PhD Thesis

Object-Based Selection of Spatial Frames of Reference in aṣ-Ṣāniʿ Arabic

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A. Y. 2014
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ABSTRACT

Object-Based Selection of Spatial Frames of Reference in aṣ-Ṣāniˁ Arabic

Introduction

Levinson (2003) defines spatial Frames of Reference as semantic and cognitive strategies used to project coordinate systems onto spatial arrays; by such means, we can conceptualize and linguistically describe projective (or angular) spatial arrays (Tables 2.1 and 2.2). They are basically three across languages: Intrinsic, Absolute and Relative (Tables 2.3, 2.4, 2.5, 2.6). Starting with the preliminary observation that all three Levinsonian Frames of Reference occur in the Bedouin dialect of aṣ-Ṣāniˁ elderly speakers in the Negev, the present research attempts to account for the strategies underlying the selection and distribution of the Relative Frame of Reference. I focus in particular on the ALIGNED FIELD, a sub-category of the Relative Frame of Reference, first detected in the Hausa language (Hill 1982). I restrict my field of investigation to the linguistic level of analysis, without addressing the question of the relationship between language and cognition. In fact, within the domain of space, Frames of Reference (as well as prepositions and verbal properties) have been considered very enigmatic and disputed between supporters of Relativism (Humboldt 1936; Boas 1911; Whorf 1956; Talmy 1978, 1988; Peterson et al. 1996; Slobin 1996; Levinson 2003; Evans & Levinson 2009) and those of Universalism (Chomsky 1965; Comrie 1989; Whaley 1997; Croft 2003).

Hypothesis

With respect to the distribution of Frames of Reference within a language, Tversky and Levinson proposed different interpretations of this phenomenon. The first author, operating in the frame of cognitive studies, observes:

‘(…) it is a common enough finding that in spatial description in some languages alternative frames of reference will be available, and which one is actually employed will depend on properties of the task – e.g. the scale of the things to be described, what use the information is to be put to, and so on’ (Tversky 1996).

Levinson (2003: 179-181) attempts to delve into typological classification of languages and to test the ‘language-to-cognition correlation’. He writes:

‘(…) we need to distinguish between (a) a cross-situation typing, (…) [based on] a general preference for one frame of reference over another across situations, and (b) a typing that is keyed to a specific kind of spatial array or situation (…) most languages provide special expressions for more than one frame of reference, and there are conventions for the kinds of circumstances each frame of reference is used in. So we need to relativize the statement to situations of use. (…) The idea behind the hypothesis is that community-wide conventions about what linguistic expressions mean and how they are to be used will tend to induce a way of thinking in which the immediate, unreflective memory coding matches the kind of coding required to describe an arbitrary spatial array’.

Therefore, my initial question was: What are the ‘speech circumstances’ or rather ‘community-wide conventions’ determining the selection of the Relative Frame of Reference on the purely linguistic level in the Arabic dialect of aṣ-Ṣāniˁ elderly speakers? The answers of my informants led me to concentrate on the second aspect, ‘community-wide conventions’ for the selection of spatial Frames of Reference, even though ‘speech circumstances’ could be a promising field of enquiry on the selection
of spatial Frames of Reference as well, since cross-generational, sociolinguistic and stylistic variations in Negev Arabic dialects have been detected and described in the methodological framework of sociolinguistics and discourse analysis (Henkin 2010).

Methodology
Informants
Because of its interesting and rich set of semantic strategies describing spatial relations, because of the change from nomadic to sedentary life style and for its genetic, cultural and territorial conservatism, I chose to conduct my fieldwork on the aṣ-Ṣāniˁ ibīrîh, small tribe or rather large family of Bedouin inhabiting the northern borders of the Negev desert. I divided the informants in three age-groups, comprising male and female elements, representing three fundamental steps in the history of the aṣ-Ṣāniˁ community, within the larger frame of the history of the Middle East and of the State of Israel, i.e. three fundamental steps along the path of cultural change. The investigation of the language of space among the elderly aṣ-Ṣāniˁ in comparison to the language of the younger generations yields the unprecedented opportunity to observe and to typologically describe two distinctively recognizable stages in the history of the language of a community which has maintained itself as a homogeneous social entity throughout the challenging events of the last century, until the abruptly accelerating acculturation process of the last two decades.

Stimuli
To typologically investigate a language requires a deep analysis of its semantics, rarely available from grammar books. The complexity of this enquiry mostly consists in devising special methods of data elicitation – such as, for example, communication tasks between native speakers and pertinent sets of controlled stimuli. ‘Pertinence’ is the key word of this methodological treatise, i.e. the consistency of methodology and stimuli design with both the scope of the enquiry and with the social and cultural context of the investigation. Therefore, the first chapter of the present thesis sets out to describe the development of a culture-specific methodology, implemented and adopted in my fieldwork. I report the results of the combination of cognitive semantics with the epistemological instruments of cultural anthropology, a noteworthy aspect of the present investigation. The very beginning of the enquiry was characterized by the cross-linguistic approach proposed by the team of the Max Planck Institute for Evolutionary Anthropology: Typological surveys on static spatial relations generally aim at matching linguistic and non-linguistic representations applying the same sets of stimuli across languages and cultures. Indeed, the consistency of the methodology applied across different languages is considered itself as the best guarantee for the validity of the data yielded by cross-linguistic enquiries (Levinson & Meira 2003; Levinson & Wilkins 2006). Nevertheless, the response of my informants induced me to a radical change in methodology, especially of the design of the stimuli (layouts, materials, objects): The closer the stimuli were to the traditional culture of the elderly, the more the peculiar features of the older language were revealed. Furthermore, the reactions and answers of the younger informants, product of a new and different material culture, showed different linguistic expressions of spatial relations. These observations served to highlight the central role played by the ontological classification of the objects in the linguistic expression of spatial relations. The change in methodology was implemented gradually after subsequent sessions of my fieldwork.
STAGE I: I started showing on the screen of my computer or as photos on paper BIDIMENSIONAL INDIRECT STIMULI (representations of real objects in forms of pictures, as photos on paper), subdivided into three sub-categories:

1. culturally non-related stimuli pictures;
2. culturally related stimuli pictures (scenes taken from Bedouin life);
3. artificial stimuli pictures (experimental arrays in non-arbitrary positions, i.e. selected to detect specific distinctive features) (Table 1.3).

The images, shown on the computer screen or on paper, were often not recognized as the bi-dimensional representations of tridimensional entities and, therefore, were not processed according to the geometric and ontological semantic rules commonly used in the treatment of concrete spatial arrays. They were simply treated as bi-dimensional objects: Measures, proportions, distances and relative positions of objects in pictures were not always recognized as clues of perspective rules, to be applied by default to properly read images on bi-dimensional layouts (Table 1.4). In the case of pictures shown on the computer screen, the vertical dimension according to which the screen is oriented was chosen to describe the represented array (Table 1.5) or, in the case of unshaped objects, the informants resorted to the Absolute Frame of Reference (Table 1.9). Unknown geographical elements were not recognized and not described by the elders (Table 1.7), while known mountains and rivers were selected as Ground objects with their real orientation (Table 1.8) and schematic representations of mountains and rivers were paradigmatically associated with the concrete local experience of the same real natural elements and were oriented accordingly (Tables 1.10 and 1.11).

STAGE II: Since BIDIMENSIONAL INDIRECT STIMULI seemed to be somehow misleading, I resorted to the use of tridimensional real objects or toy-objects. I noted that toy objects, tridimensional representations of real entities were recognized without difficulty as representing the original entity (man, horse, tree etc.) on scale and the reduction did not adulterate the ontological properties of the real entity itself in spatial discourse (for discussion, Danziger & Gaskins 1993). So, I divided the new TRIDIMENSIONAL DIRECT STIMULI into three categories:

1. Culturally-Related Objects (tent, knife, horse, donkey, camel, sheep, goat, dog, wild carnivore, tree, stone, fence, coffee pot, cup, fireplace);
2. Formerly-Acquired Objects (agricultural products);
3. Recently-Acquired Objects (house, car, phone).

So, according to the aforementioned principles of stimuli-categorization, as recommended by Danziger & Gaskins (1993), I created my own superset of stimuli and games calculated to highlight distinctions relevant in traditional aṣ-Ṣāniˁ Arabic, in the most efficient and most exhaustive way possible. I started the new cycle of sessions by testing the most cross-linguistically diffused distinctions, using objects selected as Ground, which should present themselves with and without the following distinctive features:
I gradually individuated more culturally-peculiar semantic distinctions.

**Procedure**

This work presents the answers given by the aṣ-Ṣāniˁ informants to *where*-questions about the position of a certain object (Figure) with respect to a second one (Ground) by means of different kinds of controlled stimuli. The aim of the investigation is to outline the semantic treatment of the projective spatial relations on the horizontal plane, i.e. of those spatial relations between entities whose description requires – in all languages worldwide – the use of some kind of coordinate system (Frames of Reference).

In order to test this kind of spatial relationship, the routine *where*-question accompanying every spatial array or image was: ‘where is X-object with respect to Y-object?’, *wīn X min Y?*. To impose a preliminary selection of Figure and Ground using the structure of the question ‘where is X with respect to Y?’ is a quite artificial but necessary practice to accomplish the aims of the present research, where a well-defined set of spatial relations had to be investigated: In natural speech situations, describing a spatial array by giving topological or projective information is most of the time a personal choice of the speaker, due to a number of different particular situation-based priming causes.

First of all, before every session of fieldwork, I ascertained that the informants recognized all the objects which were going to be used, so we agreed on the words. I divided every session of my fieldwork into thematic sequences. Within every thematic sequence I changed the objects of every array, in order to avoid responses containing sequential topological information, like: ‘X has come closer to Y’, ‘X has gone away from Y’, ‘X has moved to the other side of Y’ and so on, and to shield the informants from the tendency to create a story out of consecutive arrays, i.e. to take a former scene as reference point for the description of the subsequent array. I also changed my own position often during the session, repeating the same questions on given arrays many times, while assuming different positions. Indeed, I noticed that given two objects, X Figure and Y Ground, independently of the framing system used by the speaker, the presence of additional objects or people around the array, mostly if these are intrinsically oriented, can affect the outcome of the experiment (Table 1.13).

The second part of the methodological explanations is presented in the preliminary section of the second chapter, in the form of a general overview of the basic means used to explore the domain of space in the typological analysis: concepts of Ground, Figure, Projective Relation, Region and Frames of Reference are introduced before the typological classification of the Frames of Reference and their relevance to the debate on the existence of universal categories in language and cognition.

In order to test the presence of the Relative Frame of Reference in the language of aṣ-Ṣāniˁ elderly speakers, the nucleus of the present research, and in particular of its effects on the projection of the Front / Back Axis of the Ground objects, I selected stimuli with different kinds of Ground objects: a stone, a tree, a flock, a donkey, a horse, a man, a sheep and a goat.
All these objects are part of the speakers’ traditional cultural environment. Some of them could easily attract the projection of external coordinate systems, being geometrically ‘symmetric’, i.e. showing no inherent difference along the Front / Back Axis nor on the Right / Left Axis, like stones and trees. Ground objects like stones and trees are largely considered as inanimate symmetric objects and largely used in the literature for detecting the Relative Frame of Reference (see: ‘Man and Tree Stimuli’ in Levinson 1992, kit 1.: 7-14 and Hill 1982: 22).

**Results**

As a preliminary result, Table 2.7 presents the contrastive distribution of Relative and Intrinsic Frames of Reference based on the type of Ground object: donkey / horse / man as Grounds prime the Intrinsic Frame of Reference (images 4, 5 and 6), while no salient asymmetries are inherently recognized by the speakers to stone / tree / flock on the Front / Back Axis. Such asymmetries are projected from the Observer onto stone / tree / flock as Grounds, set in the middle of the visual field of the Observer, according to the rules of the Relative Frame of Reference applied by Translation (Table 2.6), as happens in the Hausa ALIGNED FIELD (Hill 1982).

Furthermore, with respect to the Hausa system, the aṣ-Ṣāniˁ system presents a noteworthy asymmetry in the use of prepositions. While *wara* represents the Back Region (behind) both in the Intrinsic and in the Relative Frame of Reference, the use of *giddām* (in front of) is restricted to the Ground objects priming the Intrinsic Frame of Reference (Table 2.8). The Front Region in the ALIGNED FIELD is variously described. In other words, given a symmetric Ground and the geometric circumstances of an ALIGNED FIELD, the projection of the Front Region and of the Back Region onto the Ground object do not occur by default, as seems to be the case in the Hausa system. The aṣ-Ṣāniˁ speakers look at the properties of the Ground objects rather than following the geometric layout of the visual field. Projecting a Front Region onto a stone / tree / flock or onto a single sheep / goat is thus perceived by the aṣ-Ṣāniˁ speakers as stranger or erroneous than projecting a Back Region onto them, since the Back Region is prototypically less animated than the Front Region in the asymmetric and mobile bodies, from which such a semantic distinction originally emerged. Furthermore, the semantic origin of *wara* (adverbial root) is literally less ‘embodied’ than the etymological origin of *giddām*, related to the body part noun *gadam* (*qadam*) ‘foot’. In an ‘object-sensitive’ spatial system, this fact can favor the extension of *wara* (and other prepositions not originally bound to body-parts) to a larger set of ontologically differentiated entities (with respect to properties like [ANIMACY], [DIRECTIONALITY] and [MOBILITY]) and to a larger set of geometric arrays than the set of situations where it is possible to properly use *giddām*. Therefore it seems that the aṣ-Ṣāniˁ language preserves the remnants of a spatial system deeply based on the features of the Ground objects protagonists of the arrays. We see indeed, that, even in the application of the ALIGNED FIELD, which is a sub-category of the Relative system, the characteristics of the objects and the values they possess with respect to the criteria of [ANIMACY], [MOBILITY], [DIRECTIONALITY] have a priming effect in the selection of strategies for the description of their spatial relations.

In a cross-generational perspective, the general tendency among the younger generation (adults, not old) is the use of the preposition *giddām* to express the Front Region of a stone / tree / flock in the ALIGNED FIELD. To understand the new system, I can hypothesize a shift of attention from the inherent properties of the objects to the geometric oppositions of the arrays. In other words, younger people use *giddām* because of the geometric opposition *giddām*-wara (‘in front of’-‘behind’).

Interestingly, the importance of the properties of objects does not entail an increased use of the Intrinsic Frame of Reference in the language of the elderly: on the contrary, the Intrinsic Frame of
Reference is widely observable in the language of the young. This may be due to the prevalence of functional-intrinsic criteria for classifying many objects of modern life; it may also be related to a more restricted and localized living space in the new sedentary life style, and multiple intrinsic restrictions on moving about in this space, such as roads and traffic signs.

The primacy of the culturally attributed properties of the objects in the way the elderly speakers describe the spatial relations represents the strategy of selection of the more appropriate Frame of Reference among the large asset of possibilities that they exploit. In the case of a sheep / goat Ground object, the ALIGNED FIELD is realized using two prepositional phrases: *minnih w jāy* ‘from it and towards me’ / *minnih w ġād* ‘from it and away’, regardless of the direction the sheep / goat is facing. The only exception is coincidence of the rear part of the sheep / goat with the Back Region of the ALIGNED FIELD (Table 2.11 image 1). I consider these prepositional phrases as distinctive markers of the ontological properties of the sheep / goat as Ground objects, distinct from other symmetric objects like the stone / tree / flock.

But these two prepositional phrases are also used in other situations where the Relative Frame of Reference is preferred, such as the case of the Figure object partly or totally hidden by the Ground object: *minnih w ġād* is used to indicate the position of a Figure totally hidden by a Ground, instead of the use of *bayā* ‘behind’ shown in the Hausa language (Table 2.9). The doublet *minnih w jāy / minnih w ġād* is used for the sheep / goat also in all those cases where the anatomical part of the animal can conflict with the Region of the ALIGNED FIELD, like in the case where the animal is facing toward the Observer, i.e. the face of the animal corresponds to the Back Region of the ALIGNED FIELD. In such cases *wara* is felt to be improper (because of the ‘light anatomical effect’ of the snout of the animal), as is *gidādām* (because of the restrictions of the ALIGNED FIELD) (Table 2.13). In other words, when the inherent properties of the entity in the domain of space are weak and produce ‘light’ effects, the geometric rules of the visual field of the Observer tend to overrule the ontological properties.

As shown in Table 2.16, the effects of the ALIGNED FIELD are evident also when the Observer sees the sheep / goat from a side, i.e. the intrinsic Front/Back Axis of the sheep / goat should be perpendicular to the direction of the ALIGNED FIELD and this fact should generate a conflict of attribution of Regions. In those cases, as an Italian speaker, I would expect something like ‘l’albero è accanto alla pecora’, ‘the tree is beside the sheep’, according to the Intrinsic Frame of Reference, recognizing in the sheep / goat its lateral side. But this is not the case: similarly to what happens in the case of the telephone in Hausa, aṣ-Ṣānī序幕 speakers resort to the use of the Relative Frame of Reference, using the doublet *minnih w jāy / minnih w ġād* that we have observed in Table 2.10 image 2 (the same case as in Table 2.11 image 2) and Table 2.12 images 1 and 2. It means that in the domain of space, the sheep / goat as Ground objects, like the telephone in Hausa, show no difference between their Front / Back Axis and Right / Left Axis, similarly to what happens with the stone / tree / flock as Ground object. Similarly to the case of the Hausa telephone, it does not matter where the sheep / goat is facing, since it is treated as a symmetric Ground in all its facets.

The collapse of the ALIGNED FIELD among the young generations is evident from the fact that the opposition *wara / some geometric and metric property* (as we already know) is substituted by *gabl* (before) / *baˁd* (after) to lexicalize the opposition Back Region / Front Region of the ALIGNED FIELD. Significantly the use of these prepositions is otherwise restricted in aṣ-Ṣānī序幕 exclusively to the temporal domain. The use of *gabl* (before) / *baˁd* (after) in the ALIGNED FIELD implies that when the Figure object is between the Observer and the Ground, the young Observer would say that ‘F is *gabl* G’ and when the Figure is on the other side of the G, the young Observer would say ‘F is *baˁd* G’. Nevertheless, in practice, this system is not always realized so perfectly, generating many
afterthoughts in the informants: old mental and semantic structures make their effects felt for a long time along the generations, while the system is changing. The afterthoughts of the informants are due to the conflict in the attribution of the meanings of Anteriority and Posteriority when describing the Back Region of symmetric ground-objects. When the Figure stands between the Observer and the Ground the young tend to see Anteriority and use gabr ‘before’ whereas the elderly see Posteriority and use wara ‘behind’.

