisia	<i>fī</i>	Taswira m3alga fil 7it	
57	61	Maghreb	Tunisia	<i>fī</i>	Lidin rakbin fi biben rfouf	
66	1	Levante	Syria	<i>3alaa</i>		عاطولة
66	2	Levante	Syria	<i>jawwa</i>		جوات الصحن
66	27	Levante	Syria	<i>3alaa</i>		عالشجرة
66	35	Levante	Syria	<i>3alaa</i>		على اجرو
66	44	Levante	Syria	<i>3alaa</i>		عالحيط
66	61	Levante	Syria	<i>3alaa</i>		عالخزانة
70	1	Gulf	Saudi-Arabia	<i>3alaa</i>		على المكتب
70	2	Gulf	Saudi-Arabia	<i>bi-</i>		بالزبدية
70	27	Gulf	Saudi-Arabia	<i>3alaa</i>		على الشجرة
70	35	Gulf	Saudi-Arabia	<i>3alaa</i>		على الساق
70	44	Gulf	Saudi-Arabia	<i>3alaa</i>		على الجدار
70	61	Gulf	Saudi-Arabia	<i>3alaa</i>		على الدواليب
74	1	Maghreb	Algeria	<i>fawqa</i>		فوق الطاولة
74	2	Maghreb	Algeria	<i>fī</i>		في الصحن
74	27	Maghreb	Algeria	<i>fī</i>		في الشجرة
74	35	Maghreb	Algeria	<i>3alaa</i>		على الرجل
74	44	Maghreb	Algeria	<i>3alaa</i>		على الحائط
74	61	Maghreb	Algeria	<i>fī</i>		في الباب
75	1	Gulf	UAE	<i>fawqa</i>		فوق الطاولة
75	2	Gulf	UAE	<i>bi-</i>		بالصحن
75	27	Gulf	UAE	<i>3alaa</i>		على الشيره
75	35	Gulf	UAE	<i>3alaa</i>		مبرقه على ريوله
75	44	Gulf	UAE	<i>3alaa</i>		على اليدار
75	61	Gulf	UAE	<i>bi-</i>		بالباب
78	1	Gulf	UAE	<i>3alaa</i>		الفنيان عطاوله
78	2	Gulf	UAE	<i>fī</i>		التفاحه ف الطاسه
78	27	Gulf	UAE	<i>3alaa</i>		اتفاحه غلشيره
78	35	Gulf	UAE	<i>3alaa</i>		اللزقة عساق

78	44	Gulf	UAE	3alaa	معلقه عاليدار
78	61	Gulf	UAE	3alaa	المقبط على الكبّت
79	1	Gulf	UAE	3alaa	الكوب والصحن على الطاولة
79	2	Gulf	UAE	daaxil	التفاحه داخل المله او التفاحه في المله
79	27	Gulf	UAE	fī	التفاحه معلقه في الشيره
79	35	Gulf	UAE	3alaa	اللزقه على ريول الولد
79	44	Gulf	UAE	fawqa	الصوره معلقه فوق اليدار
79	61	Gulf	UAE	fī	القبضات في البيبان
81	1	Gulf	UAE	3alaa	على الطاولة
81	2	Gulf	UAE	fī	فالمله
81	27	Gulf	UAE	3alaa	على غصن الشيره
81	35	Gulf	UAE		
81	44	Gulf	UAE	3alaa	اللوحة معلقة على اليدار
81	61	Gulf	UAE		مقبض الكبّت
82	1	Gulf	Kuwait	fawqa	فوق الطاولة
82	2	Gulf	Kuwait	daaxil	داخل البادية
82	27	Gulf	Kuwait	bi-	بالشئيرة
82	35	Gulf	Kuwait	3alaa	عالريول
82	44	Gulf	Kuwait	3alaa	عالطوفة
82	61	Gulf	Kuwait	3alaa	عالكبّت
83	1	Gulf	Kuwait	3alaa	عالطاولة
83	2	Gulf	Kuwait	fī	في الملة
83	27	Gulf	Kuwait	fī	فالشيره
83	35	Gulf	Kuwait	3alaa	عالريول
83	44	Gulf	Kuwait	3alaa	عالطوفة
83	61	Gulf	Kuwait	3alaa	على باب الكبّت
84	1	Gulf	Kuwait	fawqa	فوق الطاولة
84	2	Gulf	Kuwait	3alaa	داخل الملة
84	27	Gulf	Kuwait	3alaa	على الشجرة
84	35	Gulf	Kuwait	3alaa	على الريل
84	44	Gulf	Kuwait	3alaa	على الطوفة
84	61	Gulf	Kuwait	3alaa	على الكبّتات
85	1	Gulf	Kuwait	fawqa	الكوب فوق الطاولة
85	2	Gulf	Kuwait	bi-	التفاحه بالمله
85	27	Gulf	Kuwait		التفاحه معلقة
85	35	Gulf	Kuwait	3alaa	البلاستر على اول الساق
85	44	Gulf	Kuwait	3alaa	الصورة معلقة عالطوفة
85	61	Gulf	Kuwait		مسكة الكبّت
88	1	Gulf	UAE	fawqa	فوق الطاولة
88	2	Gulf	UAE	daaxil	داخل الملة
88	27	Gulf	UAE	3alaa	عالشيره
88	35	Gulf	UAE	3alaa	عالريل
88	44	Gulf	UAE	3alaa	يعني لازم صورة ماصخة ، عالطوفة
88	61	Gulf	UAE	3alaa	على الكبّت
89	1	Gulf	UAE	3alaa	ع الطاولة
89	2	Gulf	UAE	fī	في المله
89	27	Gulf	UAE	fī	معلقه في الشيره