Conclusions

From Table 2.9 and the observations following it, we see that the ALIGNED FIELD in Hausa and aş-Şānī Arabic shows noteworthy discrepancies. In Hausa the prepositions indicating Front and Back Regions are always gaba / baya respectively, independently of the object; but in aş-Şānī Arabic different Ground objects, such as the stone / tree / flock and the sheep / goat, on the basis of their ontological properties, produce grammatical distinctions even in the application of the same strategy of Translation (ALIGNED FIELD).

This fact suggests first a discrepancy in the aş-Şānī system between the domain of linguistic semantics (linguistic description) and that of cognitive semantics (cognitive attribution of the Frames of Reference). Indeed, the correspondence of one Frame of Reference to many linguistic strategies ends up destabilizing the belief in the correspondence of linguistic and non-linguistic (or cognitive) knowledge, accepted by Levinson still in 2003, like a residual component of the Universalist position.

Secondly, it indicates the necessity of different methodological approaches, oriented toward the analysis of the cultural ontologies of entities in the domain of space. I use the label ‘ontology’ and not ‘hierarchy’ because in fact the partition of the realia on the basis of certain properties does not entail in all languages and cultures a hierarchical classification based on a vertical scale of implications, similar to the taxonomical system according to which western contemporary cultures represent the natural world, after the evolutionary theory of C. Darwin. So, even though the sheep, the goat and the horse should belong to the same animal category on the basis of certain shared features and on the basis of our scientific precognitions, in aş-Şānī Arabic they present themselves in the linguistic description as very different entities. Sheep /goat are in an intermediate position between stone / tree / flock and donkey / horse / man. One possible reason for this is that sheep / goat can be considered lower in [MOBILITY] than carnivores, horses and donkeys – sheep rarely raise their heads when moving to the ‘next tuft of grass’; they need to be herded and do not show any large scale volitional mobility.

A further interpretation of the aş-Şānī treatment of sheep / goats as Grounds, intermediate between fully symmetric and fully asymmetric objects, could be promoted by the routine position of these animals with respect to humans, since they actually proceed aligned in front of the shepherds, so the back region is salient to the Observer and thus deemed worthy of linguistic marking; in contrast, the canonical positions of horses (ridden by men) and dogs (walking beside them) tend to coincide or fuse with the perspective of the speaker (refer to discussion p. 122).

The ontological properties of the objects and their partition into spatial REGIONS affect not only the Intrinsic Frame of Reference, but the entire set of Frames. Therefore, I accept Levinson’s methodological suggestions: he recommends keeping the Ground object conceptually separate from the Frame of Reference, abandoning the traditional and reductive subdivision into ‘deictic’ and ‘intrinsic’, ‘egocentric’ and ‘allocentric’ frames (Levinson 2003: 53). Instead, he introduces the three terms Ground object, Center of the axes and Anchoring point (refer to p 101) and shows how, in these terms, the sheep / goat is distinct from the stone as a Ground object, although both prime the ALIGNED FIELD (Table 2.14).
Interestingly, the ontological properties attributed to entities in the domain of space are not universally valid in all other linguistic domains: in the domain of space the sheep / goat is less mobile and, somehow, less relevant than the donkey / horse / man, but in the domain of color terms, sheep, goats and stones enjoy the same abundance of specific terms as camels and horses (Borg 2007).

In summary, aṣ-Ṣāni‘ Arabic emerges as utilizing a strategy of selection of Frames of Reference grounded on the culture-based ontological classification of entities in space, supporting a neo-relativistic approach to space studies (Marotta 2010). Even though geometrical and ‘logical’ rules still represent the methodological foundation of many theories of space categorization (Cooper 1968; Leech 1969; Bennett 1975; Miller & Johnson Laird 1976), the most evident limit of this model is the fact that, actually, Ground objects can be differently conceptualized not only on a cross-linguistic and cross-cultural perspective but also within a single language, as this study clearly shows. Some semantic theories in the 1980s already recognized this fact, representing a turning point in the progress of the neo-relativistic perspective (Jackendoff 1983; Vandeloise 1986), to which this dissertation hopefully contributes.
"(...) it is a common enough finding that in spatial description in some languages alternative frames of reference will be available, and which one is actually employed will depend on properties of the task - e.g. the scale of the things to be described, what use the information is to be put to, and so on" (Tversky 1996).

"(...) we need to distinguish between (a) a cross-situation typing, (...) [based on] a general preference for one frame of reference over another across situations, and (b) a typing that is keyed to a specific kind of spatial array or situation (...) most languages provide special expressions for more than one frame of reference, and there are conventions for the kinds of circumstances each frame of reference is used in. So we need to relativize the statement to situations of use. (...) The idea behind the hypothesis is that community-wide conventions about what linguistic expressions mean and how they are to be used will tend to induce a way of thinking in which the immediate, unreflective memory coding matches the kind of coding required to describe an arbitrary spatial array" (Levinson 2003: 179-181).
Mutterings

Anatomical

A hallmark of all situations is the speech of others in our community (speech circumstances) (community-wide conventions). These conventions are the rules and norms that govern how we communicate with each other.

For example, in a conversation with a friend, we may use different words and phrases than we would in a formal setting. Similarly, in a religious service, we may follow specific rituals and traditions.

In addition to these conventions, there is also the concept of linguistic variation, which refers to the differences in language use that occur within a single community. This variation can be due to factors such as age, gender, social class, and region.

However, it is important to note that these conventions are not fixed and can change over time. For example, new words and phrases may be adopted into the language, or existing ones may fall out of use.

Therefore, it is crucial to be aware of the conventions and variations that exist in our language and to use language appropriately in different situations.
XV

The document contains a page of text with a title or header that is not clearly visible. However, the text appears to be discussing various concepts, possibly related to psychology or cognitive science, given the context of the terms used. The page includes numbers 1-5, which might indicate sections or points in the text. The text seems to be discussing the nature of concepts and their relation to each other, possibly including terms such as "ground objects," "animacy," and "personhood." The language used suggests a formal academic style, typical of a research paper or a textbook chapter.
Man and Hill 1982: 1-7

Tree Stimuli: Levinson, 1992, it: 7-14
ABSTRACT

Selezione dei Frames of Reference Spaziali sulla base dell’Oggetto Ground nell’Arabo degli aṣ-Ṣāniˁ (Beduini, Negev)

Introduzione

Levinson (2003) definisce i Frames of Reference spaziali come strategie semantiche e cognitive usate per proiettare sistemi di coordinate su scene spaziali; in questo modo possiamo descrivere concettualmente e linguisticamente scene spaziali per i quali occorre fornire informazione proiettiva (o angolare) (Tavole 2.1 e 2.2). I Frames of Reference nelle lingue del mondo sono riconducibili a tre: Intrinseco, Assoluto e Relativo (Tavole 2.3, 2.4, 2.5, 2.6). Avendo osservato che tutti e tre i Frames of Reference sono in uso nel dialetto beduino degli anziani della tribù aṣ-Ṣāniˁ nel Negev, il presente lavoro tenta di spiegare le strategie che sono alla base della selezione e della distribuzione del Frame of Reference Relativo, ed in particolare dell’ALIGNED FIELD, una sotto-categoria del Frame of Reference Relativo, esaminata per la prima volta nella lingua Hausa (Hill 1982). L’osservazione si limita al livello della lingua, senza entrare nella questione del rapporto fra lingua e cognizione. In realtà, nel dominio dello spazio, i Frames of Reference (come le preposizioni e le proprietà del verbo) sono un campo di battaglia privilegiato dei sostenitori del Relativismo (Humboldt 1936; Boas 1911; Whorf 1956; Talmy 1978, 1988; Peterson et al. 1996; Slobin 1996; Levinson 2003; Evans & Levinson 2009) e dell’Universalismo (Chomsky 1965; Comrie 1989; Whaley 1997; Croft 2003).

Ipotesi

Rispetto alla distribuzione dei Frames of Reference nelle lingue, Tversky e Levinson propongono diverse interpretazioni. Tversky, dal punto di vista della cognizione, osserva: ‘(…) it is a common enough finding that in spatial description in some languages alternative frames of reference will be available, and which one is actually employed will depend on properties of the task – e.g. the scale of the things to be described, what use the information is to be put to, and so on’ (Tversky 1996), mentre Levinson (2003: 179-181) si addentra nella classificazione tipologica e testa i rapporti fra lingua e cognizione: ‘(…) we need to distinguish between (a) a cross-situation typing, (…) [based on] a general preference for one frame of reference over another across situations, and (b) a typing that is keyed to a specific kind of spatial array or situation (…) most languages provide special expressions for more than one frame of reference, and there are conventions for the kinds of circumstances each frame of reference is used in. So we need to relativize the statement to situations of use. (…) The idea behind the hypothesis is that community-wide conventions about what linguistic expressions mean and how they are to be used will tend to induce a way of thinking in which the immediate, unreflective memory coding matches the kind of coding required to describe an arbitrary spatial array’. La mia domanda iniziale è stata, dunque: quai sono tali ‘speech circumstances’ o piuttosto ‘community-wide conventions’ che determinano la selezione del Frame of Reference Relativo sul livello della lingua nel dialetto arabo parlato dagli anziani aṣ-Ṣāniˁ? Le risposte dei miei informatori mi hanno condotta a concentrarmi sul secondo aspetto, ‘community-wide conventions’, per la selezione dei Frames of Reference spaziali, sebbene le ‘speech
circumstances’ promettono di essere un campo di indagine altrettanto fertile per lo studio della selezione dei Frames of Reference spaziali, dal momento che variazioni generazionali, sociolinguistiche e stilistiche sono state riscontrate e descritte nei dialetti arabi del Negev nella cornice metodologica della sociolinguistica e della discourse analysis (Henkin 2010).

**Metodo**

**Informatori**

Ho scelto di condurre il mio fieldwork presso la ˁišīrih (piccola tribù o grande famiglia) dei Beduini aš-Ṣāni', ai margini settentrionali del deserto del Negev principalmente per tre motivi: perché la lingua degli anziani mostra un interessante patrimonio di strategie semantiche per la descrizione delle relazioni spaziali, perché hanno subito un cambiamento radicale e repentino dalla vita nomade a quella sedentaria e perché mostrano un tenace continuità genetica, culturale e territoriale.

Ho diviso gli informatori, uomini e donne, in tre gruppi di età, che rappresentano tre passaggi fondamentali nella storia della comunità aš-Ṣāni', nell’orizzonte più vasto della storia del Medio Oriente e dello stato di Israele, cioè tre fasi cronologiche fondamentali nel cambiamento culturale della comunità. Lo studio della lingua dello spazio tra gli anziani aš-Ṣāni' a confronto con la lingua delle generazioni più giovani offre l’opportunità eccezionale di osservare e descrivere tipologicamente due diversi stadi nella storia della lingua di una comunità che si è mantenuta come una identità sociale omogenea attraverso le sfide dell’acculturazione dell’ultimo secolo, ed in particolare, degli ultimi venti anni.

**Stimuli**

L’approccio tipologico allo studio di una lingua richiede una conoscenza profonda della sua semantica, raramente contenuta nelle descrizioni grammaticali. La complessità di questo tipo di analisi consiste principalmente nella creazione di speciali strumenti di elicitazione, come task comunicativi tra parlanti nativi e appropriate batterie di stimuli controllati. ‘Appropriatezza’ è la parola chiave del saggio metodologico contenuto nel Capitolo I, intendendo con essa la coerenza del metodo e degli esperimenti con lo scopo della ricerca e con il contesto culturale in cui essa si svolge. Perciò, il primo capitolo del presente lavoro descrive lo sviluppo di una metodologia specifica per la cultura in oggetto, creata e adottata durante il fieldwork; in esso, rendo conto dei risultati della combinazione dei metodi della semantica cognitiva con gli strumenti epistemologici dell’antropologia culturale, come un aspetto di rilievo nella presente indagine.

In principio, l’indagine sul campo era da me condotta in osservanza alle regole metodologiche stabilite dal gruppo di lavoro del Max Planck Institute for Evolutionary Anthropology, per cui, in genere, le prospezioni tipologiche sulle relazioni spaziali statiche sono finalizzate al confronto di dati su rappresentazioni linguistiche e non linguistiche prodotti dalla somministrazione delle medesime batterie di stimuli presso lingue e culture diverse. Infatti, l’omogeneità della metodologia applicata attraverso lingue diverse si considera di per sé la miglior garanzia della validità di dati forniti da indagini comparative (Levinson & Meira 2003; Levinson & Wilkins 2006). Tuttavia, le reazioni dei miei informatori mi indicavano a cambiare radicalmente la metodologia del fieldwork, proprio in relazione al design degli stimuli (supporto, materiali, oggetti). Più gli stimuli si
avvicinavano al contesto culturale abituale degli anziani, più emergevano tratti particolari della lingua tradizionale. Inoltre, le reazioni e le risposte degli informatori più giovani, prodotto di una nuova e diversa cultura materiale, mostravano espressioni delle relazioni spaziali divergenti rispetto al passato. Queste osservazioni sono state utili nel mettere in luce il ruolo centrale che la classificazione ontologica degli oggetti ha nell’espressione delle relazioni spaziali. Il cambiamento metodologico è stato realizzato gradualmente attraverso diverse sessioni successive di lavoro con gli informatori.

**Fase I**: ho iniziato a mostrare STIMULI BIDIMENSIONALI INDIRETTI (rappresentazioni fotografiche di oggetti reali) o come immagini su carta o sullo schermo del mio computer, suddividendoli in tre sotto-categorie:

1. stimuli fotografici estranei alla cultura aṣ-Ṣāniˁ;
2. stimuli fotografici interni alla cultura aṣ-Ṣāniˁ (scene prese dalla vita tradizionale Beduina);
3. stimuli fotografici artificiali (scene sperimentali con oggetti collocati in posizioni non-arbitrarie, cioè studiate per elicitare l’esistenza di specifici tratti distintivi) (Tavola 1.3).

Le immagini, sia mostrate sullo schermo del computer che su supporto cartaceo, erano spesso non riconosciute come rappresentazioni bidimensionali di entità tridimensionali e, pertanto, non erano processate secondo le regole semantiche, geometriche ed ontologiche, comunemente utilizzate nella descrizione di scene spaziali tridimensionali. Le fotografie erano semplicemente tratte come oggetti bidimensionali: misure, proporzioni, distanze e posizioni relative di oggetti in fotografia non erano sempre riconosciute come indici prospettici, da applicare automaticamente nella lettura di immagini su supporto bidimensionale (Tavola 1.4). Nel caso delle immagini mostrate sullo schermo del computer, la dimensione verticale secondo cui lo schermo è orientato era selezionata per descrivere le posizioni relative degli oggetti rappresentati (Tavola 1.5) o, nel caso di oggetti simmetrici, gli informatori facevano ricorso al Frame of Reference Assoluto (Tavola 1.9). Elementi geografici sconosciuti non erano individuati e pertanto non descritti dagli anziani (Tavola 1.7), mentre montagne e fiumi conosciuti erano selezionati come Ground Object con il loro orientamento reale (Tavola 1.8) e le rappresentazioni schematiche di fiumi e montagne erano sistematicamente associate alla reale esperienza concreta dei medesimi elementi naturali locali, e orientate di conseguenza (Tavole 1.10 e 1.11).

**Fase II**: poiché gli STIMULI BIDIMENSIONALI INDIRETTI sembravano in certa misura ambigui, ho fatto ricorso all’uso di oggetti tridimensionali reali o giocattoli. Notavo che gli oggetti-giocattolo, rappresentazioni tridimensionali di oggetti reali erano riconosciuti senza difficoltà come raffiguranti le entità originali (uomo, cavallo, albero etc.) in scala e la riduzione non alterava le proprietà ontologiche dell’entità reale nel discorso spaziale (discussione in Danziger & Gaskins 1993).

Dunque, ho suddiviso i nuovi STIMULI TRIDIMENSIONALI DIRETTI in tre categorie:

1. oggetti interni alla cultura tradizionale aṣ-Ṣāniˁ (tenda, coltello, cavallo, asino, cammello, pecora, capra, cane, carnivori selvatici, albero, pietra, recinto, bollitore da caffè, tazza, focolare);
2. oggetti acquisiti in antico (prodotti dell’agricoltura);

3. oggetti acquisiti recentemente (casa, macchina, telefono).

Così, in osservanza ai già menzionati principi di organizzazione degli stimuli, come suggerito da Danziger & Gaskins (1993), ho creato il mio personale ordine di stimoli e giochi calcolati per mettere in luce tratti distintivi dell’Arabo tradizionale degli ʿaṣ-Ṣāniˁ, nel modo più efficace ed esaustivo possibile. Ho dunque iniziato un nuovo ciclo di sessioni, partendo dall’analisi delle distinzioni più diffuse nell’orizzonte comparativo, utilizzando oggetti selezionati come Ground, che presentassero e che non presentassero i seguenti tratti distintivi:

1. Animatezza,
2. Personicità*,
3. Mobilità,
4. Direzionalità (senza l’implicazione della mobilità),
5. Simmetria.

Poi ho gradualmente individuato distinzioni semantiche peculiari della cultura in esame.

Procedura

Il presente lavoro presenta le risposte date dagli informatori ʿaṣ-Ṣāniˁ a richieste di localizzazione di certi oggetti (Figure) rispetto ad altri (Ground) attraverso la somministrazione di diversi tipi di stimoli controllati.

Scopo dei test è definire il trattamento semantico delle relazioni spaziali proiettive sul piano orizzontale, i.e. di quelle relazioni spaziali tra entità la cui descrizione richiede, i tutte le lingue, l’uso di un qualche sistema di coordinate (Frame of Reference). Per testare questo tipo di relazioni spaziali, la comune domanda di localizzazione che accompagnava ogni scena spaziale o immagine era: ‘dove è l’oggetto X rispetto all’oggetto Y?’; \( \text{win } X \text{ min } Y \). Imporre la selezione preliminare di Figure e Ground attraverso la domanda ‘dove è X rispetto a Y?’ è una pratica tanto artificiale quanto necessaria per soddisfare le finalità del presente lavoro, in cui una sequenza ben precisa di relazioni spaziali doveva essere presa in esame; in contesti comunicativi spontanei, descrivere una scena spaziale fornendo informazioni topologiche o proiettive è il più delle volte una scelta personale del parlante, dovuta ad una serie di cause situazionali particolari.

Preliminarmente ad ogni sessione del fieldwork, accertavo che gli informatori riconoscessero tutti gli oggetti che sarebbero stati usati, per accordarvisi sui nomi che gli informatori avrebbero dato loro. Dividevo ogni sessione del fieldwork in sequenze tematiche. All’interno di ogni sequenza tematica cambiavo gli oggetti di ogni scena, per evitare risposte che contenessero informazioni topologiche sequenziali, come: ‘X si è avvicinato a Y’, ‘X si è allontanato da Y’, ‘X è passato sull’altro lato di Y’ e così via e per prevenire la tendenza degli informatori a creare una storia da scene consecutive, cioè a prendere la scena precedente come riferimento per la descrizione della scena successiva. Io cambiavo al contempo la mia posizione di frequente, ripetendo più volte le stesse domande su determinate scene mentre assumevo diverse posizioni. Avevo notato infatti che, dati due oggetti, Figure X e Ground Y, indipendentemente dal sistema di riferimento usato dal parlante, la presenza
di oggetti o persone addizionali intorno alla scena, soprattutto se intrinsecamente orientati, avrebbe potuto alterare il risultato dell’esperimento (Tavola 1.13).

La seconda parte dell’introduzione metodologica è presentata nella sezione preliminare del secondo capitolo, in forma di ricognizione generale degli strumenti utilizzati per esplorare il dominio dello spazio nell’analisi tipologica: concetti come Ground, Figure, Projective Relation, Region e Frames of Reference sono introdotti prima di fornire nozioni sulla classificazione tipologica dei Frames of Reference e sulla loro rilevanza nel dibattito sull’esistenza di categorie universali nella lingua e nella cognizione.


**Risultati**

Come primo risultato, la Tavola 2.7 presenta la distribuzione complementare dei Frames of Reference Relativo ed Intrinseco, basata sulle proprietà del Ground object: asino / cavallo / uomo in funzione di Ground richiedono l’applicazione del Frame of Reference Intrinseco (immagini 4, 5 e 6), mentre nessuna asimmetria saliente è riconosciuta dai parlanti come inerente a pietra / albero / gregge lungo l’asse Avanti / Dietro. Tale asimmetria è proiettata dall’Osservatore su pietra / albero / gregge in funzione di Ground, quando essi sono posti al centro del campo visivo dell’Osservatore, in osservanza alle regole del Frame of Reference Relativo applicato per Traslazione (Tavole 2.6), come succede nell’ALIGNED FIELD dell’Hausa (Hill 1982).

Per di più, rispetto al sistema dell’Hausa, il sistema spaziale aṣ-Ṣāniˁ presenta una notevole asimmetria nell’uso delle preposizioni. Mentre wara rappresenta la Regione Posteriore (dietro a) sia nel Frame of Reference Intrinseco che nel Relativo, l’uso di giddām (davanti a) è limitato a quelli oggetti che in funzione di Ground impongono il Frame of Reference Intrinseco (Tavola 2.8). La Regione Anteriore dell’ALIGNED FIELD è descritta invece con varie strategie alternative.

In altre parole, dato un Ground simmetrico e le circostanze geometriche dell’ALIGNED FIELD, la proiezione della Regione Anteriore e della Regione Posteriore sul Ground non si realizzano automaticamente, come invece sembra nel sistema Hausa. I parlanti aṣ-Ṣāniˁ guardano alle proprietà dell’oggetto Ground piuttosto che seguire l’assetto geometrico del campo visivo. Proiettare la Regione Anteriore su pietra / albero / gregge come su una singola pecora / capra è percepito dagli aṣ-Ṣāniˁ come strano o erroneo, più che non proiettare sui medesimi la Regione Posteriore, poiché la
Regione Posteriore è prototypicamente meno animata della Regione Anteriore nei corpi asimmetrici e mobili, dai quali tale distinzione semantica ha avuto origine.

Inoltre, l’origine semantica di *wara* (radice avverbiale) è letteralmente meno legata ad un concetto anatomico rispetto all’origine etimologica di *giddām*, collegata a *qadam* (‘piede’). In un sistema spaziale sensibile agli oggetti, questo fatto può favorire l’estensione di *wara* (come di altre preposizioni originariamente non collegate a parti del corpo) ad uno spettro più ampio di entità ontologicamente distinte rispetto a proprietà come [ANIMATEZZA], [DIREZIONALITA’] e [MOBILITA’], e ad una serie più ampia di geometrie del campo visivo rispetto alla serie di situazioni in cui è possibile usare con appropriatezza *giddām*. Perciò si può sostenere che la lingua aṣ-Ṣāniˁ preservi i residui di un sistema spaziale basato fondamentalmente sui tratti ontologici distintivi degli oggetti Ground coinvolti nelle scene spaziali.

Vediamo infatti che, anche nell’applicazione dell’ALIGNED FIELD, che è una sottocategoria del sistema Relativo, le caratteristiche degli oggetti e i valori posseduti di [ANIMACY], [MOBILITY], [DIRECTIONALITY] producono effetti nella selezione delle strategie descrittive delle relazioni spaziali.

In una prospettiva intergenerazionale, la tendenza generale presso gli adulti, ma non anziani, è di usare la preposizione *giddām* per esprimere la Regione Anteriore di pietra / albero / gregge nell’ALIGNED FIELD. Per comprendere questa innovazione, posso ipotizzare uno slittamento dell’attenzione dalle proprietà inerenti degli oggetti alle opposizioni geometriche delle scene spaziali. In altre parole, gli adulti usano *giddām* in forza dell’opposizione geometrica *giddām*-wara (‘avanti’– ‘dietro’) che domina il campo visivo.

Curiosamente, l’importanza delle proprietà degli oggetti non implica un uso prevalente del Frame of Reference Intrinseco nella lingua degli anziani: al contrario, il Frame of Reference Intrinseco è ampliamente documentabile nella lingua dei giovani. Ciò può essere dovuto alla prevalenza di criteri funzionali intrinseci usati per classificare molti oggetti della vita moderna; potrebbe anche essere collegato alla frequenzazione di uno spazio più ristretto e localizzato, caratteristica del nuovo stile di vita sedentario, e a molteplici restrizioni intrinseche che si incontrano nel movimento in questo spazio, come strade, piste e segnali del traffico. L’importanza primaria delle proprietà culturalmente attribuite agli oggetti nel modo in cui gli anziani descrivono le relazioni spaziali rappresenta la strategia di selezione del Frame of Reference più appropriato nello spettro di possibilità che essi utilizzano. Nel caso di pecora / capra in funzione di Ground, l’ALIGNED FIELD si realizza usando due locuzioni preposizionali: *minnih w jāy* ‘da lui in qua’ / *minnih w ġād* ‘oltre lui’, indipendentemente dalla direzione in cui la pecora / capra è rivolta. L’unica eccezione è la coincidenza della parte posteriore della pecora / capra con la Regione Posteriore dell’ALIGNED FIELD (Tavola 2.11 immagine 1). Io considero queste locuzioni preposizionali come marcatori distintivi delle proprietà ontologiche della pecora / capra in funzione di Ground, distinte da altri oggetti simmetrici come pietra / albero / gregge. Le medesime locuzioni preposizionali sono usate anche in altri contesti, dove il Frame of Reference Relativo è preferito, come nel caso in cui l’oggetto Figure sia parzialmente o totalmente nascosto dall’oggetto Ground: *minnih w ġād* è usato per indicare la posizione di un oggetto Figure totalmente nascosto dal Ground, mentre in Hausa si usa ‘dietro’, *baya* (Tavola 2.9).
L’opposizione minnih w jāy / minnih w ġād si usa anche in tutti quei casi in cui l’anatomia dell’animale confligge logicamente con la Regione dell’ALIGNED FIELD in cui si trova, come quando l’animale è rivolto verso l’Osservatore, cioè il muso dell’animale corrisponde alla Regione Posteriore dell’ALIGNED FIELD. In questo caso wara è sentito come improprio (a causa del ‘leggero effetto anatomico’ del muso dell’animale), come anche lo è giddām (per le restrizioni dell’ALIGNED FIELD) (Tavola 2.13). In altre parole, quando le proprietà intrinseche delle entità nel dominio dello spazio sono deboli e producono effetti ‘leggeri’, le leggi geometriche del campo visivo dell’Osservatore tendono a prendere il sopravvento sulle proprietà ontologiche.

Come mostrato nella Tavola 2.16, gli effetti dell’ALIGNED FIELD sono evidenti anche quando l’Osservatore vede la pecora / capra da un lato, cioè l’asse Avanti / Dietro dell’animale dovrebbe essere perpendicolare alla direzione dell’ALIGNED FIELD e questo fatto dovrebbe generare un conflitto di attribuzione delle Regioni. In quei casi, come parlante Italiana, mi aspetterei qualcosa come ‘l’albero è accanto alla pecora’, applicando il Frame of Reference Intrinseco, riconoscendo cioè alla pecora / capra il suo lato. Ma così non avviene: similmente a quanto avviene nel caso del telefono in Hausa, i parlanti aṣ-Ṣānīˁ ricorrono all’uso del Frame of Reference Relativo, con l’utilizzo della coppia minnih w jāy / minnih w ġād che abbiamo osservato nella Tavola 2.10, immagine 2 (o nella Tavola 2.11, immagine 2) e nella Tavola 2.12, immagini 1 e 2. Ciò significa che, nel dominio dello spazio, la pecora / capra / albero / gregge in funzione di Ground, come il telefono in Hausa, non mostra differenze inerenti fra l’asse Avanti / Dietro e Destra / Sinistra, similmente a quanto accade con pietra / albero / gregge in funzione di Ground. Come nel caso del telefono in Hausa, non fa differenza in quale parte la pecora / capra sia rivolta, poiché è trattata come un oggetto simmetrico in entrambi gli assi orizzontali.

Il collasso dell’ALIGNED FIELD preso le giovani generazioni è evidente dal fatto che l’opposizione wara / proprietà geometriche e metriche (come abbiamo visto) è sostituita dall’opposizione gabl / prima, e ba’d, dopo, per lessicalizzare l’opposizione Regione Posteriore / Regione Anteriore dell’ALIGNED FIELD. Significativamente, l’uso di queste preposizioni è altrimenti ristretto in aṣ-Ṣānīˁ al solo dominio temporale. L’uso di gabl / ba’d nell’ALIGNED FIELD implica che quando l’oggetto Figure è tra l’Osservatore e il Ground, l’Osservatore giovane dirà che ‘F è gabl G’ e quando l’oggetto Figure è al di là del Ground, l’Osservatore giovane dirà ‘F è ba’d G’.

Nondimeno, in pratica, tale sistema non si realizza sempre così perfettamente, generando invece molti ripensamenti negli informatori: vecchie strutture mentali e semantiche fanno sentire il loro effetto per lungo tempo nelle generazioni, mentre il sistema cambia. I ripensamenti degli informatori sono dovuti al conflitto di attribuzione dei significati di Anteriorità e Posteriorità nel descrivere la Regione Posteriore di Ground simmetrici. Quando l’oggetto Figure sta tra l’Osservatore e il Ground, i giovani tendono a vedere l’Anteriorità e ad usare gabl ‘prima’ mentre gli anziani vedono la Posteriorità ed usano wara ‘dietro’.

**Conclusioni**

Dalla Tavola 2.9 e dalle osservazioni successive, vediamo come l’ALIGNED FIELD in Hausa e nell’Arabo degli aṣ-Ṣānīˁ mostra notevoli differenze. In Hausa le preposizioni che indicano le Regioni Anteriore e Posteriore sono sempre gaba / baya rispettivamente, indipendentemente
dall’oggetto; ma nell’Arabo degli aṣ-Ṣāniˁ diversi oggetti Ground, come pietra / albero / gregge e pecora / capra, sulla base delle loro proprietà ontologiche, producono distinzioni grammaticali anche nell’applicazione della medesima strategia di Traslazione (ALIGNED FIELD). Ciò suggerisce anzitutto una distinzione nel sistema aṣ-Ṣāniˁ tra il dominio della semantica linguistica (descrizione linguistica) e quello della semantica cognitiva (attribuzione cognitiva dei Frames of Reference). Infatti, la corrispondenza di un Frame of Reference a più strategie linguistiche destabilizza la fiducia nella corrispondenza della competenza linguistica e non linguistica (o cognitiva), accettata da Levinson ancora nel 2003, come un relitto della posizione universalista. In secondo luogo, ciò indica la necessità di diversi approcci metodologici, orientati verso l’analisi delle ontologie culturali delle entità nel dominio dello spazio. Utilizzo il termine ‘ontologia’ e non ‘gerarchia’ perché in realtà la partizione dei realia sulla base di certe proprietà non implica in tutte le lingue e culture una classificazione basata su una scala verticale di implicazioni, simile al sistema tassonomico secondo cui le culture occidentali contemporanee rappresentano il mondo naturale, a seguito della teoria evoluzionista di C. Darwin. Così, sebbene la pecora, la capra e il cavallo dovrebbero appartenere allo stesso regno animale sulla base di certe caratteristiche condivise e sulla base delle nostre precognizioni scientifiche, nell’Arabo degli aṣ-Ṣāniˁ essi si presentano nella descrizione linguistica come entità assai distinte. La pecora / capra è in una posizione intermedia tra pietra / albero / gregge e asino / cavallo / uomo. Una possibile spiegazione di ciò è che la pecora / capra può essere considerata avente un minore grado di [MOBILITÀ] rispetto ai carnivori, cavalli e asini: le pecore e le capre di rad kö alzano la testa mentre si muovono verso il prossimo ciuffo d’erba; necessitano di essere condotte e non mostrano spiccate intraprendenza e intelligenza motorie.

geometriche e logiche ancora rappresentano il fondamento metodologico di molte teorie dello spazio (Cooper 1968; Leech 1969; Bennett 1975; Miller & Johnson Laird 1976), il limite più evidente di questo modello è il fatto che, in realtà, gli oggetti Ground possono essere concettualizzati in modo diverso non solo in perspettiva interlinguistica ed interculturale, ma anche all’interno della medesima lingua, come questo studio dimostra chiaramente. Alcune teorie semantiche degli anni Ottanta avevano già cognizione di ciò, rappresentando una svolta nel progresso dell’approccio neo-relativista (Jackendoff 1983; Vandeloise 1986), a cui questo lavoro spera di avere fornito un contributo.
Chapter I

A Culture-Specific Methodology for Space Studies:

My Fieldwork among the aṣ-Ṣāniˁ

“The choice of methodology can shape the resulting product in ways of which researchers may not always be aware.”

(M. Mithun 2001: 36)

Overview

The present chapter deals with the development of a culture-specific methodology for the investigation of the language of space in aṣ-Ṣāniˁ Arabic, reporting the results of sustained progress from the conceptual framework of cognitive semantics toward the combination of its means with the epistemological instruments of cultural anthropology. This path of refinement has taken place during my fieldwork: I started working within the cross-linguistic framework of the traditional typological enquiry. In this approach, typological surveys on static spatial relations generally aim at matching linguistic and non-linguistic representations through the application of the same sets of stimuli across languages and cultures. Indeed, the consistency of the methodology applied in the investigation of different languages is considered itself as the best guarantee for the validity of the data yielded by cross-linguistic enquiries (Levinson & Wilkins 2006). Although the data obtained by the application of this methodology has led Levinson and other scholars to sustain – to different extents – the Relativistic Hypothesis, the very basic assumptions and claims of validity of cross-culturally identical methods are nevertheless rooted in the framework of Universalistic beliefs. The collection of data is without doubt methodology-dependent, or, to be more precise, it depends on the kind of stimuli adopted. Indeed, sets of stimuli like the ‘Men and Tree and other space games series’ (Levinson, S.C., P. Brown, E. Danziger, L, De León, J.B. Haviland, E. Pederson, G. Senft 1992: 7-14) have taken the typological classification to the detection of three different Frames of Reference (Absolute, Relative, Intrinsic), according to which all languages world-wide should semantically process the angular or projective relations between entities in space. My descriptive research too was initially conducted in the field by means of uniform stimuli developed in the last three decades at the Max Planck Institute for Evolutionary Anthropology. But the emotional and linguistic reactions of my informants across different age-groups when facing different kinds of stimuli led me to adapt the stimuli, rejecting the use of pictures and separating objects belonging to the aṣ-Ṣāniˁ traditional world from recently introduced daily objects. This procedure has shown the unavoidable effects of the cultural dimension of the aṣ-Ṣāniˁ traditional community on spatial language, especially with respect to the specific semantic categories of space description used by the elderly to express the ontological classification of the entities constituting the traditional world vision. The young people – less familiar with obsolete objects – speak differently about their spatial relations, and have developed new strategies to describe the spatial relations of those objects which are in use in the contemporary world. Therefore, the impact of the traditional ontological categorization of entities in space has evident consequences in aṣ-Ṣāniˁ Arabic on the combination, extension and even on the obsolescence of the Frames of Reference in the Levinsonian definition. Such consequences are unpredictable within the boundaries of cross-culturally standardized typological stimuli, the use of which has been fruitful exclusively in a preliminary and suggestive phase of research.
I.1. The Object of Enquiry

I.1.1. The Domain of Space in Typological Analysis

Spatial cognition is a fundamental requirement for every mobile species with a fixed territory or home base. It plays a central role in human thinking and reasoning. The evidence for that centrality is all around us, in our language where spatial metaphors are used for many other domains, in the obvious cognitive utility of diagrams and tables, and in the special role of space in memory.

The idea that space is a fundamental intuition built into our nature goes back at least to Kant (1768), and the idea that our apperception of space is governed by cognitive universals informs much current cognitive science. The impact of spatial orientation on human thought and, in particular, our understanding of time has often been noted.

Lakoff (1993: 218) assumes that our metaphorical understanding of time in terms of space is biologically determined: “In our visual systems, we have detectors for motion and detectors for objects / locations. We do not have detectors for time (whatever that could mean). Thus, it makes good biological sense that time should be understood in terms of things and motion.”