89	35	Gulf	UAE	3alaa	ع صيمه
89	44	Gulf	UAE	3alaa	معلقه ع اليدار
89	61	Gulf	UAE	3alaa	معلقه ع الببيان
90	1	Gulf	UAE	3alaa	الفتيال على الطاولة
90	2	Gulf	UAE	fī	التفاحة في الملة
90	27	Gulf	UAE	3alaa	التفاحة على الشيرة
90	35	Gulf	UAE	3alaa	اللزقة على اليرح
90	44	Gulf	UAE	3alaa	الصورة على الإيدار
90	61	Gulf	UAE	fī	العسقة في الباب
91	1	Egyptian	Sudan	fawqa	fog al tarabesa
91	2	Egyptian	Sudan	fī	al tufaha fil sahan
91	27	Egyptian	Sudan	fī	fil shagara
91	35	Egyptian	Sudan	fī	al pflasta fil saq
91	44	Egyptian	Sudan	fawqa	fog al heta
91	61	Egyptian	Sudan	fawqa	fog al dolab
92	1	Maghreb	Morocco	fawqa	la tasse fuq t-təbla
92	2	Maghreb	Morocco	fī	t-təffaḥa fə-z-zlafa
92	27	Maghreb	Morocco	fī	t-təffaḥa fə-š-šəžra
92	35	Maghreb	Morocco	fī	l-fašma fə-r-ržəlr
92	44	Maghreb	Morocco	fī	t-tšwira mšallqa fə-l-l-ḥit
92	61	Maghreb	Morocco	fī	lə-mqabəḍ fə-l-l-bab
93	1	Egyptian	Egypt	3alaa	الفنجان علي التربيظه
93	2	Egyptian	Egypt	fī	التفاحه في الطبق
93	27	Egyptian	Egypt	3alaa	التفاحه علي الشجره
93	35	Egyptian	Egypt	fī	الازقه في الرجل
93	44	Egyptian	Egypt	3alaa	الصوره علي الحيطه
93	61	Egyptian	Egypt	fī	المقابض في الضورف
96	1	Egyptian	Egypt	3alaa	علي الطريزة
96	2	Egyptian	Egypt	fī	في اخر الطبق
96	27	Egyptian	Egypt	fī	مدلده في الشجرة
96	35	Egyptian	Egypt	fī	ف الرجل
96	44	Egyptian	Egypt	3alaa	متعلقه علي الحيط
96	61	Egyptian	Egypt	3alaa	متركة علي درف الدولاب

Table 12: answers for the SUPPORT-ENCLOSURE gradient

Participant ID	Drawing	Dialect Type	Country	Preposition	Answer
2	15	Maghreb	Algeria	d-w-r	Dayra bedar
2	55	Maghreb	Algeria	l-w-y	Mlawi
3	15	Egyptian	Egypt	ḥawla	السياح حوالين البيت
3	55	Egyptian	Egypt	ḥawla	الخرطوم ملفوف حوالين الشجرة
4	15	Egyptian	Egypt	ḥawla	السياح حوالين البيت (السور حوالين البيت)
4	55	Egyptian	Egypt	ḥawla	اخرطوم ملفوف حوالين الماصوره
5	15	Egyptian	Egypt	ḥawla	حوالين البيت
5	55	Egyptian	Egypt	ḥawla	حوالين جزع الشجرة