Within the epistemological framework of the Universalistic lesson, the different strategies used by human languages to describe spatial arrays are functional to the revelation of the conceptual structures of human spatial thinking, since universal structures of spatial thinking should be reflected in a universal grammar of space.

But the very variability of language promises an interesting insight into the possible cultural variability of spatial thinking. Even within a Relativistic paradigm, this reasoning still assumes a close correlation between spatial language and spatial thinking – essentially, a kind of isomorphism between semantics and conceptual structure. Where we have linguistic universals, the correlation may be presumed to be driven by cognitive universals. But where we have cultural divergences, language may not so much reflect underlying cognition as actively drive it.

The tradition of linguistic studies on Bedouin Arabic is based on text collections. This practice arose from a desire to document the rich cultures of the speakers and it is seen as a tool for understanding languages in their own terms, rather than through European models. Generally, the texts serve as the bases for grammatical description, as in Stewart (and Blanc) 1970, Henkin (2010), Alatamin (2011), Marom (2011) and Shawārbah (2011).

Furthermore, Bedouin communities have, for almost two hundred years, been the subject of numerous studies focusing on various aspects of their special way of life, usually from sociological, anthropological, or historical standpoints (Bailey 2009; Burckhardt 1829; Doughty 1888; Kressel 1975, 1982, 1992, 1996, 1998, 1999; Lawrence 1935; Musil 1928; Stewart 1994).

The present investigation considers anthropological and cultural approaches as complementary strategies to linguistic research.

Malinowski (1922) believed that lexical data cannot be fully comprehended outside their specific cultural context (cf. Henson 1974), this being a prerequisite before a translation into other languages can be undertaken.
The present work is focused on the linguistic coding of the domain of space in aṣ-Ṣāniˁ Arabic, with the global objective of clarifying the relation between language, cognition and culture. Studying the conception of space is both intriguing and important because it is something that is culturally specific yet universally experienced, much like language and culture. It is for this reason that space has been a prevalent theme in the field of anthropology, and in particular of territorial structure (Radcliffe-Brown 1940), settlement patterns (Lévi-Strauss 1967), social space (Durkheim & Mauss 1963), “proxemics” (Hall 1969), cosmology (Eliade 1959), and symbolism of domestic space (Bourdieu 1977).


H. Kuper (1972: 411) states that everyone encounters the reality of space, “but how they cope with [it] is a cultural variable, evident in language classification, technology, and ideology; and because members of different cultures structure the same physical phenomena through different perspectives and techniques, we cannot assume that they have a concept of space equivalent to our own.” Along with the universality of experiencing space, Kuper alludes to an important connection between language and space, stating that there is linguistic evidence of differences in the conception of space.

Whorf reiterates Sapir’s earlier claims by saying that it is in language’s “…constant ways of arranging data and its most ordinary everyday analysis of phenomena that we need to recognize the influence it has on other activities, cultural and personal” (1956: 135). To demonstrate this effect of language use on the “cultural and personal”, he compares English and Hopi conceptions of time and space by analyzing the formal features that members of each culture use to express them.

Lucy (1997: 296) outlines three types of approaches that he claims are equally capable of contributing to the study of this relationship: structure-centered, domain-centered, and behavior-centered. The present study takes a domain-centered approach, choosing a domain of the human experience — space — and then observing and analyzing how this domain is encoded linguistically, looking at specific semantic instances in the language under study.

Lucy’s methodology, adopted by Levinson (2003) among others, was formulated to compare the linguistic with the non-linguistic (cognitive) treatment of the selected cultural domain (space, color terms, kinship terms, body parts, folk taxonomies), and to extend this match across the broadest possible sample of languages, for the purpose of typological classification.

The present work and the methodology applied restrict their aims to the field of linguistic analysis: I will devote a future study to the comparison of linguistic and non-linguistic data.

The linguistic level of a typological investigation is hardly a trivial task: it requires an analysis of the semantics of a language at a depth rarely available in grammar books. The complexity of this enquiry mostly consists in the necessity of devising special methods of data elicitation – such as, for example, communication tasks between native speakers and pertinent sets of controlled stimuli. ‘Pertinence’ is the key word of this methodological treatise, i.e. the
consistency of methodology and stimuli design with both the scope of the enquiry and with the social and cultural context of the investigation.

The selection of the domain of space as the object of the present linguistic investigation is rooted in the tradition of typological studies. In fact, space is a universal human experience and a core structure organizing different areas of our mental activity, as testified by several metaphorical usages derived from spatial concepts and transferred into other domains, such as that of time and emotions (Lakoff & Johnson 1980; Boroditsky 2001).

Because of the striking combination of the universal and essential character of the spatial experience and its variability across languages and cognitive systems, space has constituted in the history of modern typological studies a fundamental domain of investigation for the interaction of linguistic and cognitive structures, starting with the pioneering enquiries of Fillmore (1975), Lakoff (1987), Langacker (1987) and Talmy (1983, 1985).

On the basis of cross-linguistic data collections and data analysis, the Nativist theoretical tendency supports the existence of an innate, universal and restricted number of primitive spatial notions, according to which all languages and cognitive systems organize the spatial experience (Jackendoff 1983; Landau & Jackendoff 1993; Landau 1994; Talmy 2000a, 2000b; Li & Gleitman 2002; January & Kako 2007; Cardini 2010), while the neo-Relativist and Functionalist approaches (Brugman 1983; Herskovits 1986; Lakoff 1987; Brugman & Lakoff 1988; Cuyckens 1991; Vandeloise 1991; Boroditski 2001; Fitch 2001; Bowerman & Choi 2003; Gentner & Goldwin-Meadow 2003; Levinson 2003) claim a strict interdependency of spatial language and cultural conventions, and a strong priming effect of the native language on one’s system of cognitive representations.

For the supporters of Nativism, linguistic and cognitive variation occurs within a restricted inventory of possibilities, while Relativist approaches do not impose any preliminary limitation onto this phenomenon, accepting even the idea of its hypothetical infinitude (Evans & Levinson 2009: 431).

In the last decades, with more data from different languages added to the cross-linguistic analysis, the domain of space has revealed itself increasingly as differently partitioned, conceptualized and encoded across languages (Levinson & Wilkins 2006: 512). Data accessibility has led to the implementation of a more elaborately documented and formulated neo-Relativistic manifesto (Evans & Levinson 2009), which in recent years has enabled investigation of the biological and the historical dimension of languages (Levinson 2008; Levinson, Greenhill, Gray & Dunn 2011; Levinson & Gray 2012; Levinson & Dediu 2013), in order to ultimately understand their very nature, the extent of their shared traits and of their variations, and their relationship to human civilizations.

Adding new data from a language which has never been typologically investigated before – especially in the domain of space1 – sheds new light onto the mechanisms of linguistic variation, and enables exploring the reasons of variation. Indeed, scholars offer various explanations to conciliate the apparently contradictory aspects of unity and diversity detected across languages in every investigated domain: as an example, starting from the statements of Chomskian Nativism (1965; 1966; 1968), Pinker claims that innate universal faculties vary under the effect of natural adaptation (1994).

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1 Etymological and historical observations on the color system of Bedouin Arabic have been carried out by Borg (1999; 2007; 2011; 2014) combining typological methodology with a diachronic perspective.
In particular, the experience of different ecosystems could be responsible for priming diverse ways of conceptualizing the domain of space across human societies. This is what I initially wanted to investigate, comparing data from vernaculars of sedentarized Negev Bedouin and some languages of Indonesian sailors: indeed, I hypothesized the existence of some shared features, due to the common practice of long-distance travels across deserts or seas. Shared features indeed revealed themselves, such as the use of the Absolute Frame of Reference (see Chapter II), but they are generally found also among sedentary people living in very restricted areas. This preliminary hypothesis thus proved to be wrong and a new perspective on the complex relation of human groups and their territory was potentially open to cultural, linguistic and cognitive speculations.

As pointed out by Levinson, looking at a world-wide linguistic sample, no evidence has been found so far of any systematic correspondence between semantic structures and ecosystems *tout court* (2003: 46). Therefore, in his most recent works, Levinson addresses a multi-factorial methodology for the enquiry of linguistic unity and variation, taking into consideration genetic affiliation of languages to explain phenomena of typological convergence (Dunn et al. 2005; Dunn, Levinson and Lindström 2008; Levinson et al. 2011), ecological factors (Levinson 2008; Levinson & Gray 2012) and cultural development (Baronchelli et al. 2013; Levinson 2013). This methodology is known as the ‘co-evolutionary model’ (Levinson et al. 2013).

In particular, space is a complex and multilayered domain for typological investigation, where linguistic variation can occur on several levels. When we observe and describe a spatial array, the spatial information can be differently selected. Talmy proposed the notion of ‘schematization’ to summarize the process applied by speakers selecting and reporting only those aspects of a scene which they feel to be relevant (Talmy 1983: 225). Tyler and Evans (2003: 53) support the idea that such selective variations are symptomatic effects of what they call ‘vantage point’, a function according to which the way languages represent spatial scenes is due to the way speakers see them, so that different aspects or features of the spatial discourse can be given diverse degrees of importance and salience, as happens to manner or path in the sub-domain of motion (Talmy 1985) and distance, visibility, size in the sub-domain of location. As an example, in the language of the younger generations of the aṣ-Ṣāniˁ community, distance is simply treated as a sub-domain (or sub-category) of topological relations, consistently with a relatively small set of descriptive strategies. But in the language of the elderly (people over sixty years of age), distance does not only represent a sub-domain of topological relations, which in Levinson & Wilkin’s theory is opposed to the domain of angular or projective relations (Levinson & Wilkins 2006). For them, distance is evidently one of the parameters which co-occur in the selection of the appropriate strategy according to which the projective information has to be provided; in other words: the parameter of [DISTANCE] co-occurs in the selection of the appropriate Frame of Reference, and thus co-occurs in the linguistic expression of angular relations (see Chapter II).

Variation in the linguistic domain of space can occur with respect to the distribution of the relevant information among the speech elements (Talmy 2000a, 2000b; Levinson & Wilkins 2006).

Furthermore, spatial sub-domains, such as, for example, motion and location, can be distinguished at different semantic and formal levels: thus, not all languages have two
completely distinct sets of prepositions to describe spatial relations in the sub-domain of motion and in the sub-domain of location.

Languages can differ also with respect to the semantic strategies according to which the complex and multi-dimensional spatial information is transformed into sequential, linear speech. In our case, within the domain of space, we deal in the present work especially with the description of the horizontal plane, which is bi-dimensional, since it is described – necessarily and sufficiently – by the intersection of two axes that I will distinguish and label as the Front/Back Axis and the Right/Left Axis. In order to describe spatial arrays located in the bi-dimensional plane using a one-dimensional means, such as the linear speech, we have to resort to some kind of coordinate system, using it as semantic framework (see Chapter II).

In the initial steps of this research, my methodology and scope did not take into consideration the relationship between language and culture, since my epistemological landscape was focused on the classical typological field of enquiry of space semantics, i.e. the relationship of language and cognition.

Nonetheless, as recommended in Newman & Ratliff (2001: 6), I kept in mind the most flexible attitude possible, allowing the responses of my informants to guide me into their conceptualization of the domain of space and its relevant and essential aspects. This implied a particular stance with regard to the speakers, i.e. to see the informants as collaborators rather than passive and unreflecting executors of research tasks (Gil 2001: 102).

In the months preceding the fieldwork and throughout the sessions, I trained myself in actively speaking aṣ-Ṣāniˁ Arabic, doing my best to eliminate elements of Standard Arabic and western Arabic dialects from my former linguistic knowledge. Programmatically, I chose to speak only aṣ-Ṣāniˁ Arabic with my informants, since the use of any other dialect, or Modern Standard Arabic or Hebrew, could prime the production of irrelevant data.

In typological research, the attempt to speak the investigated language is very important, not only because the informants and all community members appreciate it, but mostly because it promotes a sensitive and receptive attitude toward the semantic nuances of the new language (Newman and Ratliff 2001: 3).

As I internalized the semantic categories of aṣ-Ṣāniˁ Arabic, my perspective changed dramatically during the months spent in the field, and so did my methodology: from a very generic, standardized and impersonal stage, my methodology developed into a language-specific and cultural-based approach – consistent and pertinent with the cultural system of the community – which enabled me to account for those distinct aspects of distinctiveness of aṣ-Ṣāniˁ spatial language and to discover, at the same time, the aṣ-Ṣāniˁ ontological classification of concrete entities, with respect to the domain of space.

The standardization of stimuli across languages is considered by Levinson & Wilkins in their book the best guarantee for the validity of the comparison: “in this book, in order to achieve close comparison, the papers each touch upon a series of key topics, and the researchers have all used a shared set of elicitation techniques” (Levinson & Wilkins 2006: 2).

Similarly, Levinson & Meira (2003:487) call for implementing a standardized and structured method for the elicitation of spatial relations in order to be able to compare data across languages. They claim that using an “ethic grid” could be the answer. An ethic grid is a field tool that, independent of language, captures all the possible distinctions that could be made. Levinson & Meira (2003) also acknowledge the fact that a researcher may unintentionally choose tests that only make the distinctions that are made in the language(s)
they are familiar with. For example, a speaker of English might choose an ethic grid that makes the distinction between situations where one would use *in* and situations where one would use *on*, but not the distinction between something that is above and something that is high above because English does not make this distinction in its prepositional use. Therefore, Levinson & Meira (2003) propose the construction of a grid by a group of fieldworkers experienced in different languages.

Nevertheless, looking for the rules of application of a small set of semantic categories variously applied by all languages and based on just three elements (the so called spatial Frames of Reference detected by Levinson on 2003), at the beginning of my research, I could not imagine the degree of linguistic complexity I was about to detect and how my methodology would evolve.

Indeed, at the beginning of my work, I did not know that, even though we can expect to find in every language one, two, or three Frames of Reference, the rules of their application and their combinatorial solutions across languages are not predictable on any systematic basis, be it exclusively ecological (Cohen 1971: 107), typological, implicational, historical or genetic (Ginneken 1935; MacLaury 1997: 179). Exactly this aspect of the phenomenon of semantic variation turned out to be the most relevant finding of my fieldwork among the aṣ-Ṣānī, and revealed itself as being culture-based.

Indeed, the organization of space grammars seems deeply rooted in complex cultural strategies, surely entailing also the ecological adaptation and the historical paths followed by every linguistic group. Under this respect, illuminating examples come from Iceland, where different meanings are attributed to the cardinal directions by the habitants of different parts of the country, since they anchor the cardinal coordinates to the different direction of the fiords, as outlined by Haugen (1957), and the words ‘east’ and ‘west’ in the language of the Aladyan, which correspond respectively to the meanings of ‘behind’ and ‘in front’, since the Aladyan speakers reached their current position leaving the east behind them and proceeding toward the west during their last migration (Duponchel 1974: 259).

With respect to the importance of the ecological factor in linguistic variation (linguistic determinism hypothesis), Levinson himself (2003: 188) suggests the possibility of comparing groups from the same country or region, but with different linguistic characteristics as regards Frames of Reference. A representative case for this purpose is the cluster of Mayan languages: Tzeltal, Mopan and Yucatec. Tzeltal is predominantly absolute in language, Mopan predominantly intrinsic, and Yucatec speakers use all three frames of reference but with heavy use of the intrinsic frame of reference. All three cultures have very similar material culture and the same subsistence base, although there are ecological differences between the Chiapas highlands, the Maya Mountains where the Mopan live in Belize, and the less elevated Yucatan.

With respect to the question of compatibility of the historical perspective within the methodology of cognitive analysis, a suggestion rised by Borg (2014) has revealed itself as very suggestive for the elaboration of the methodology of the present research: treating the issue of color categorization across several Arabic speaking urban, rural and nomadic Middle Eastern communities, Borg hints at the possibility of transferring the model implemented by MacLaury (1997) for his survey on Meso-American cultures to the study of the plethora of different cultural expressions characterizing the Arabic-speaking world, revealing the permanence of earlier traditions of the Semitic area, stretching back to the pre-Islamic era.
So Borg (2014: to appear): “(...) MacLaury’s macro-areal survey yields the diachronics of color categorization a replicable research model combining the disciplines of genetic and universalist linguistics; its comprehensive areal and theoretical ambit evokes the realm of “cultural ecology” examining “the interaction of cultural processes with the physical environment” in “nuclear Mesoamerica” (Sanders 1962: 34). Its aims, scope, and methods would seem to be eminently transferable to other civilizations, for instance, the Near East (compare Sanders 1962: 37). Semantic and cognitive aspects pertaining to color categorization across this other region, comprising a set of lineally and obliquely related modern vernacular idioms of Semitic, opens up a promising avenue for an extensive foray into the realm of linguistic anthropology”.

Raising the question of comparing the Meso-American and the Middle Eastern models for the reconstruction of the histories of the respective local languages, Borg focuses our attention on the necessity of specific methodologies of enquiry of different linguistic areas, which, working within the cognitive framework, should not neglect the specific historical, ecological and cultural horizon.

From a distinct point of view, given that different groups express their cultural peculiarities in specific linguistic varieties, age groups and gender groups have provided during the fieldwork of the present research interesting perspectives of analysis within the aṣ-Ṣāniˁ society, since they represent the very basic nuclei for cultural change.

So, beside the main scope of the enquiry, i.e. the description of the use of the spatial Frames of Reference, every session of the fieldwork produced additional results, such as, for example, the striking consistency in the response of women and men, despite gender-based studies claiming different conceptualizations of space in men and women, and despite the rigid separations of the genders dominating the traditional Bedouin life and the lower degree of mobility of aṣ-Ṣāniˁ women.

This observation seems to confirm Levinson’s findings (2003: 194), according to which tests for gender differences showed a non-significant result in the samples of Arrernte, English, Belhare, Hai/om, Japanese, Longgu, Kgalagadi, Kilivila, Tamil, Tzeltal, and Yucatec. These results seem to contradict those many studies, which go back at least to Langhorne (1948), that somehow show differential abilities between men and women in spatial orientation. The results shown by the community of the aṣ-Ṣāniˁ raise an interesting question about the cross-cultural validity of the gender bias in spatial reasoning – which has been taken for granted for so long in the literature – and produce further data to answer the question whether the gender effect found in some communities in Europe and North America (Levinson 2003: 194) is a cultural or culture-independent effect.

Another interesting socio-linguistic fact is the progressive differentiation of the spatial language of young people from the system in use among the elderly of the community. This aspect of the enquiry deserves a further specific treatment. From a methodological point of view, nevertheless, generational differences should not be confused and merged with different degrees of literacy. It has been argued that literacy has many important cognitive effects, and it is clear that writing systems with (mostly) left-to-right or right-to-left writing order, and mirror-image discriminations between letters like ‘d’ and ‘b’ or ‘p’ and ‘q’, might induce a special sensitivity to left / right discriminations, and thus to egocentric, relative coordinates. According to Levinson (2003: 194), subjects from communities with no relative linguistic
coding and little literacy do indeed display some interesting tendencies to mirror image conflation (Levinson & Brown 1994, Danziger & Pederson 1998).

One hypothesis then is that literacy might correlate with more intensive use of relative coding especially in communities in close contact with speakers of relative-coding languages. Tamil and Belhare speakers do indeed show differences correlated with literacy: among these groups, most relative linguistic coders are literate. However literacy shows no substantial influence in the Hai'om, Kilivila, Tzeltal, Kgalagadi and Yucatec samples (Levinson 2003: 196).

From my experience among the aṣ-Ṣāniˁ, I assume that literacy is not totally and exclusively responsible for the massive generational change observable between the language of space of the elderly in comparison to that of young people. This might be true for the simple reason that ‘literacy’ should not be always identified with ‘acculturation’. Writing practices are not the sole factors which could induce a higher sensitivity to right / left distinction, but also other practices, such as driving cars, or using similar utensils with functional orientation.

Furthermore, the vector of linguistic development does not always stretch from absolute coding to relative coding attitudes, as will be demonstrated with respect to the evolution of the language of the aṣ-Ṣāniˁ in last decades.

So, if the question is asked only in terms of a hypothesis about the priming effect of literacy on the shift from absolute to relative coding systems, it is asked in far too generic terms.

I.1.2. The Concept of Space in a Cross-Cultural Perspective

Despite its universality and its fundamental role in human interaction with practical and cultural experience, “space is not a restricted domain like color terms, kinship or the plant world, in each of which it is arguably natural to ask how languages code the relevant distinctions” (Levinson 2003: 64). Even its existence as an identified concept across languages and cultures is questionable. Indeed, few languages probably have a word for ‘space’ in the abstract sense in which it is used in this work. In fact, it is centuries of sustained philosophical and scientific speculation that have led to the definition of such an abstract notion, now currently in use in western thought.

As pointed out by Levinson (2003) “In unwritten languages one is more likely to find a term for ‘place where something belongs to’ (as in Tzeltal), or ‘sacred site’ (as in Guugu Yimithirr), i.e. the notion of place is much more frequently lexicalized (often with restrictions as just sketched) than the abstract notion of space”.

Apparently Negev Arabic behaves consistently with this prediction. No abstract word for ‘the concept of space’ seems to exist.² At least in my case, I found many difficulties in ascertaining (adequately and properly) the existence of the word ‘space’ during my fieldwork.

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² Gideon Kressel, personal communication, Sde Boker Campus, Summer 2012. A general word for ‘space’ is not to be found in the dictionaries of Bedouin Arabic varieties (see de Landberg 1940; Boris 1958; Stewart 1990; Kurpershoek 1995; Marom 2011; Shawårbah 2011; Alatamin 2011). Nishio (1992) expressively reports for Jbāli Arabic some words meaning ‘place, spot’, but no generic term to express the concept of ‘space’ in the section of his thematic dictionary devoted to spatial terms.
Indeed, it was not easy to investigate the existence of an abstract entity, in view of my methodological attempt to renounce the use of any language other than the language of the aṣ-Ṣāniˁ and to resort as little as possible to the use of Modern Standard Arabic lexical sources.

I first listened to the spontaneous linguistic input of daily life and then I tried to initiate free conversations, by means of which I could indirectly lead the speakers to use the required concept, such as questions about the internal division of the traditional tent and the possible inconveniences of living together with the many members of an extended family with many wives (and to constantly share the common space). Often the speakers tried to satisfy my purpose during the entire conversation, saying that in a tent everyone had his own ‘place’ to sleep (minām), his sector (rifrāf) and, in the case of the men, his place to sit and welcome the guests (šigg).

Speaking with the elderly, I collected a plethora of specific terms indicating several kinds of places: places to water camels, places to rest, places for watching the landscape, cultivated and uncultivated places, places to make war, places to trade, places for the animals and places for the people, for men and women; this situation is mirrored in several collections of Bedouin poetry and oral texts, especially the oldest ones (Musil 1928; De Landberg 1940; Boris 1958). Consistently, I missed any generic term for space.

So, since in the traditional aṣ-Ṣāniˁ world no space was apparently lacking its proper name or function, or, in other terms, every space was a determined ‘embodied’ place, I started to initiate daily pilot-conversations on modern objects, like houses and cars, using indiscriminately the word makān – which in Modern Standard Arabic means ‘place’ – in all those cases where I would use ‘space’ in my own language (Italian). In so doing, I expected some kind of feedback and correction from my interlocutors, in order to find out if ‘place’ and ‘space’ are treated as separate concepts and the semantic boundary between them.

The selection of different kinds of objects, which I call culturally-related and culturally-independent, is a key-strategy in the investigation of aṣ-Ṣāniˁ Arabic, which has revealed itself very fruitful. The same methodological principle has guided me in the selection of the stimuli during the entire fieldwork, highlighting a gap between the language describing the traditional world and the language describing the current life.

As an example of the new linguistic attitude of the aṣ-Ṣāniˁ community toward more general and abstract terms, fitting the challenge of this fast changing world, in the description of a journey on a crowded and overloaded car (where even the smallest space was filled), my informants corrected my random use of makān, saying that nobody else could find a place to sit (matraḥ) or some space for his luggage (matraḥ) in such an overcrowded car. The same word matraḥ was used, instead of my wrong use of makān, in the case of a pilot-conversation about a couple with many children, who want to build a new house, because they need more space, matraḥ. Matraḥ means also ‘the surface’ where the house will be built and ‘the place’ where it will be built, speaking about the higher location of the new house, which is better than the former lower placement. Also a seven-year-old child, pointing at his stomach, said to his grandmother: ǧiddih! sawwēt lay matraḥ l-al-malfūf! “grandma!, I made me space for the cabbage rolls”, meaning that even though the child was sated, he kept some empty space in his stomach to eat his favorite food.

3 Musil reports the use of makān as ‘place’ in Rwala (1928: 412).
The word *maṭrah* originates from the same root of the verb *ṭaraḥ* ‘étendre une couverture’ (Boris 1958: 371); Boris translates the Marazig term *meṭraḥ* into French ‘endroit’ (Boris 1958: 371), ‘place’. In aš-Ṣāniḥ Arabic, the term *maṭraḥ*, used as ‘place’ and as ‘space’, can often be substituted by the term *wasā‘ah* ‘vastness’, mostly when clearly referring to an open or an empty space.

Furthermore, all my informants interestingly agreed on the fact that *makān* is not in use with the common meaning of ‘place’ in their community, with the only exception of the referential context in which someone speaks about a place, apparently far in time or space, or unknown (*makān flāniy*, ‘a certain place’).

In order to be sure about the absence of a special word for the abstract concept of ‘space’ I openly addressed the question to literate people, asking them about the existence of a term for ‘space’ by means of the Hebrew word *merḥav* ‘space’, whose meaning describes, for example, the subject of my thesis in the academic context. Indeed, the only language of communication I could use with my informants, beside aš-Ṣāniḥ Arabic itself, some Palestinian dialect and modern standard Arabic, was Hebrew, and only with literate adults and more generally with members of the youngest generations, who study Hebrew at school. So, I asked literate informants in Hebrew ‘how do you say ‘space’ (*merḥav*)?’ The answer did not come easily, even for literate young people – students of scientific faculties in a Hebrew-speaking university, familiar with the concept of geometric and physical space – whose understanding of the abstract Hebrew term for ‘space’ was certain. They started wondering how they could translate it in aš-Ṣāniḥ Arabic. One said: “If you have an empty land, like… imagine this land without houses” (pointing at the buildings of the campus) “… then you can say *al-būrah*, ‘the empty land’ (lit. ‘the uncultivated land’)”.4

I also asked aš-Ṣāniḥ university students in English about particular expressions, like the way to say ‘the space between us’ in their language. Most of the informants answered using *maṭraḥ*, while some used the word *faraˁah* ‘separation’ / ‘distance’, saying that this word is not in use within the aš-Ṣāniḥ community: ‘Perhaps it is high Arabic…’ one added. Someone used the word *al-jaww* ‘the air’.5

Older literate speakers tried to provide me the exact meaning I was looking for, using *būrah*, *manṭagah* ‘field’ / ‘area’6 or *manṭagah wisīˁih* ‘large field’,7 as if increasing the value of emptiness and extent, by means of the adjective *wisīˁih*, could match the most abstract meaning possible. The concept of ‘emptiness’ in the Standard Arabic word *fāḌi* 8 ‘empty’ is assimilated to the astronomic concept of space, used only by young and literate aš-Ṣāniḥ.

From these cross-generational observations, I realized that while the old semantic system predominantly was constituted by determined ‘places’, in the contemporary language of the new generations, *maṭraḥ* and *wasā‘ah* are generically used to define ‘place’ and some kind of functional ‘space’.

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4 This use of *būrah* parallels Jbāli Arabic *nabaje* (*nabāyih*), translated by Nishio as ‘vacant land / empty lot’, a word used in Jbāli Arabic to express the more general meaning of place / spot (Nishio 1992: 154).
5 Nishio translates it ‘weather’ (1992: 119). Etymologically connected with *juwwa* (inside) and *juwwiy* (interior), *al-jaww* represents the intermediate level between sky and earth; see Boris 1958: 94, ظ_cidu ‘ce qui est entre le ciel et la terre’. Lane translates it as ‘the air (…) the atmosphere or what is between the heaven (or sky) and the earth’ (Lane 1968, vol. III: 478).
6 ‘*mantagah* / pl. *manātẓiq* area; surroundings’ (Marom 2011: 257).
7 Marom translates the comparative form *awsaˁ* as ‘more spacious’ (2011: 259).
8 The diacritic sign Ḍ is used here to indicate both ظ and ض.
As can be observed in the language of the elderly aṣ-Ṣāniˁ, space is defined by functional, routine or referential places, whose features are rooted in cultural schemata, and whose existence and linguistic productivity are giving way to the deep changes in the lifestyle, living structures and buildings and economical activities that occurred in the last decades.

Finally, even though no specific term in contemporary aṣ-Ṣāniˁ can match the technical meaning of ‘space’, i.e. the philosophical designation of a domain of experience as the object of this thesis, yet ‘an abstract concept for space’ does now exist among the younger generations, and it is derived from the most general term for ‘place’ found in the language (matraḥ). Indeed, in the language of the elderly, matraḥ indicates ‘place’, ‘place of resting’ (Stewart 1990: 274). It is cross-generationally used in common sentences like: wīn al-kubbāyih? ˁa-matraḥha! ‘where is the glass? It is in its place!’, i.e. the word is used by the elderly with the specific referential meaning of ‘something’s proper / own / usual place’ and its meaning has got extended in the course of time in the use of the younger generations.

In fact, if we look at the semantic boundaries between the concepts of ‘space’, ‘room’ and ‘place’ in English and in other languages, we see that the contexts and frequency of use of those terms indicate language-specific distinctions. So, with respect to the contemporary aṣ-Ṣāniˁ terminology, I can just approximately observe the coincidence in the word matraḥ of some of the English meanings of ‘place’, ‘room’ and ‘space’, i.e. the semantic value of the word matraḥ9 (and, to a smaller extent, ħuṣaˁ) has been extended over the last generations to cover new linguistic needs.

I.2. The Choice of Language

I.2.1. Relevance of Language for the Object of Research

As Mithun warns (2001: 34), one of the main criteria for orienting the selection of a specific community in which to carry out linguistic fieldwork, should be essentially the pertinence of the object of the investigation to the language and the community under consideration: especially, the presence and evidence in a given language of the specific characteristics we want to deal with. In the case of space, all languages and all communities around the world are basically eligible for descriptive fieldwork, since, as we have seen, all languages encode the spatial experience.

Nevertheless, my selection of aṣ-Ṣāniˁ Arabic was not arbitrary. As I said in section I.1, at the very beginning of my enquiry I intended to compare semantic data from different languages of long-distance travelers belonging to different linguistic families, such as Bedouin Arabic, the language of the nomads of the Middle Eastern and North African deserts – recently shifted to sedentary life – and Sangih, Badjaw and Makassarese, Indonesian languages of communities of long-distance sailors.10 I noted that these communities of long-distance travelers share a wide use of the Absolute Frame of Reference, i.e. the systematic grammaticalisation of the cardinal directions in everyday language, but this semantic structure

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9 See in Rwala al-matraḥ wasiˁ ‘the place is large’ (Musil 1928: 463).
10 I had the immense opportunity to carry out a long linguistic fieldwork among different communities of Indonesia in the frame of the Erasmus-Mundus Exchange Program, in which I participated as a PhD student of the University of Pisa operating for six months at the Nanyang Technological University of Singapore.
is applied according to such different strategies across those cultures that it is impossible to directly equate such different experiences of space.

Furthermore, the Absolute Frame of Reference is not exclusive to nomadic or semi-nomadic societies: it is also found across a large sample of sedentary groups, living in restricted traditional territories such as the Jbali Bedouin who settled many centuries ago in St. Catherine’s wadi or the Tzeltal speakers of Tenejapa.

As Levinson warned, as far as we know, these semantic structures are not predictable exclusively on the basis of ecological factors (2003: 43). In fact, the presence of one or another Frame of Reference, in their various realizations – which will be further investigated in Chapter II – indicates a complex and culturally codified relationship of the linguistic groups with their inhabited territory, the feeling of continuity and belonging which it inspires, the systems used to reckon their position and to orient themselves, the symbolic, religious and historical meaning of the space, beside many other possible factors.

Nevertheless, the specificity of Bedouin language is demonstrated in different cognitive domains. On the basis of existing preliminary research on selected cultural aspects of Bedouin Arabic, such as their categorization of the color continuum, Borg (1999) writes that it seems possible to suggest that the special ecology of desert habitats has greatly influenced the cultural evolution of Arabic-speaking nomads and that this acculturation process has in turn profoundly colored the semantic content and formal structure of their special dialects.

With respect to the investigation of the domain of space, a stratified cognitive, cultural and linguistic structure is definitely worth exploring according to a multi-factorial perspective and in a much finer grain than simply wondering about the worldwide frequency and distribution of Levinson’s Frames of Reference (2003) and their coordinate impact on linguistic and cognitive structures.

The necessity for such deep enquiry has gradually led me to the implementation of a culture-based methodology. This theoretical enterprise was carried out throughout the fieldwork, which was characterized by a consistent experimental attitude. My multi-factorial and culture-centered hypothesis for space description has definitively taken shape during the fieldwork among the elderly of the ‘iširīh Gdiirāt aṣ-Ṣāniˁ. This is a well outlined, conservative and homogeneous community, with a distinct cultural and linguistic identity, rooted in the territories of the northern Negev. Although now living permanently in the village of Ligiyyih, the aṣ-Ṣāniˁ still live according to tribal customary rules and to the ancestral pastoral practice of Middle Eastern sheep-rearing, but they are sealed within a small portion of the old territories by the current geopolitical situation.

The investigation of the language of space of the elderly aṣ-Ṣāniˁ in comparison to the language of the young generations discloses an unprecedented opportunity to observe and to typologically describe two distinctively recognizable stages in the history of the language of a community which has maintained itself as a homogeneous social entity throughout the challenging events of the last century, until the abruptly accelerating acculturation of the last two decades.

The afore cited circumstances naturally render the linguistic data garnered here an object of considerable potential interest as cultural clues as well as semantic components of different mental world maps, broadly contributing to the understanding of the cultural and ecologic deep reasons and semantic-syntactic paths of linguistic variation.
I.2.2. Language, Identity and Culture in the Arab World

I.2.2.1. ‘Cultures on the Verge’: The Perspective of the Speakers

The Arabic Sprachraum – according to the felicitous definition of Borg (1999: 131) – presents itself as an impressive kaleidoscope of linguistic and cultural identities, concomitant with its peculiar and richly varied ecological cline ranging across nomadic, semi-nomadic, urban, rural, ethnic and/or communal societal types that have extensively conditioned the structure of and cultural content of contemporary Arabic dialectology. Sometimes these societies represent the continuation of ancient traditions, and are often not easily definable or accessible to the external observer. In an attempt to articulate a profile of the anthropology of the Middle East – whose striking specificity is per se the object of methodological reflection (Kressel & Handelmann 1997) – Fabietti defines the social paradigm of ‘cultures on the verge’ (Fabietti 2002), to account for that multiplicity of interpretations and attributions beyond which every ethnic, social, religious and linguistic Middle Eastern group can easily be concealed, within the continuity of the Arabic speaking world.

The issue of language and identity in the Arabic world is a very sensitive one, and in particular the attitude of the speakers toward their language (Anghelescu 1993). One of the most interesting aspects of my fieldwork was my explanation of the reasons and scopes of my work to those informants who asked why I chose the aṣ-Ṣāniˁ community for carrying out my fieldwork rather than any other place where Arabic is spoken. Since my aim was to actively involve my informants, so that they could realize the specificities of their own language and tell me more about them – much as they had done with anthropologists regarding specific aspects of their cultural heritage – I said that I was interested in the language of the aṣ-Ṣāniˁ.

The elderly of the aṣ-Ṣāniˁ community, especially the men, who at least had taken lessons in the local traditional Koranic school and are literate in Arabic, questioned my claim about the difference between their language and other Arabic varieties: “Our language is Arabic. There is no difference between here, Saudi Arabia, Iraq or Egypt. The only thing which changes is perhaps somehow the accent and pronunciation. But this is not relevant at all”.