6	15	Mesopotamia	Irak	<i>d-w-r</i>		داير مداير البيت
6	55	Mesopotamia	Irak	<i>l-f-f</i>		ملفوف علجذع
7	15	Malta	Malta	<i>d-w-r</i>	ix-xatba madwar id-dar	
7	55	Malta	Malta	<i>d-w-r</i>	il-pajp madwar iz-zokk	
8	15	Malta	Malta	<i>d-w-r</i>	Il- fence imdawwar mad- dar	
8	55	Malta	Malta	<i>d-w-r</i>	Il-pajp imdawwar maz-zokk Il-grada qiegħda madwar id-dar. (Mhux ċerta minn grada)	
9	15	Malta	Malta	<i>d-w-r</i>	Il-pajp qiegħed madwar iz-zokk.	
10	15	Malta	Malta	<i>d-w-r</i>	il-fens mad-dar / madwar id-dar	
10	55	Malta	Malta	<i>d-w-r</i>	il-pajp madwar iz-zokk	
11	15	Malta	Malta	<i>d-w-r</i>	Mad dawra tad dar	
11	55	Malta	Malta	<i>d-w-r</i>	Imdawwar	
12	15	Malta	Malta	<i>d-w-r</i>	madwar id-dar	
12	55	Malta	Malta	<i>ma3a</i>	maz-zokk	
13	15	Malta	Malta	<i>d-w-r</i>	Madwar id-dar	
13	55	Malta	Malta	<i>d-w-r</i>	Madwar iz-zokk	
14	15	Malta	Malta	<i>d-w-r</i>	L-ilqugh qiegħed madwar id-dar.	
14	55	Malta	Malta	<i>ma3a</i>	Il-qafla qiegħda mal-ghatu.	
15	15	Malta	Malta	<i>d-w-r</i>	Madwar id-dar	
15	55	Malta	Malta	<i>d-w-r</i>	Imdawwar maz-zokk	
16	15	Malta	Malta	<i>d-w-r</i>	Mad-dawra tad-dar	
16	55	Malta	Malta	<i>d-w-r</i>	Mdawwar maz-zokk	
31	15	Egyptian	Sudan	<i>barra</i>		بره المنزل
31	55	Egyptian	Sudan	<i>l-f-f</i>		ملفوف في قعر الشجرة
32	15	Egyptian	Sudan	<i>hawla</i>		حول المنزل
32	55	Egyptian	Sudan			
33	15	Levante	Syria	<i>hawla</i>		حوالي البيت
33	55	Levante	Syria	<i>3alaa</i>		عالجذع
34	15	Levante	Syria	<i>hawla</i>		حولين البيت
34	55	Levante	Syria	<i>l-f-f</i>		ملفوف عالجذع
35	15	Levante	Syria	<i>hawla</i>		حوالين البيت
35	55	Levante	Syria	<i>hawla</i>		حوالين الشجرة
36	15	Levante	Syria	<i>hawla</i>		السياج برا حولين البيت
36	55	Levante	Syria	<i>l-f-f</i>		ملفوف علشجرة
37	15	Levante	Syria	<i>hawla</i>		حوالين البيت
37	55	Levante	Syria	<i>3alaa</i>		عجزع الشجرة المقطوعة
38	15	Levante	Syria	<i>hawla</i>		حول البيت
38	55	Levante	Syria	<i>l-f-f</i>		ملفوف ع الشجرة المقطوعة
39	15	Levante	Syria	<i>hawla</i>		حوالين البيت
39	55	Levante	Syria	<i>l-f-f</i>		ملفوف عل الشجرة
40	15	Levante	Syria	<i>hawla</i>		حول البيت
40	55	Levante	Syria	<i>hawla</i>		حول جزع الشجرة
41	15	Levante	Syria	<i>hawla</i>		السياج حوالي البيت
41	55	Levante	Syria	<i>hawla</i>		حوالي جزع الشجرة
48	15	Maghreb	Tunisia	<i>d-w-r</i>	l clôture deyra bel dar	
48	55	Maghreb	Tunisia	<i>d-w-r</i>	l tuyay deyer bel ghossn	
49	15	Maghreb	Tunisia	<i>d-w-r</i>	Dayir b Dar	

49	55	Maghreb	Tunisia	<i>d-w-r</i>	Dayir b chejra	
50	15	Maghreb	Tunisia	<i>d-w-r</i>	dayir b dar	
50	55	Maghreb	Tunisia	<i>d-w-r</i>	el 5ortoum dayir b chejra	
51	15	Maghreb	Tunisia	<i>d-w-r</i>		داري بالدار
51	55	Maghreb	Tunisia	<i>d-w-r</i>		داير بالغصن
52	15	Maghreb	Tunisia	<i>d-w-r</i>	dayer b el arith	
52	55	Maghreb	Tunisia	<i>d-w-r</i>	dayer b chejra	
53	15	Maghreb	Tunisia	<i>d-w-r</i>		داير بالدار من كل الجهات
53	55	Maghreb	Tunisia	<i>d-w-r</i>		دايرة في اخر جذع الشجرة من اللوحة
54	15	Maghreb	Tunisia	<i>d-w-r</i>		داير بالدار
54	55	Maghreb	Tunisia	<i>fii</i>		في قعمورة الشجرة
55	15	Maghreb	Tunisia	<i>d-w-r</i>	Dayer bi dar	
55	55	Maghreb	Tunisia	<i>r-b-T</i>	Marbout fi chojra il ma9sousa	
56	15	Maghreb	Tunisia	<i>d-w-r</i>	deyer bel dar	
56	55	Maghreb	Tunisia	<i>l-f-f</i>	l kawetchou malfouf b ghosn chejra	
57	15	Maghreb	Tunisia	<i>d-w-r</i>	Syej dayer bi dar kolha	
57	55	Maghreb	Tunisia	<i>r-b-T</i>	Ettayou marbout fi chejra	
66	15	Levante	Syria	<i>hawla</i>		حولين البيت
66	55	Levante	Syria	<i>hawla</i>		حوالين جزع الشجرة
70	15	Gulf	Saudi-Arabia	<i>hawla</i>		حول البيت
70	55	Gulf	Saudi-Arabia	<i>hawla</i>		حول جذع الشجرة
74	15	Maghreb	Algeria	<i>ganba</i>		بجانب المنزل
74	55	Maghreb	Algeria	<i>l-f-f</i>		ملفف بجذع الشجرة
75	15	Gulf	UAE	<i>hawla</i>		حوالين البيت
75	55	Gulf	UAE	<i>l-f-f</i>		ملفف على الشيره
78	15	Gulf	UAE	<i>hawla</i>		السور حول البيت
78	55	Gulf	UAE	<i>l-f-f</i>		ملفف عالشيره
79	15	Gulf	UAE	<i>hawla</i>		حول البيت
79	55	Gulf	UAE	<i>l-f-f</i>		هوز الماي ملفوف على اليدع مال الشيره
81	15	Gulf	UAE	<i>7-w-T</i>		محاوط البيت
81	55	Gulf	UAE	<i>l-f-f</i>		ملفوف على جذع الشيرة
82	15	Gulf	Kuwait	<i>d-w-r</i>		دار مدار البيت
82	55	Gulf	Kuwait	<i>d-w-r</i>		دار مدار جذع الشيرة
83	15	Gulf	Kuwait	<i>hawla</i>		حول البيت
83	55	Gulf	Kuwait	<i>hawla</i>		حول غصن الشيرة
84	15	Gulf	Kuwait	<i>hawla</i>		حول البيت
84	55	Gulf	Kuwait	<i>l-f-f</i>		ملفوف على جذع الشجرة
85	15	Gulf	Kuwait	<i>hawla</i>		السور حول البيت
85	55	Gulf	Kuwait	<i>l-f-f</i>		الهوز ملفوف على جذع الشيره
88	15	Gulf	UAE	<i>hawla</i>		حوالين البيت
88	55	Gulf	UAE	<i>r-b-T</i>		مربوط عالجدع
89	15	Gulf	UAE	<i>7-w-T</i>		محوط البيت
89	55	Gulf	UAE	<i>l-f-f</i>		ملفوف ع يدع الشيرة
90	15	Gulf	UAE	<i>hawla</i>		السور حول البيت
90	55	Gulf	UAE	<i>hawla</i>		الخرطوم حول الشيرة
91	15	Egyptian	Sudan			

91	55	Egyptian	Sudan		
92	15	Maghreb	Morocco		t-təffalḥa fuq t-ṭəbšil
92	55	Maghreb	Morocco	d-w-r	t-tiyyu ḍayər bə-š-šəzra
93	15	Egyptian	Egypt	ḥawla	الصور حولين البيت
93	55	Egyptian	Egypt	ḥawla	الخرطوم ملفوف حولين الشجرة
96	15	Egyptian	Egypt	ḥawla	حوالين البيت
96	55	Egyptian	Egypt	l-f-f	ملفوف في جزع الشجرة

Table 13: answers for concept of AROUND

Participant ID	Drawing	Dialect Type	Country	Preposition	Answer
2	13	Maghreb	Algeria	fawqa	Foug tabla
2	72*	Maghreb	Algeria	fawqa	Foug chajra
3	13	Egyptian	Egypt	fii	اللبة متعلقة في السقف
3	72*	Egyptian	Egypt	fawqa	الطائر يبطير فوق الشجرة في السما
4	13	Egyptian	Egypt	fawqa + fii	اللبة في متعلقة في السقف (اللبة فوق التربيظه)
4	72*	Egyptian	Egypt	fawqa	الطائر طائر فوق الشجرة
5	13	Egyptian	Egypt	fawqa	فوق التربيظه
5	72*	Egyptian	Egypt	fawqa	في السحاب فوق الشجرة
6	13	Mesopotamia	Irak	fawqa + 3alaa	معلقة علسكف / فوق الميز
6	72*	Mesopotamia	Irak	fawqa	فوق الشجرة
7	13	Malta	Malta	min	il-lampa mdendla mis-saqaf
7	72*	Malta	Malta	fawqa	l-ghasfur itir il' fuq mis-sigra
8	13	Malta	Malta	min	Il-lampa mdendla mis-saqaf
8	72*	Malta	Malta	fii	L-ghasfur qieghed fis-sema
9	13	Malta	Malta	fawqa	Il-linfa qieghda fuq il-mejda.
9	72*	Malta	Malta	fawqa	L-ghasfur qed itir fuq is-sigra.
10	13	Malta	Malta	fawqa	il-lampa mas-saqaf / fuq il-mejda
10	72*	Malta	Malta	fawqa	l-ghasfur fuq is-sigra
11	13	Malta	Malta	fawqa	Fuq il-mejda
11	72*	Malta	Malta	fawqa	Fuq is sigra
12	13	Malta	Malta	fawqa	fuq il-mejda'fu
12	72*	Malta	Malta	fawqa	fuq is-sigra
13	13	Malta	Malta	fawqa	Fuq il-mejda
13	72*	Malta	Malta	fawqa	Itir fuq is-sigra
14	13	Malta	Malta	fawqa	Il-lampa qieghda fuq il-mejda.
14	72*	Malta	Malta	fawqa	L-ghasfur qieghed itir 'il fuq mis-sigra.
15	13	Malta	Malta	min	Mdendel mis-saqaf
15	72*	Malta	Malta	fii	Fis-sema
16	13	Malta	Malta	fawqa	Fuq il-mejda
16	72*	Malta	Malta	fawqa	Qed itir fuq is-sigra
31	13	Egyptian	Sudan	3alaa	علي الحيطه
31	72*	Egyptian	Sudan	fawqa	فوق الشجرة
32	13	Egyptian	Sudan	3alaa	أعلى الطربيظه
32	72*	Egyptian	Sudan		
33	13	Levante	Syria	fawqa	فوق الطاولة