My insistence on the most relevant lexical and grammatical differences found no support: for my elderly informants, the possibility of mutual understanding represents the guaranty of cultural and symbolic unity across the whole Arabic world. I resorted to proving that word meanings are actually diverse even within the Arabic world, despite the lexical unity. This second argument – a traditional issue in Arabic philology – seemed generally more reasonable and was more easily accepted.

Often, young people and foreign wives supported my thesis. In particular, a foreign wife, who had come from Europe thirty years ago, said to her aṣ-Ṣāniˁ husband: “How can you say that our language is the same as in all other Arab countries? If I go out from our village, I still have difficulties in understanding words and ways in use among other families. Of course I can eventually understand, but we would not speak in the same way”. At that point, the existence of some variations were finally commonly recognized, but only as formal discontinuities within the substantial and unquestionable linguistic continuity.

11 On cognitive patterns shared by Bedouin languages with Aramaic, as some remnant features detected in Negev Bedouin of an older basic color terms system, see Borg 2007: 263-294.
Without a good relationship with the members of the community, women and men, it would have been for me almost impossible to speak confidentially with them about these issues and to take them onto such a level of meta-linguistic and meta-cultural speculation, mostly because of the sensitivity of the language and identity issue in the Arab world and especially in the Middle East.

I.2.2.2. Culture and Language of Sedentary and Bedouin Communities in the Arab World

Beyond the point of view of the speakers, the scientific contributions to the study of Bedouin languages clearly manifest their specificity within the Arabic speaking world. Dialectological studies on formal aspects of Bedouin Arabic (Blanc 1970; Palva 1973; 1984-86; 2003; Ingham 1986, 1990, 1995 and De Jong 2000) demonstrate that the grammatical patterns of the Arab nomads vary considerably from those of the sedentary communities all over the Arabic-speaking world. Borg’s study (1999) has shown that the Bedouin’s color system encodes six chromatic categories, whereas urban vernaculars spoken in their geographical vicinity — not unlike several European languages — partition the color spectrum into eleven categories. In effect, Bedouin Arabic dialects represent the outcome of a unique cultural and evolutionary process inasmuch as they have developed independently of Arabic dialects spoken by sedentary communities since the Pre-Islamic period.

The investigations carried out within the paradigm of lexicographic and etymological enquiries (Alatamin 2011) show that the languages of the Bedouin in Israel present themselves as the outcomes of a specific cultural evolution inscribed within the historical pattern of the nomadic existence, which did not undergo remarkable changes until the period of sedentarization. These varieties show a large amount of lexical material unattested in Arabic dictionaries outside individual ethnographic studies (Musil 1928). From a cognitive point of view, the works of Borg on color categories (2007, 2009) clearly indicate remarkable distinctions between the Arabic dialects of the Bedouins and the sedentary communities in the Middle East.

Therefore, as sustained by Alatamin (2011: 2), the differences outlined within the frame of dialectological studies should take into consideration the different cultural landscapes of sedentary and Bedouin communities and the different patterns of cultural evolutions concomitant with the different life styles and ecological conditions. Bedouin languages merit to be investigated as varieties of a virtually autonomous Semitic language (and its internal ramifications) distinct from both sedentary Arabic and the classical language.

Oddly, despite the impressive range of cognitive and cultural variety exemplified by the Semitic language family, it is regrettably true to say that owing to the underdeveloped state of the art in Semitic lexicology and lexicography, research on the semantics of this language group has been somewhat marginalized with the resulting effects of disadvantage in exploring cognitive and semantic typology and its interface with syntax and grammaticalisation processes.

The close genetic links obtaining within the Semitic language family have also encouraged a tendency to assume the existence of considerable cultural homogeneity within it. A serious probe into the semantic categories of these languages with the tools of modern linguistics and anthropology can therefore be expected not only to highlight their individual
distinctiveness but would, from a more practical standpoint, also considerably enhance the utility of available grammars, dictionaries, and textual materials.

The specifically Bedouin cultural, cognitive and linguistic traits emerging from this study should also be visualized as a continuation of ancient cultural strata pertaining to the early history and prehistory of Semitic nomadism in the Near East. Within the Afro-Asiatic context, only a few works addressing the topic of space exist, except some devoted to Berber languages (Bennabi 1987), and Hausa (Hill 1982). Significantly, the original Bedouin milieu in Arabia lay close to the geographical and linguistic center of the ancient Semitic-speaking world (cf. the notion ‘area centrale’ in Matteo Bartoli’s work, 1945); thus, given the ancient origin and conservative character of Bedouin Arabic, this linguistic tradition would therefore seem to present a particularly promising research area both for the diachronist and for the specialist in linguistic typology.

As Borg says (2007: 263), research on Arabic vernacular varieties has generally tended “to restrict its concern to a brand of linguistics largely modeled on the theory and practice of dialect research in the West”. The marginalization of research on language and culture in the areal study of Arabic dialectal varieties across this extensive linguistic landscape, which, not infrequently, retain residual substratal formal and cultural influences- for instance Coptic in Egypt, Aramaic in the Levant, Berber in North Africa, Al-Andalus and Malta, peripheral non-Bedouin dialects in South/South-East Arabia (Bahārāna, Modern South Arabian (MSA) linguistic cluster and a continuum of Modern Standard Arabic’s coast and highland creole languages in Yemen and Dhofar), - has led to the unfortunate consequence of blurring the existence of subtle linguistic boundaries between dialects otherwise sharing major formal traits. The implementation of cognitive anthropological approaches combined with a methodology of comparative grammar could potentially contribute substantially towards a global understanding of cognitive and evolutionary aspects pertaining to a specific semantic domain, such as that of space in Arabic and Semitic in a wider perspective. In fact, the theoretical implications to be drawn from these comparative studies need to be carefully monitored and checked against fairly systematic assessments of idiosyncratic developments in specific Arabic dialects or dialectal areas. Recent work in the field of Arabic dialectology, particularly that undertaken within the research paradigm of the German school (Behnstedt and Piamenta) has yielded in the last few decades an extensive and highly elaborate corpus of formal data on different varieties of colloquial Arabic (spoken for instance in Yemen, Upper Egypt, Northern Syria and S.E. Anatolia), comprising- inter alia- valuable lexicographical records of Arabic vernacular formerly only partially and poorly known.

As has been recently discussed by Zeinab Ibrahim (2005: 51) in the frame of acquisitional studies and issues in teaching Arabic as a second language, considering Arabic as a unicum leads students to face so high a polysemy exponent in Arabic words (a problem that severely affects ‘Arabic dictionaries’ as well when the provenance of meaning is not reported), as to render unclear the semantic boundaries of their meanings anyway. In fact, those meanings belong to different cognitive and semantic nets distinguished within a plethora of culturally homogeneous communities sharing beliefs, religion, ethnicity, provenance and, what constitutes the sense of this work, ancestral ecological adaptation. Authentic research on the semantic categories of dialectal Arabic is also liable to test to the utmost the theoretical aims and methods of conventional lexicography itself with its focus on ‘self contained’ word meanings, since the attainment of innovative scientific insights into the
cultural content of civilizations presupposes an integrated systemic treatment of lexical, idiomatic and metaphorical networks generated by the speech communities under study. Few dictionaries of vernacular Arabic known to the present author stand up to this kind of test. Perhaps a notable exception is the dictionary of the Tunisian Arabic vernacular of Takrura (Marçais & Guiga 1925), which exemplifies in meticulous detail the cultural dimension underlying lexical usage in this vernacular as attested in a specific textual corpus.

I.2.2.3. Invisible Boundaries. Cultural and Linguistic Conservatism of a Bedouin Community

A very important factor which makes communities of the Middle East particularly interesting for fieldwork investigation is the striking genetic, ecologic and cultural continuity, a very favorable condition for the most recent co-evolutionary trajectories of typological studies reported above (Levinson 2008; Evans & Levinson 2009; Levinson, Greenhill, Gray & Dunn 2011; Levinson & Gray 2012; Levinson & Dediu 2013; Levinson 2013).

In particular, such strong continuity is guaranteed in Bedouin societies by a strict endogamy, a customary law according to which Bedouin males preferably marry the daughter of the paternal uncle (bint al-'amm): this practice still endures in the present as the most common rule for couples matching (Sacchi 2003), as I could testify attending many wedding parties during the summer 2012 and 2013. Furthermore, old customary practices survive in the selection of partners for matching couples; such a net of social constraints impedes the formation of couples of different origins, separating first of all different tribal confederations (Tiyāḥa, Tarābīn, ʿAzāzmih, Ṭullām), and within them, the noble tribes – al-ʾašliyyīn or sumrān (Henkin 2010) – from the non-noble ones (al-ḥumrān), originally protégés; and those from the slaves, the clients and other protégés, independently from their more or less fortunate current economic situation. These invisible but still effective processes of preservation hand down to the present the portrait of a very complex and multifaceted traditional society.

Shifting from nomadic to sedentary life style, the social conservatism and the strong endogamy have led the Bedouin communities to organize their settlements according to the pattern of familiar affiliation, for the practical reason that related household heads possess contiguous lots of land. Indeed, the village where I conducted my fieldwork is largely inhabited by the members of the same aṣ-Ṣāniˁ family, comprising many nucleuses, and called ʾiṣīrīh, which together possess the land inherited from their great-grandfather, with the addition of some families affiliated to the aṣ-Ṣāniˁ as former servants or clients and protected.

As observed by Marx (1984: 1) from an economical point of view, despite the urban and rural development resulting from economic growth, the traditional economic pursuits within the old frameworks have persisted. The same can be said with respect to the changes that occurred in the structure of the society and in the culture: as observed by Eloul (1984: 157) in the case of the Ḥjerāṭ tribe, in the last century, despite the fact that daily life and material culture have undergone considerable modification, such changes have not necessitated a collapse of their tribal organization and kin ideology (Marx 1984).

Using the sociological pattern of Tönnies (1887), we can thus sustain a strong tendency of the Bedouin Gemeinschaft (community) toward the adaptation to new and different conditions of the Gesellschaft (society), an adaptation aiming at preserving the existence of the community itself. Eloul does not even take major future changes for granted, foreseeing that the contradictions between state organization and the kinship-oriented society
may promote tribal solidarity. This striking social conservatism – exemplified by Kressel (1992; 1996) – makes Bedouin communities an extraordinarily fertile ground for linguistic investigations.

According to the impressions collected during unmonitored conversations with my oldest informants, it seems that the linguistic isolation of the Bedouin communities of the Negev has been aggravated in the twentieth century by the state boundaries between Egypt, Israel and Jordan, which prevent them from the perpetuation of the long-distance migrations along the traditional trajectories. These tracks once connected Iraq, Saudi Arabia, Jordan, Sinai and the coastal territories. The aš-Ṣāniˁ followed in particular a seasonal migration along the east-west axis between the lands ruled on the Mediterranean coast close to Gaza (the green pastures), today no longer accessible, and the lands possessed in the northern Negev (the dry pastures). I did not find any reference in their traditional stories to relatives or terrains in Sinai and Saudi Arabia. They refer only to a part of the family still living in Jordan.

Furthermore, because of the difficulty of its social definition, well understood by its members but not well comprehended outside, the aš-Ṣāniˁ group (sometimes defined ˁaylih, family, sometimes ˁiširih, extended family) has been neglected for a long time even in those works dealing with formal aspects of the Bedouin varieties from the perspective of Arabic dialectology (de Jong 2000), because they inhabit a marginal part of the Negev and are often assimilated to the Gdīrāt group within the Tiyāha confederation, which the aš-Ṣāniˁ define as a ‘war confederation’, harking back to the days of the war against the Tarābīn and the ˁAzāzmih. In fact, all my informants, like the whole family in the upper part of the village, derive from a single ancestor, whose sons took women from other tribes within the Gdīrāt. The females of the aš-Ṣāniˁ only marry within the ˁaylih (Sacchi 2003: 127). So far as I could know, in the last years, starting from the end of the nineties, only five or six cases in the whole lineage have broken this tradition, taking husbands and wives from outside the family – always in the frame of a particular background situation, such as a foreign mother or a conflicting relationship with the parents.

Henkin’s 2010 book on Negev Arabic takes cognizance of the current position of the tribe, settled in its territories in the Northern Negev since the seventies. The gathering of the tribe inside a small portion of its traditional territories has helped maintaining its distinctiveness from other Negev Bedouin groups, while the surrounding Hebrew-speaking community has contributed to maintaining the linguistic specificity of Negev Arabic with respect to Palestinian Arabic (Henkin 2010).

To conclude, we can say that within the linguistic continuity of the Negev Bedouin outlined by Blanc (1970), Piamenta (1996) and Henkin (2010), the separation of the different tribes has preserved interesting aspects of internal linguistic variety. Starting from the methodological premise of Blanc (1970) who declared that his work was based essentially on Ḍullām informants, and the seminal work of Henkin (2010), the most recent researches on Negev Arabic take into account the evidences of internal dialectal variation: Shawārbah (2011) describes only the language of the Tayāha and Alatamin (2011) sorts out by tribe the Negev Arabic texts collected in his anthology.
I.3. Linguistic Anthropology in the Middle East

I.3.1. The Days of the Arabs: Profile of a Bedouin Linguistic Community

The as-Ṣāniˁ linguistic community consists in a large group of relatives which could be described in sociological terms as a lineage, a unilineal descent group that derives its common descent from a known apical ancestor: in our case, his name was Salāmih, and according to the tribal memories, he came from Iraq. Apparently, he had to escape from some unclear action of vengeance (Sacchi 2003: 36).

Once, I was speaking with one of my informants. He is usually considered the šīḫ of the ‘aylat hajj Salmān, being the older son of Salmān, son of šīḥ ‘Abd-al-Karīm, whose name will be mentioned later. His role has no longer any political or other value, but he is still considered the most authoritative depositary of the story of the family and the tribe. He has good linguistic intuitions and is able to recognize linguistic differences within the Bedouin groups, with a high degree of accuracy.

I asked him to tell me the story of the family. Using an incredibly synthetic spatial metaphor at the beginning of his narration, he said to me “ṭirīqna biˁīd”, lit. “our road (is) far”, that from the context I could interpret as “our story is a long one” or “we come from far away”.

From him, I received the story of Salāmih and his long trip from the east, which closely resembles that of the patriarch Abraham. It is hard to imagine how a man could move to settle so far in the course of a life time.
Table 1.1. Itinerary of the Travel of Salāmih.

Salāmih’s arrival can be dated to the second half of the nineteenth century on the basis of the generational calculus. Interestingly, on different occasions, the same informant – who retains the memory of the trip from Iraq – said to me that the aṣ-Ṣāniˁ group was rooted in the territory of the Northern Negev since the beginning of time (Sacchi 2003: 39). The two versions are in fact not conflicting nor contradictory at all: the limit of the time and of the memory of the relevant deeds, which one could stretch back to, coincides indeed with the memory of the oldest living members of the group, as I could notice more than once.

No one speaks about the wife or wives of the ancestor, whether they were one or more and if they came from his land or were taken from local – and somehow related – Bedouin tribes once he had arrived in the Negev, as happened later in the case of his descendants. Even his social position as a new incomer is not totally clear to me: the story of the possession of the land starts in fact only with his son and his grandsons; they are allegedly the ones who bought the lands close to Gaza, in Šīrῑˁih, and north of Beer Sheva and started managing them.

They also started taking wives from those groups with which intermarriage would become recurrent, meaning that the aṣ-Ṣāniˁ males would continue taking wives from within, i.e. from the noble tribes of the Gdīrāt confederation (Randolph 1963), internal to the wider tribal unity of the Tiyāhā.

This last tribal unity seems to be referred to exclusively as a large war alliance, whose function ended with the end of the great war against the Tarābīn, which ceased at the end of the Turkish empire. Within one generation, the aṣ-Ṣāniˁ thus established themselves in the northern Negev within the Gdīrāt confederation.

When the aṣ-Ṣāniˁ speak about themselves in other languages, they talk of “a small tribe” or “a large family”. In their language they define their own group alternatively as
gibīlih (especially referring to the noble section of the tribe, i.e. the lineage) and ˁaylih (referring to the tribe in its entirety, comprising also slaves, workers and clients). My informants were selected only among the members of the original lineage descending from one of the grandsons of Salāmih, Muḥammad, preferably from both maternal and paternal side. The structure of the Bedouin family has thus enabled me to undertake my work within a genetically and culturally compact and coherent sample of informants.

According to the results obtained from the experiments, the adaptation to the Negev territories occurred very rapidly. Ecological elements are salient as reference structures in the description of spatial arrays, especially as frameworks used to locally anchor space descriptions, as we will see later, in some observations about the locally based strategies for the application of the Absolute Frame of Reference.

The son of Salāmih, Sulaymān, with his sons Muḥammad, ˁAbd-al-Karīm and Nabḥān, continued living in the north of present day Israel and afterwards in the south, where he bought lands. ˁAbd-al-Karīm and Nabḥān, sons of Sulaymān, had troubles with the Turkish authorities and disappeared in the Egyptian desert.

The current aṣ-Ṣāniˁ family, inhabiting the village of Ligiyyih, derives entirely from Muḥammad, son of Sulaymān, who had six sons: ˁAbd-al-Karīm, Ibrāhīm, Sulaymān, Sulṭān, Maṇṣūr and Amīr.
When Muḥammad died, his son ʿAbd-al-Karīm became šīḥ of the aṣ-Ṣāniˁ. He undertook war enterprises in favor of the Turkish Empire, among which the weapons trade. He was captured by the English army and taken into jail. After his death in 1928, his brother Ibāhīm became the šīḥ.

As a child, Ibāhīm was sent to the kuttāb of Beer Sheva, the school where the Bedouin males received their first literacy, basically through study of the Koran. Afterwards, in order to get the proper education necessary for managing the external relations with the foreign sovereignties, Ibāhīm studied law at the University of Istanbul.

Ibāhīm ruled over the aṣ-Ṣāniˁ from 1927 until his death in 1952, during the difficult period of transition from the English Mandate and the independence of Israel (Arif al-Arif 1974; Henkin 2010). After his death, for about twenty five years, the aṣ-Ṣāniˁ were forced by the authorities to live outside their territories, in a fixed encampment in Tel Arad, where some of my informants were born, still in tents. They only came back to their lands in Ligiyyih in the seventies, where they first lived in sheds and later built houses (Henkin 2010: 59, 296-297).