33	72*	Levante	Syria	fawqa		فوق الشجرة
34		13 Levante	Syria	fawqa		فوق الطاولة
34	72*	Levante	Syria	fawqa		فوق الشجرة
35		13 Levante	Syria	fawqa		فوق الطاولة
35	72*	Levante	Syria	fii		في الهواء
36		13 Levante	Syria	fawqa		بالنص فوق الطاولة
36	72*	Levante	Syria	fawqa		فوق السجرة تماماً
37		13 Levante	Syria	fawqa		فوق الطاولة
37	72*	Levante	Syria	fawqa		فوق الشجرة - أبي ايضا"
38		13 Levante	Syria	fawqa		فوق الطاولة
38	72*	Levante	Syria	fawqa		فوق الشجرة
39		13 Levante	Syria	fawqa		معلق فوق الطاولة
39	72*	Levante	Syria	fawqa		عم يطير فوق الشجرة
40		13 Levante	Syria	3alaa		ع السقف
40	72*	Levante	Syria	fawqa		فوق الشجرة
41		13 Levante	Syria	fawqa		معلق فوق الطاولة
41	72*	Levante	Syria	fawqa		بالسما فوق
48		13 Maghreb	Tunisia	fawqa	lambouba fouk l tawla	
48	72*	Maghreb	Tunisia	fawqa	l assfour fouk chojra	
49		13 Maghreb	Tunisia	fawqa	Fou9 tawla	
49	72*	Maghreb	Tunisia	fawqa	Fou9 chejra	
50		13 Maghreb	Tunisia	fawqa	el misba7 m3ala9 fou9 étawla	
50	72*	Maghreb	Tunisia	fawqa	fou9 chejra	
51		13 Maghreb	Tunisia			معلقة
51	72*	Maghreb	Tunisia	fawqa		فوق الشجرة
52		13 Maghreb	Tunisia	fawqa	m3ali9 lfou9	
52	72*	Maghreb	Tunisia	fawqa	fou9 e chejra	
53		13 Maghreb	Tunisia	fawqa		معلق فوق الطاولة
53	72*	Maghreb	Tunisia	fawqa		يطير فوق الشجرة
54		13 Maghreb	Tunisia	fawqa		فوق الطاولة
54	72*	Maghreb	Tunisia	fawqa		فوق الشجرة
55		13 Maghreb	Tunisia	fawqa	Fou9 tawla	
55	72*	Maghreb	Tunisia	fawqa	Fou9 chjora yitir	
56		13 Maghreb	Tunisia	fawqa	fou9 tawla	
56	72*	Maghreb	Tunisia	fawqa	l 3asfour f smé fou9 echejra	
57		13 Maghreb	Tunisia	fii	Ellamba m3alga fi sgaf	
57	72*	Maghreb	Tunisia	fawqa	El3asfour foug chajra ytir	
66		13 Levante	Syria	bi		بالسقف
66	72*	Levante	Syria	fawqa		فوق الشجرة
70		13 Gulf	Saudi-Arabia	fawqa		فوق الطاولة
70	72*	Gulf	Saudi-Arabia	fawqa		فوق الشجرة
74		13 Maghreb	Algeria	fawqa		فوق الطاولة
74	72*	Maghreb	Algeria	fawqa		فوق الشجرة
75		13 Gulf	UAE			معلق
75	72*	Gulf	UAE	fawqa		فوق الشبره
78		13 Gulf	UAE	fawqa		إللمّبه فوق الطاولة

78	72*	Gulf	UAE	<i>fawqa</i>	إطير فوق إشير
79	13	Gulf	UAE	<i>fii</i>	الليت معلق في السقف
79	72*	Gulf	UAE		الطير معادل الشيره
81	13	Gulf	UAE		معلق
81	72*	Gulf	UAE		
82	13	Gulf	Kuwait	<i>fawqa</i>	فوق الطاولة
82	72*	Gulf	Kuwait	<i>fawqa</i>	فوق الشيرة
83	13	Gulf	Kuwait	<i>bi</i>	معلق بالسقف
83	72*	Gulf	Kuwait	<i>bi</i>	بالسما
84	13	Gulf	Kuwait	<i>fawqa</i>	معلق فوق الطاولة
84	72*	Gulf	Kuwait	<i>fawqa</i>	يطير فوق الشجرة
85	13	Gulf	Kuwait	<i>fawqa</i>	الليت فوق الطاولة
85	72*	Gulf	Kuwait	<i>fawqa</i>	الطير فوق الشيرة
88	13	Gulf	UAE	<i>fawqa</i>	فوق الطاولة
88	72*	Gulf	UAE	<i>fawqa</i>	فوق الشيرة
89	13	Gulf	UAE	<i>fii</i>	ف السقف
89	72*	Gulf	UAE	<i>fawqa</i>	فوق الشيره
90	13	Gulf	UAE	<i>fawqa</i>	الصو فوق الطاولة
90	72*	Gulf	UAE	<i>fawqa</i>	الطير فوق الشيرة
91	13	Egyptian	Sudan	<i>fii</i>	fil sagif tht al tarabesa
91	72*	Egyptian	Sudan	<i>fawqa</i>	fog al shagara
92	13	Maghreb	Morocco	<i>fawqa</i>	l-lamba fuq t-ṭabla
92	72*	Maghreb	Morocco	<i>fawqa</i>	l-fərx fuq š-šəžra
93	13	Egyptian	Egypt	<i>fawqa / fii</i>	اللمبة فوق التريظه / اللمبه في الحيطه
93	72*	Egyptian	Egypt	<i>fawqa</i>	الطياره فوق الشجره
96	13	Egyptian	Egypt	<i>fawqa</i>	فوق الطريزة
96	72*	Egyptian	Egypt	<i>fawqa</i>	بيرفر ففوق الشجره

Table 14: answers for concept of ABOVE

Participant ID	Drawing	Dialect Type	Country	Preposition	Answer
2	10	Maghreb	Algeria	<i>fii</i>	Fessba3
2	68	Maghreb	Algeria	<i>fii</i>	Petrikou
2	69	Maghreb	Algeria	<i>fii</i>	Fel wdhen
3	10	Egyptian	Egypt	<i>fii</i>	الخاتم في الصابع
3	68	Egyptian	Egypt	<i>3alaa</i>	الكتابة عالتيشرت
3	69	Egyptian	Egypt	<i>fii</i>	الحلق في الودان
4	10	Egyptian	Egypt	<i>fii</i>	الخاتم في الصابع
4	68	Egyptian	Egypt	<i>3alaa</i>	الكتابه علي التيشرت
4	69	Egyptian	Egypt	<i>fii</i>	الحلق في الودن
5	10	Egyptian	Egypt	<i>bi-</i>	ملبوس في الصوباع
5	68	Egyptian	Egypt	<i>3alaa</i>	عالتيشيرت
5	69	Egyptian	Egypt	<i>fii</i>	اسمه حلق و متعلق في حلمة الودن
6	10	Mesopotamia	Irak	<i>bi-</i>	بلاصبع
6	68	Mesopotamia	Irak	<i>3alaa</i>	علتيشيرت
6	69	Mesopotamia	Irak	<i>bi-</i>	بلاذان