No šīḥ was regularly chosen after Ibāhīm: someone is still in charge of speaking on behalf of the community, but things have changed, say my informants. Nowadays Ligiyyih is an Israeli municipality with regular elections, during which new forms of political governance are practiced.
competition prevail, together with the old belligerence and old patterns of power managing are revitalized. Indeed, the parties normally coincide with the largest families inhabiting the large urban aggregation.

When I ask about a comparison between the tent and the house, my informants, especially the women, say that the tent required a lot of care and continuous upkeep, because whenever a section was torn, it had to be replaced immediately with a new piece of goat skin. Men generally don’t speak about the houses. I asked if it was cold inside the tent, in winter or at night. My informants said that it was warm inside, warm and dry. Living in a house, among walls, is completely different – old women say. They find houses too humid for their bones. ‘Would you go back to the tents?’ I asked some of them. They said no, that life is over. An adequate number of animals is constantly required in order to maintain the tent, as the result of a complex and delicate balance between man and nature, shepherds and herds, which does not exist any longer. I remember old Na’ami’s eyes turning away from me when she was remembering the black goat tents. From the warm roofing of the tents a thick smoke used to rise over the encampment in the winter cold, she said.

I.3.2. A Culture in Decline: Gender-Groups and Age-Groups

Since my research, according to my first plan, was to be concentrated exclusively on the description of the data representing the traditional language of the aṣ-Ṣāniˁ, I started selecting my informants from among the oldest available males. I argued that they are traditionally the most mobile element of Bedouin society – continuing short distance and long distance migrations – they probably also have the largest competence and widest memory of the original spatial semantics.

By chance, since the number of elderly was somehow lower than I have expected – I had only 6 informants over the age of 60 years – I extended my interest to younger speakers, discovering significant differences. As Levinson states (2003: 196) “Many of the communities studied in our cross-cultural survey are small ethnic groups under recent but growing pressure of acculturation by larger national communities or urban influences. One might therefore expect that younger subjects, or those with greater education, might have adapted more than older conservative subjects to the predominantly (...) coding tendencies in the larger linguistic communities around them”.

Thus, according to my observations, for the scope of the present enquiry, I divided the male population into three age-groups, reflecting cultural and linguistic specificities:

Group 1. The elderly: those born in Širīyih (before 1953), over sixty years old (6 informants);
Group 2. The middle aged: those born in Tel Arad between the middle fifties (1953) and the return to Ligiyyih starting from on 1975 (3 informants);

Asking about the age of my informants aroused interesting observations: the oldest generations did not keep exact record of their age. Most of the time, there were sons and daughters who could tell me the age of their parents, that they were able to reconstruct adding to the age of the first born the approximate age of the parents at the moment of his birth. The elderly said they were not able to remember their age and made no effort to calculate it.
People belonging to Group 1 were surely born in tents – most of them probably at the end of the winters, in the camp of Širīˁih – and received elementary literacy at the hands of the tribal teacher, mostly consisting in learning the Koran by heart and some arithmetic. Only one member from this age-group left the traditional occupation of sheep farming to go and study abroad and become the doctor of the village, according to the will of his father.

People belonging to Group 2 still share many common linguistic traits and features with Group 1, since they still live in the village close to the elderly. But still their analysis of spatial arrays presents some significant signs of change, as will be further explained in Chapter II. Interestingly, on some occasions, when elderly and middle-aged were present together in a session of my fieldwork, the elderly often criticized the answers of the middle-aged interviewed, saying that their sentences did not fit the description of the proposed spatial array or that they made no sense. This age-group never practiced nomadic life. Many of them were educated in standard Arabic and Hebrew and work as professionals while many work as employees in Israeli factories.

Group 3 comprises the group of the young people, born after the return to Ligiyyih. Most of them receive high education and are sent to study abroad for medical or legal professions. Their generational culture is very much influenced by a dominant sentiment of pan-Arabic belonging and their language reflects the influence of the sedentary culture permeating Palestinian Arabic dialects.

The three age-groups represent three fundamental steps in the history of the as-Šāniˁ community, within the larger frame of the history of the Middle East and of the State of Israel, and therefore, three fundamental steps in the path of the cultural change.

When I extended my enquiry to the female population, my expectations with respect to the differences of activities, the related different degree of mobility between men and women and their impact on the language were totally disappointed. Despite the fact that women live their lives mostly within the house and the boundaries of the close relatives and women’s oral tradition and storytelling style differs from that of men (Henkin 2010), Bedouin women of every age speak about space using exactly all and the same semantic strategies as men do, without relevant discrepancies in frequency and quantity. The oldest women could ride horses and camels – so the matriarchs say proudly – since they had to look after the animals often at a distance from the village – and they could use weapons to defend their honor and the flocks – while the younger women ride cars nowadays. They are familiar with their ecological context at the same level as men. This is not a common trend: during my fieldwork in Sangih islands, while men consistently use the astronomical directions as reference to indicate the projective (or angular) relations between objects on every scale, women (and children) often refer to their body as anchoring structure of the coordinate system.

Therefore, from a methodological point of view, the three aforementioned age-groups can thus include indifferently men and women. So, according to the former generational division, I interviewed the following number of female informants for each age-group:

Group 1. 6 informants
Group 2. 4 informants
Group 3. 4 informants.
The only relevant difference between men and women is the relatively diminished familiarity of the old women with urban geography. Once I asked a woman over ninety years old where she had gone in the morning. She said that her son had accompanied her to an office in Beer Sheva. I asked where this office is located, so that I could know how she would describe the path. She said: “It is where the green (garbage) bins are”. This means that my informant does not imagine that the garbage bins can’t be considered as reference points, since they are located all over every urban area and not only in front of that office.

Many other objects of modern life are quite unknown to my oldest informants, such as refrigerators. Some of them still wonder how their grandchildren can eat old food stored in ice.

Observing the interaction of the different age-groups with material objects characterizing the old life and the modern life is a key-element in the detection of the force behind linguistic change, in particular with respect to the language of space. It seems in fact that the cultural change, promoted by the interaction with new commonly used implements, also influences linguistic change. And very interestingly, it also seems that the greatest and deepest change has occurred in the last fifty years within the female gender-group.

Indeed, from a situation of exclusion from literacy practices, in less than fifty years young women have reached the highest educational levels, and in larger number in proportion to the young males, confirming a stable trend which started in the nineties (Sacchi 2003: 15; Fargues 2010: 464-465). Women fight strenuously and are very proud of reaching high social and economical positions via the educational path; this achievement represents indeed in their eyes the enfranchisement from the traditional role of the Bedouin woman. This datum contradicts the general assumptions sustaining that women represent the most conservative part of societies. This fact seems to vary and to depend on cultural and social rules and historical scenarios.

I.3.3. Endangered Languages in the Middle East

One of the most pressing factors promoting the study of minority languages is the necessity of outlining their profile before their disappearance. This is, in fact, one of the purposes of this work. With the accelerating loss of linguistic diversity in our world, it is a time for serious thought about how to record as much as possible of the linguistic variety still around us. As Mithun writes (2001: 35) “In many cases what we choose to document may be the principal record of an entire linguistic tradition, both for the descendants of the speakers and for others seeking to understand the possibilities of the human mind”.

The cultural and linguistic variety of the Arabic speaking world is currently compromised by the processes of acculturation and globalization, which characterize contemporary life in a worldwide perspective. The vernaculars spoken by settled Bedouin in Israel are currently undergoing a process of koineization under the influence of urban Palestinian Arabic. So the traditional dialects of the Bedouin in Israel today represent endangered languages (Alatamin 2011, I: 198). Nevertheless, no atlas of the endangered languages of the world reports any case of linguistic disappearance in the Middle East.

Starting from the 1990s, when a large number of external marriages took place, the old life and customs, the rural life, the subordination of women to men, the social subdivisions of the tribes have to a great extent been rejected by the new generations, which strive for self-
promotion through literacy and work, or emigrating for a long time abroad; some have started to buy or rent houses in the cities.

In the aṣ-Ṣāniˁ world, the drawing element of this march of progress are the women, looking for a new self-defined identity with respect to the role and position of their mothers, while the young men are still close to the traditional life, exemplified by their fathers – who mostly continue choosing their wives within the family – and feel still drawn toward the family land.

The culture-based methodology developed in the present research accounts for such a deep cultural change, comparing the linguistic treatment of the domain of space among the elderly with its linguistic treatment among the young people and showing the result of the profound changes clearly affecting the transformation of the language of the elderly.

The ongoing linguistic transformation of the aṣ-Ṣāniˁ dialect is evident in direct comparison between the elderly and the young in interactional occasions. I primed some of these interactions programmatically, to control their results quantitatively. From a methodological point of view, indeed, one of the indirect tasks to investigate the language of space exploits the strategy of letting speakers interact among themselves about a given subject. Since I did not have a laboratory where I could place two informants communicating on two different computer screens, as suggested by Levinson (2003), and since many of my informants do not use a computer, I primed the controlled linguistic interaction between my informants in the following way: In a family meeting, with many males of different ages, I organized a game, saying that it was a funny game that I play with my colleagues when we are together. I divided the group into two teams with two individuals in each. The couples are seated with every man giving his back to his companion, so that they could speak but not see each other. I gave every member a shoe-box with some toys inside, the same kind of toys in all boxes. One player for each couple received a ‘sorted out’ box, where the toys had been placed by me in a given position. Every man with the sorted out box had to give instructions to his team-mate so that the latter could arrange the toy-objects within his box in the closest possible way with respect to the prototype. The winner was the couple whose array of objects in second box, constructed according to the first player’s instructions, was closer to the first version.

This task yields very interesting results, once it is subjected to cross-generational analysis.

During the first competitions, I only observed the way the speakers gave instructions to the listeners, but suddenly I realized that the closer the age of the members in a couple, the greater their chances of winning. Couples composed of young and old people together had very scanty chances of winning the game, because the quality of their communication was impoverished by difficulties in the mutual comprehension, i.e. the use of cardinal directions, the misunderstanding in the interpretation of right and left, front and back, mostly due not to lexical differences, but rather to the different strategies of spatial reference adopted by the different age groups. So extreme is the language change!
I.4. The Experience of Fieldwork

I.4.1. The Language of Communication

A most problematic point which impedes and confines the exploration of the traditional Middle Eastern communities, and makes old speakers actually inaccessible to western scholars, is the lack of a language of mediation, often in use among anthropologists and linguists, like Spanish in South America, English in Australia, Africa and North America, French in the Maghreb and Russian in Siberia and Mongolia. The adoption of a language of communication is indeed a common practice during fieldwork (Newman & Ratliff 2001: 4).

I could not use any language of intermediation, since the elderly aṣ-Ṣānīˁ, women and men, only speak their own Arabic dialect. Only a few men of Group 2 – whom I consider as representing the generation between the elderly and the young people – also know some Hebrew, mostly those who represent the community in its external relations.

To use the language of the studied community is not an unnecessary or romantic caprice in any anthropological endeavors. Dealing with semantic values, speaking the language appropriately is more than ever useful. It is necessary mostly to test the correct understanding of meanings and utterances used by the informants.

From a methodological and practical point of view, beside direct stimuli in which my informants had simply to describe what they saw, I used the following methods to corroborate many of my tests:

1. I tried to describe myself, in the language of the aṣ-Ṣānīˁ, spatial arrays which I composed before the eyes of my informants, waiting for their approval or correction;

2. When I was investigating certain distinctive semantic features of particular interest, I asked my informants to place the toy-objects in specific positions, expecting a non-verbal response to the tasks: also in this case, I had to use the local dialect in order to appropriately interact with them;

3. I asked my informants to give me spatial instructions in their language. For example: I gave them a series of objects of the same type (stones or balls or toy animals). They had to place them in different positions and / or in different locations. Thus, they should ask me questions of the type: “Pick the stone which is located so and so”, or “Pick up the ball which is so and so with respect to the object Y”. In this case I have to understand the requests of my informants in order to execute the game.

These three kinds of tests necessitate active interaction of the researcher, therefore knowledge of the language is required. These tests are very useful when trying to enter into the semantic system of the language and to prove the validity of data yielded from series of direct stimuli, derived from the tradition of the Max Planck methodology.

In particular, as direct stimuli to test semantic strategies of representation of static angular relations, I used personalized sets of stimuli based on Levinson et al. 1992.

I.4.2. A Woman among the Bedouin

A second important aspect of my work has been my gender identity: as a woman, I expected my questions to be rejected by men, especially in the social sector of the elders of the community. I was prepared since the very beginning to programmatically work only with women, as Abu Lughod (2000), Bettini (2006) and Marom (2011) did during their fieldwork.
In fact, I was surprised to discover that, beside the old women that I interviewed, several elderly men also devoted many hours of their time to explain issues to me in detail, with a lot of patience. I wore a veil only the first times when meeting men; afterwards, especially within the nucleus of my hosting family, I preferred just to be myself, finding this attitude more appropriate. I always dressed very decently and in black, knowing that this color can inspire respect and a sense of honor in the traditional symbolic universe. I did not want to play any further role nor to wear any mask.

I enjoyed the respect of women and men throughout my stay: none thought about me in sexual terms, i.e. as a possible bride or beloved. Old women questioned me about my identity as a non-married woman. Interestingly, the questions did not concern my sexual and reproductive life, but my social status. How could I live alone? How do my parents allow me to travel alone in the world? Did they know that I was so far from home?

When I answered that I traveled for purposes of studying, since I was about to accomplish an important step of my professional path, they seemed to understand and emotionally participate in the relevance of this activity and its challenges for a woman. Some of them have daughters who studied in the university and have a professional life. They recognized in my activity an instrument for that social promotion and economic improvement which their daughters so persistently strove for, and the achievements of whom they all are very proud of.

Only Sarah, in her middle fifties, a widow for many years, asked me about my age and my marital status, wondering how I could be alone at such an advanced age (29), being not ugly. She guessed that my country should be wide, so it should be easy to find a man. She warned me from getting old and remaining alone and prayed for the quick accomplishment of my destiny as wife and mother.

The conversation with this woman – mother of many sons, some of whom still have to be married – and the general behavior of the group with respect to my position suggest the scarce interest in the group for foreign wives, and their preference for finding partners within their own group, to be married very young, a practice surviving within the aš-Ṣāniˁ group until the present.

I.4.3. A Linguist, not an Anthropologist!

Meetings with informants for the purposes of the fieldwork usually took place in informal situations. I went to the informants’ houses, and we sat inside the house or in the courtyard. In some cases the meeting occurred also in places of aggregations of the village – such as the center for Bedouin embroidery – or at Ben-Gurion University campus, in the case of the youngest group of informants. I was usually accompanied by members of my hosting family, a woman if I went to speak with women, and an old man when I went to speak with men. In this last case, my hosting family asked me to wear the veil.

Sometimes, I met the informants in the house of my hosting family, when they came to visit. Most of the time we sat on the floor and I put the toy-objects or the images in front of them. The informants were always very kind and patient, even when I asked to describe dozens of arrays. My interviews never took more than thirty minutes.

Generally speaking, communities and speakers can differ considerably in their awareness of and attitudes to their language. For some, language provides a strong, conscious
symbol of identity, a cultural resource to be cultivated and enjoyed, while for others, it is simply a utilitarian tool, given little attention. In the case of the aṣ-Ṣāniˁ, all the informants were very confident of their competence in the language, considering themselves, all of them, original noble Bedouin.

With respect to my attitude during the fieldwork, in acknowledging people’s responses I thanked them often instead of praising them. Since my informants did not seem to need to be reassured that there is no right answer, or that I myself did not know the answers, I chose to present myself as a learner, interested in finding out from them what is the right way of describing things.

They reacted positively and quietly with respect to the presence of a researcher asking for aspects of their culture, being conscious of the interest aroused by it for academics all around the world. It was not uncommon for me to have to listen to stories from my informants of people who had come in the past for their fieldwork in the village, from France, America and Italy and from Israeli universities. My family often introduced me as a doctoral student, “like X, Y, Z...” all people who had worked in the village in the past.

So, often, by default, they started speaking about the activities of the women, about the partition of the tent, about the domestic works, all things asked before by other anthropologists. When I led the discussion towards linguistic issues, they found my attitude and my interests curious, perhaps strange. The hosting family member who accompanied me often had to step into the conversation, saying that I would ask very simple questions, and that they should answer very simply, in the most spontaneous way.

Indeed, when I asked “Please, now tell me only what you see”, while I set spatial arrays consisting of toys in different relative positions, they wondered how it could make sense to describe to me the positions of toy-objects in front of their eyes. What kind of questions are these? Is it not evident that the man is in front of the horse? Or north of the tree?

Nevertheless, they acted very respectfully and answered my questions with ease, out of respect for me and mostly for the people accompanying me, despite the fact that a guided task of the type: “where is X with respect to Y?” is a very direct and dry request and may even seem childish and beneath their dignity.

I.5. The Selection of the Stimuli: Work in Progress

I.5.1. Informant Response

The spontaneous reactions of my informants with respect to the instruments employed in my fieldwork guided me in probing cultural differences and revising the general methodology for spatial enquiry developed by Levinson and his research group in the last twenty years.

My informants’ reactions and doubts have undoubtedly serve to shape this research. In testing the semantic framing of static angular spatial relations – i.e.: the distribution of the spatial Frames of Reference – I started my research willing to use images, i.e. pictures of different arrays as stimuli. It is very easy to collect a great number of different and interesting arrays, set in various landscapes, with variable size, proportion, scale and light conditions, by just downloading pictures from movie scenes, documentaries, books and paintings, or taking
specially customized pictures of objects in natural or unnatural, appropriate or inappropriate contexts stored in the memory of a computer.

Showing pictures is also convenient because it is possible to arrange them in a specific order, so that, using a tape recorder – without resorting to video recording – it is possible to univocally associate the images shown one after the other in the precise order with the descriptions of the informants, without worrying about inventing arrays on the spot during the recording session or about having to move objects, holding the camera in the right position, moving one’s self and recording everything properly.

According the authors themselves, the stimuli series of Levinson et al. (1992) are thought of as card games, to play with more than one informant, in forms of tasks of the type of “photo-photo matching” (1992: 7).

So, I started my fieldwork using four different kinds of picture stimuli, which I called: BIDIMENSIONAL INDIRECT STIMULI (representations of real objects in the form of pictures designed to be shown on the screen of the computer or to be shown as photos on paper).