7	10	Malta	Malta	<i>fawqa</i>	iċ-ċurkett fuq subghajha	
7	68	Malta	Malta	<i>fawqa</i>	l-ittri fuq hwejjġu	
7	69	Malta	Malta	<i>ma3a</i>	il-misluta ma' widnejha	
8	10	Malta	Malta	<i>fawqa</i>	Iċ-ċurkett qiegħed fuq is- sebgħa	
8	68	Malta	Malta	<i>fawqa</i>	Il-kitba qegħda fuq il- flokk	
8	69	Malta	Malta	<i>ma3a</i>	Il-misluta qegħda mal-widna	
9	10	Malta	Malta	<i>fawqa</i>	Iċ-ċurkett qiegħed fuq sebgħha.	
9	68	Malta	Malta	<i>fawqa</i>	Il-kitba qiegħda stampata fuq il-flokk.	
9	69	Malta	Malta	<i>fii</i>	Il-misluta qiegħda f'widnejha.	
10	10	Malta	Malta	<i>ma3a</i>	iċ-ċurkett mas-saba'	
10	68	Malta	Malta	<i>fawqa</i>	il-kitba fuq il-flokk	
10	69	Malta	Malta	<i>ma3a</i>	il-misluta mal-widna	
11	10	Malta	Malta	<i>fii</i>	Fis saba	
11	68	Malta	Malta	<i>fawqa</i>	Fuq il- flokk	
11	69	Malta	Malta	<i>ma3a</i>	Mal widna	
12	10	Malta	Malta	<i>fii</i>	f'subghajha	
12	68	Malta	Malta	<i>fawqa</i>	fuq il-flokk	
12	69	Malta	Malta	<i>fii</i>	f'widnejha	
13	10	Malta	Malta	<i>fii</i>	Fis-sebgħa	
13	68	Malta	Malta	<i>fawqa</i>	Fuq il-flokk	
13	69	Malta	Malta	<i>ma3a</i>	Mal-widna	
14	10	Malta	Malta	<i>fii</i>	Iċ-ċurkett qiegħed fis-suba'.	
14	68	Malta	Malta	<i>fawqa</i>	Il-kitba qiegħda fuq il-flokk tat-tifel.	
14	69	Malta	Malta	<i>fii</i>	Il-misluta qiegħda fil-widna.	
15	10	Malta	Malta	<i>fawqa</i>	Ċurkett fuq is-sebgħa	
15	68	Malta	Malta	<i>fawqa</i>	Fuq il-flokk	
15	69	Malta	Malta	<i>fii</i>	F'widnejh	
16	10	Malta	Malta	<i>fawqa</i>	Fuq is-suba'	
16	68	Malta	Malta	<i>fawqa</i>	Fuq il-flokk	
16	69	Malta	Malta	<i>ma3a</i>	Mal-widna	
31	10	Egyptian	Sudan	<i>fii</i>		في الاصبع
31	68	Egyptian	Sudan	<i>3alaa</i>		علي سدر الولد
31	69	Egyptian	Sudan	<i>fii</i>		في الاضنان
32	10	Egyptian	Sudan	<i>fii</i>		في الاصبع
32	68	Egyptian	Sudan			لا يوجد كتاب
32	69	Egyptian	Sudan	<i>fii</i>		في الازن
33	10	Levante	Syria	<i>bi-</i>		بالإصبع
33	68	Levante	Syria	<i>3alaa</i>		عالبلوزة
33	69	Levante	Syria	<i>bi-</i>		بالدان
34	10	Levante	Syria	<i>bi-</i>		بالاصبع
34	68	Levante	Syria	<i>3alaa</i>		عالكنتزة
34	69	Levante	Syria	<i>bi-</i>		بالدان
35	10	Levante	Syria	<i>bi-</i>		بالاصبع
35	68	Levante	Syria	<i>3alaa</i>		على الكنتزة
35	69	Levante	Syria	<i>3alaa</i>		ع الادن
36	10	Levante	Syria	<i>bi-</i>		بالاصبع
36	68	Levante	Syria	<i>3alaa</i>		علكنزة من قدام

36	69	Levante	Syria	bi-	بالادن
37	10	Levante	Syria	3alaa	على الاصبع
37	68	Levante	Syria	3alaa	على بلوزة الولد
37	69	Levante	Syria	bi-	بحلمة الدان
38	10	Levante	Syria	3alaa	على الاصبع
38	68	Levante	Syria	3alaa	على صدر الكنزة
38	69	Levante	Syria	3alaa	عالانن
39	10	Levante	Syria	bi-	باصبعها / باصبعو
39	68	Levante	Syria	3alaa	على قميص الولد
39	69	Levante	Syria	bi-	بإدنا / بإدنو
40	10	Levante	Syria	bi-	بالصباغة
40	68	Levante	Syria	3alaa	ع البلوزة
40	69	Levante	Syria	3alaa	ع الادن
41	10	Levante	Syria	3alaa	على الاصبع
41	68	Levante	Syria		طبعة
41	69	Levante	Syria	bi-	الحلة بالادن
48	10	Maghreb	Tunisia	fii	l khatem fel sbo3
48	68	Maghreb	Tunisia	3alaa	l ktiba aal maryoul
48	69	Maghreb	Tunisia	fii	l boucle d'oreille fi tartouchet l wdhen
49	10	Maghreb	Tunisia	fii	fi sob3ou
49	68	Maghreb	Tunisia	fii	Fil maryoul
49	69	Maghreb	Tunisia	fii	fi wedhnou
50	10	Maghreb	Tunisia	fii	el 5atam fi sbo3
50	68	Maghreb	Tunisia	fawqa	lektiba fou9 el maryoul
50	69	Maghreb	Tunisia	fii	el 9ort fi wdhin
51	10	Maghreb	Tunisia	fii	في الصبع
51	68	Maghreb	Tunisia	3alaa	على المريول
51	69	Maghreb	Tunisia	fii	في الوضن
52	10	Maghreb	Tunisia	fii	f sbo3
52	68	Maghreb	Tunisia	3alaa	3ala marioulou
52	69	Maghreb	Tunisia	fii	fi wethnou
53	10	Maghreb	Tunisia	fii	ملبوس في صبعي السبابة
53	68	Maghreb	Tunisia	3alaa	مكتوبة على المريول من القدام
53	69	Maghreb	Tunisia	fii	واحل في وذني
54	10	Maghreb	Tunisia	fii	الخاتم في صبع الشهادة
54	68	Maghreb	Tunisia	3alaa	على المريول
54	69	Maghreb	Tunisia	fii	في الوزن
55	10	Maghreb	Tunisia	fii	Fi sibo3
55	68	Maghreb	Tunisia	fii	Fi sedro
55	69	Maghreb	Tunisia	fii	Fi ilwthen min louta
56	10	Maghreb	Tunisia	fii	el khatem ma7tout fi west esbo3
56	68	Maghreb	Tunisia	fii	fel maryoul
56	69	Maghreb	Tunisia	fii	fel wdhen
57	10	Maghreb	Tunisia	fii	Khاتم fi sob3ek
57	68	Maghreb	Tunisia	fii	Lektiba fi trikou
57	69	Maghreb	Tunisia	fii	El balouta fi wedhnek
66	10	Levante	Syria	bi-	بالاصبع

66	68	Levante	Syria	3alaa	عالكنزة
66	69	Levante	Syria	bi-	بالدان
70	10	Gulf	Saudi-Arabia	3alaa	على الأصبع
70	68	Gulf	Saudi-Arabia		Ucla
70	69	Gulf	Saudi-Arabia	3alaa	على الأذن
74	10	Maghreb	Algeria	fii	في الاصبع
74	68	Maghreb	Algeria	3alaa	على القميص
74	69	Maghreb	Algeria	fii	في الاذن
75	10	Gulf	UAE	bi-	بصبعا
75	68	Gulf	UAE	3alaa	على القميص
75	69	Gulf	UAE	fii	في إذنها
78	10	Gulf	UAE	fii	الخاتم فاصّبع
78	68	Gulf	UAE	3alaa	الكتابة عالقميص
78	69	Gulf	UAE	fii	الحلّق فالإذن
79	10	Gulf	UAE	fii	الخاتم لابستته في صبعا الشاهد
79	68	Gulf	UAE	3alaa	الكتابة على قميص الولد
79	69	Gulf	UAE	fii	المواشي في اذنها
81	10	Gulf	UAE		
81	68	Gulf	UAE	3alaa	على القميص
81	69	Gulf	UAE		
82	10	Gulf	Kuwait	bi-	بالصبع
82	68	Gulf	Kuwait	3alaa	عالتيشيرت
82	69	Gulf	Kuwait	bi-	بالأذن
83	10	Gulf	Kuwait	bi-	بالصبع
83	68	Gulf	Kuwait	3alaa	على قميص الصبي
83	69	Gulf	Kuwait	fii	فالاذن
84	10	Gulf	Kuwait	fii	في الصبع
84	68	Gulf	Kuwait	3alaa	على قميص الولد
84	69	Gulf	Kuwait	fii	في الإذن
85	10	Gulf	Kuwait	bi-	الخاتم بالاصبع
85	68	Gulf	Kuwait	bi-	الكتابة بنص التيشيرت
85	69	Gulf	Kuwait	bi-	التراجي بالإذن
88	10	Gulf	UAE	fii	فالصبع
88	68	Gulf	UAE	3alaa	على القميص
88	69	Gulf	UAE	fii	فالاذن
89	10	Gulf	UAE	fii	في صبع الحرمه
89	68	Gulf	UAE	fii	في مص القميص
89	69	Gulf	UAE	fii	في ذنبيها
90	10	Gulf	UAE	fii	الخاتم في صبعا
90	68	Gulf	UAE	3alaa	الكتابة على صدره
90	69	Gulf	UAE	fii	الحلق في اذنيها
91	10	Egyptian	Sudan		usba3
91	68	Egyptian	Sudan	fawqa	fog al bilusa
91	69	Egyptian	Sudan	fawqa	al halag fog al adan
92	10	Maghreb	Morocco	fii	l-xatəm fe-š-sbəf
92	68	Maghreb	Morocco	fii	l-ktaba fə-t-tishirt
92	69	Maghreb	Morocco	fii	l-ḥalaqa f-lə-wdən

93	10	Egyptian	Egypt	fii	الخاتم في الصابع
93	68	Egyptian	Egypt	3alaa	الكتابه علي التيشيرت
93	69	Egyptian	Egypt	fii	الحلق في الودن
96	10	Egyptian	Egypt	fii	الخاتم ف الصباع
96	68	Egyptian	Egypt	3alaa	علي صدر التيشيرت
96	69	Egyptian	Egypt	fii	في الودان

Table 15: answers for the three pictures deemed as interesting and analysed in the thesis