However, since the initial stages of my research, I realized that culturally related stimuli produce culturally-related answers; consistently, a more abstract stimulus produces a more abstract and less culturally-related answer, so different series of diverse stimuli are a crucial playing ground on which the major insights about the relation between language and cognition should be tested and elaborated, taking into consideration cultural and ecological specificities.

So, I proceeded to classify picture stimuli into three categories:

1. culturally non-related stimuli pictures,
2. culturally related stimuli pictures (scenes taken from Bedouin life),
3. artificial stimuli pictures (experimental arrays in non-arbitrary positions, i.e. conceived to elicit specific distinctive features).

The three types are shown in Table 1.3:
Culturally Non-Related Real-Life Stimuli Pictures

\[\text{wīn az-zalamah min al-kumbyūtur?}\]
where is the man with respect to the computer?

Culturally Related Real-Life Stimuli Pictures

\[\text{wīn az-zlām min al-jabal?}\]
where are the men with respect to the mountain?
I.5.2. Limitations in Using Images: Interpreting the Rules of Perspective

But, after some tries I noticed, that the images shown on the computer screen were often not recognized as the bi-dimensional representations of tridimensional entities and, therefore, were not processed according to the geometric and ontological semantic rules commonly used in the treatment of concrete spatial arrays. They were simply treated as bi-dimensional objects. This happened especially with old and middle-aged women. Also, measures, proportions, distances and relative positions of objects in pictures were not always recognized as clues of perspective rules, to be applied by default to properly read images on bi-dimensional layouts. A selection of this type of responses is shown in Table 1.4:
a. L: wīn hū (pointing to the man with the black shirt) min hāda (pointing to the man with the white shirt)?
L: where is he (pointing to the man with the black shirt) with respect to this one (pointing to the man with the white shirt)?
I: close to the shoulder, on his shoulder. He is facing away.

b. L: wīn hū (pointing to the man with the black shirt) min hāda (pointing to the man with the white shirt)?
I: ‘īnd wujhih, min rāsih w taḥt.
L: where is he (pointing to the man with the black shirt) with respect to this one (pointing to the man with the white shirt)?
I: close to his face. Below his head (lit. from his head and under).

Table 1.4. Interpreting the Rules of Perspective in Pictures.
I.5.3. Distinguishing the ‘Scene’ from the ‘Photo’

Furthermore, the position of the picture automatically affected the interpretation of the portrayed subject: as an example, when the images were shown on the computer screen, the prevalent dimension observed and reported by the old informant was usually the vertical one, while the relative position of the objects portrayed in the same images were interpreted along the horizontal plane when the pictures were set lying on the floor or on a table in front of the informants, as shown in the examples reported in Table 1.5 for the computer version of the experiment:
a.

L: wīn al-ḥyārah min al-burtugānih?
I: al-burtugānih taḥat w al-ḥyārah fōg.
L: where is the cucumber with respect to the orange?
I: the orange is below and the cucumber is above.

b.

L: wīn al-ḥwas min al-filiflih?
I: hadōla ḥwas, ḥēdīh al-ḥūṣah al-kibīrih (pointing to the black knife), markad ḥal-gūnrah, ḥaṭṭawlih, w ḥēdīh (pointing to the green knife) markad ḥaddha.
L: al-ḥwas giddām al-filiflih?
I: lā, al-filiflih fōg.
L: where are the knives with respect to the pepper?
I: these are knives. This is the big knife (pointing to the big knife) lying on the corner, on the table, and this (pointing to the green knife) is lying beside it.
L: are the knives in front of the pepper?
I: no, the pepper is above.

Table 1.5. Interference between Orientation of the Photo and Orientation of the Portrayed Subjects.
We could thus say that, somehow, the space is indeed the place where things are set. And to interpret the location of entities, which are represented on a second entity, such as the picture, requires a double contextualization. This effect was observable mostly in pictures where the objects had been portrayed on a neutral homogeneous background, like a large table, so that shadows and volume effects were not easily inferable. In this respect, my speakers seem to reason similarly to Guugu Yimithirr and Tzeltal communities. Indeed, speaking about the way Tzeltal speakers of Tenejapa process image reading, Levinson says: “Notice that, just as in Guugu Yimithirr, the virtual world of a photograph inherits the cardinal directions of its orientation in the real world” (2003: 151). This could seem to be the consequence of the use of cardinal directions as semantic framing means.

**I.5.4. Understanding Human Interactions in Pictures**

Often, I noted that my informants did not even recognize in the pictures the attitudes of the portrayed subjects and the meaning of their interactions. Perhaps this is a consequence of difficulties in interpreting the rules of perspective, which are necessary for interpreting bidimensional representations of tridimensional objects.

I created stimuli by taking pictures of two men, and instructing them to act and to adopt precise attitudes, such as speaking to each other or facing each other, and so on. Nonetheless, many of the informants did not see any human interaction in the portrayed images, as we can see from the examples reported in Table 1.6:
a. L: kīf bitšūfiy hadōla? kīf hum wagfīn?
I: hādā mwajjih kidīy w hādā muš mitgabbil.
L: mwajjīn 'a-baˈD?
I: lā! lā! hādā muš mwajjīh lih 'a-wujīhah.

L: how do you see these? How are they standing?
I: this one is facing this way and that one is not facing him.
L: are they facing each other?
I: no! no! This one is not facing him, face to face.

b. L: hādā az-zalamah (pointing to the man with the black shirt) ismīh Ahmad, w hādā ismīh Ibrāhīm (pointing to the man with the white shirt).
wīn Ahmad min Ibrāhīm?
I: muš mgābalah. hādā mwajjīh ǧād, bašīf, hādā jāv wujīhī, w hādā mwajjīh ʿannīh ǧād.
L: this man (pointing to the man with the black shirt) his name is Ahmad, while this one (pointing to the man with the white shirt), his name is Ibrahim. Where is Ahmad with respect to Ibrahim?
I: not face-to-face. This one (the man with the white shirt) is facing away, I see, this one (the man with the black shirt), his face (is facing) toward me, and this one (the man with the white shirt) is facing away from him.
I wondered why my informants did not recognize the relations and attitudes occurring among the models portrayed in the pictures, or why they were so cautious in describing them in spatial terms. They behaved as if they were not actually sure about the quality and type of the interactions between the portrayed people. Somehow, they could not properly judge these facts just looking at the pictures. Many other elements of natural observation were apparently lacking for the informants in order to describe what was actually going on between the two models.

One of the hypotheses to explain this reaction of my informants is that perhaps, speaking about the reciprocal position of two or more people entails the description of their mutual feelings, intentions and attitudes. In Italian ‘fronteggiarsi’ or ‘affrontarsi’, said of two people or animals, do not only mean ‘to stand one in front of the other’ but ‘to challenge each
other’, ‘to confront’, which is not the case if we speak about two palaces or about the two shutters of a wooden window. So, hypothetically, if it is not possible to judge the reciprocal feelings of the portrayed people, consequently it is difficult to describe their relative positions avoiding metaphorical implication.

Nevertheless, when the portrayed people were Bedouin, the images were more easily recognized as real-life scenes, occurring or having occurred in reality. Both women and men were more confident in speaking about these, referring to the activities of the people portrayed and guessing about the cultural context of the event – if it was a marriage or a circumcision or a scene from the market or a declaration of war – and about many other elements, and starting telling stories and comparing the scenes in the pictures with their own experience and memories. And, incredibly, it became possible to ask my basic questions about spatial relations, like: “Where is this person with respect to this other person?” or “Where is the boiler with respect to the fire?”, easily obtaining meaningful answers. The same happened when the pictures contained familiar people, portrayed in known places.

I.5.5. Describing Pictures Representing Geographical Elements

When referring to geographical backgrounds, I noted that the informants sometimes could recognize the real place where the pictures had been taken, especially when the pictures portrayed local desert landscapes, creek or mountains. Recognizing the place was very important for them: they felt suddenly at home, smiled and were happy to know the place and to be able to give me a real concrete and correct answer, which could be of some use to me! In other words, my questions finally “made sense” to them.

In fact, some of them wondered why I came and asked them to describe where a given X-person or object was located with respect to an unknown Y-part of landscape, an unknown mountain in North Sulawesi or an unknown river in Bali. One informant, set in front of a picture of a green Indonesian hill, candidly admitted not knowing that place, so he could not describe the scene in terms of spatial relations, as shown in Table 1.7:
a.
L: wīn al-walad min al-jabal?
I: kīf? mā ba'rīf hāda al-jabal? wīn hāda?
L: where is the boy with respect to the mountain?
I: how? I do not know. Is this the mountain? Where is it?

b.
L: wīn al-bint min al-wādiy?
I: ayy wādiy hāda? inti bta'rīfīh?
L: where is the girl with respect to the river?
I: which river is this? do you know it?

Table 1.7. Pictures from Unknown Places.
Just as for pictures representing people, I also found it incredible and difficult to understand why unknown geographical elements could prime in many of my informants – mostly the oldest men and women – the feeling of not knowing how to properly answer simple questions about spatial relations. Things became clearer when I started taking pictures of the surrounding pre-desert and desert environment, surely known to my informants, and putting them before their eyes. My oldest (men and women) and middle-aged (mostly men) informants could tell me exactly where the place was located and were able to describe it in details and to speak about it, referring to all the spatial relations concerning the objects in the pictures with surprising exactness and, most of all, referring to their real and concrete characteristics. Let’s observe the case reported in Table 1.8:

<table>
<thead>
<tr>
<th>L: wīn as-sayyārah min al-gōz?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: as-sayyārah... hāda muš gōz, hāda biṭīn. hādi al-manṭagah fi-l-'urdu. as-sayyārah māšyih kidiy w al-biṭīn šarg.</td>
</tr>
<tr>
<td>L: where is the car with respect to the hill?</td>
</tr>
<tr>
<td>I: the car… this is not a hill, this is a mountain. This place is in Jordan. The car goes this way (pointing toward the mountain) and the mountain is in the east.</td>
</tr>
</tbody>
</table>

**Table 1.8. Spatial Relations in Known Landscapes.**

In Table 1.8, my informant recognized the place and its real astronomical orientation. We were facing toward the north during the experiment, so, if the situation of the task had been at all relevant, the informant should have said that the mountain was north of the car, but he respected the actual position of the mountain. Indeed, when geographical elements are involved in the description of spatial arrays, the use of the astronomical coordinate system seems to be obligatory. My informants know the orientation of the geographical elements of the familiar territory, so they can use them as anchoring points of the astronomical coordinates and locate objects with respect to them according to such a system. In this sense they feel they know the places and can speak accurately about them.
To conclude, as already recognized by Levinson et al. (1992: 8), picture series present evident limitations, so that they can be used only for exploratory or for explicit probing work. They are not useful for investigations into the limits of a domain of ‘space’ itself – especially in the so called ‘photo-photo matching’ games, which consist in letting two speakers directly interact with each other: while one describes scenes, the other picks up the corresponding picture. In fact, spatial contrasts amenable to comment by informants have been singled out during the preparation of the photographs used for this research.

From a methodological point of view, in particular, for languages encoding spatial arrays according to cardinal directions, as is the case in aṣ-Ṣāniˁ Arabic in particular conditions – the indirect representation of arrays on rotatable supports (pictures) proved quite confusing.

I.5.6. Do Abstract Geographical Elements Exist?

In the early stage of my research, I showed my informants not only pictures, but also drawings which I drew myself and I used to show to my informants on the computer screen. The relationship of my informants (almost all the illiterate elders) with the technological instruments of my research is remarkable. They were generally very consistent in giving me answers according to the real cardinal directions according to which we and the computer screen were positioned. For example, if we were looking at certain non culturally-salient objects shown on the screen, whose relative position was not associable to the vertical dimension (see Table 1.5), the position of the screen determined their relative position in terms of cardinal direction, as shown in Table 1.9:
L: ʾinteresting story from the red ball.
I: ʾkinds of interesting stories.
L: what is the red ball doing?
I: the yellow ball is west (of the red ball).
This means that the screen of the computer itself is not seen as an autonomous, functional and mobile object with respect to the geographic background. It has no intrinsic orienting properties. The screen is oriented with respect to a wider absolute system and in continuity with it. But this continuity can be linguistically represented in different ways. In some of these drawings, I represented a river and a mountain chain and put some figures to be located with respect to these geographic elements. The pictures were shown in the computer screen, so, according to what we have seen before, the expected reaction was either the misunderstanding of the rules of perspective and the use of the vertical dimension to describe the relative position of the objects represented or, as already observed in the description of large-scale images with geographical elements, we would see the use of the astronomical directions.

Since the position of the screen and, consequently, the orientation of the picture, seemed to play a role in the image reading and the meaning attributed to the spatial relations of the represented arrays, I expected the orientation of my computer screen to prime the attribution of the value to the cardinal axes. But this changed dramatically when the objects represented on the screen were geographical elements. I noticed that my informants abandoned the orientation of the screen as an anchoring system to skip to a different process. The experience is reported in Table 1.10, together with the positions of the participants of the task. I was sitting beside my informant, holding the computer in front of us. We were facing west. The screen of the computer was oriented along the south-north axis, as shown in Table 1.10:
Orientation of the Task and of Participants

L: wīn al-burrād min az-zalamah?
I: al-burrād fi-jālih al-ğarbiy.
I: where is the coffee pot with respect to the man?
I: the coffee pot is on his western side.

Table 1.10. The Mountains, the Screen and the Anchoring System of the Cardinal Directions.
As we can see, there is the image of a man with a coffee pot in his own left-front region and mountains on the background. I asked the informants: “where is the coffee pot with respect to the man?” Following the absolute system, and in particular according to the N-S axis along which we and the screen were placed, the answer should be that the coffee pot was to the east of the man. But no, they said it was on his western side. I wondered about this abrupt change of vision.

Another example, yielding the same results and doubts, is represented in Table 1.11 (conditions of task orientations were the same):

![Image of a man with a coffee pot and mountains in the background]

**L:** wīn az-zalamah min al-wāḍiy?
**I:** ˁal-jāl aš-šargiy, mwajjīh ˁalīna, mwajjīh ġarb.
**L:** where is the man with respect to the wadi?
**I:** on the eastern side, he is facing west, he is facing us.

Table 1.11. The Wadi Flow, the Screen and the Anchoring System of the Cardinal Directions.

In this case we were also facing west when looking at the screen and the computer screen was set along the south-north axis. The image represents the flow of a wadi which, according to the general orientation given by my speakers to the objects represented on the screen, should have been from south to north. But the content of the image itself had little relevance. In fact the speakers preferred to interpret the flow of the wadi as proceeding from the north to the south. This preference could be due to the priming effects of the routine experience that the aș-Ṣānīʿ have about the ecology of the inhabited territory, a form of adaptive memory; indeed, the general direction of the wadi flow in the southern part of Israel runs from north to south.

Anyway, this kind of answer was not inferable from the actual cardinal alignment we were set in during the interviews. So, going back to the example in Table 1.10, the answer becomes plausible only in the light of the fact that in the Negev the mountains are on the
eastern side. So, since in the image the mountains are behind the man, the pot is then on his western side, being in front of him, i.e. opposite to the position of the mountains.\textsuperscript{12}

The hypothesis is then: the presence of geographical elements ascribable to a direct ‘embodied’ local and routine experience primes the selection of the locally anchored cardinal system, based on the adaptive memory developed by the community on the direct experience of its inhabited territories.

Interestingly, in the absence of geographic elements in the images, the astronomical system of cardinal directions is used, anchored directly onto the computer screen or onto any other indirect layout.

This behavior also reflects the fact that many of my informants do not think about geographical elements as abstract concepts, like ‘river’, ‘mountain’, ‘hill’, ‘desert’, i.e. abstract labels which can be applied to series of similar objects worldwide, but rather as concrete objects, located in concrete locations. My informants tend to think about these elements according to the direct experience of them, so that ‘river’ is a certain X-river present in their mental representations from having seen it and knowing it.

This linguistic behavior is quite diffused across languages, therefore Danziger & Gaskins (1993: 54) recommend testing the possible presence of conceptual oppositions between abstract and named objects in the investigated language.

This entails that all possibly existing objects ‘river’ objects could / should, in the conception of my old informants – especially the women – have all and only the properties of the rivers they have directly experienced, regarding, for example, the direction of flow.

Observing this fact from the semantic point of view of the relation between language and cognition, we have to notice the existence of all the above reported cognitive implications of the use of schematic representations of geographical elements as stimuli in spatial tests – clearly indicating the conceptualization of these elements in concrete and locally-anchored terms – beside the existence in the language of the aš-Ṣāniˁ of general words for ‘river’, ‘creek’, ‘mountain’, ‘hill’, just as in English.

As a first consequence of this observation, we have to admit that the relation between language and cognition appears thus extremely faceted and multi-layered, nestled in complex cultural architectures.

Such a remarkable knowledge of the inhabited places is undoubtedly the result of the ecological adaptation, and it is still more remarkable if we think that the aš-Ṣāniˁ have inhabited the Negev only for less than two hundred years.

Secondly, geographic elements – even in abstract representations – are generally assimilated to the geographic elements of the familiar landscape, since mountains and rivers in spatial semantics are processed as reference points. Indeed, they represent the structure of a local absolute system, and – as appears from the answers of my informants – they are also ‘ontologically’ associated with the axes of the astronomic reference system.

Summarizing our observations in two points:

1. The interpretation of geographic elements within the properties of the experienced local space is in contrast with the existence of general terms for ‘mountain’, ‘hill’, ‘river’.

\textsuperscript{12} Thanks to Prof. R. Henkin for providing this hypothetical explanation.
2. Geographic elements represent a system for spatial orientation, associated with the values of the cardinal axes.

These facts are strongly suggestive of the existence in ETS Arabic of a specific ontological classification of real objects fundamentally related to the semantic domain of space, i.e. the linguistic domain of spatial orientation. Therefore, the interpretation of the geographical on an experiential basis compels us to rethink our former general affirmation that ETS speakers apply the cardinal directions of the real situation onto an image in a picture, even if this has been taken in a different context and from a different position, as happens in Guugu Yimithirr and Tzeltal speech communities (Levinson 2003).

When the object portrayed in the picture is a familiar geographic element, whose facets, glimpses and perspectives are known to my informants, they retrace the actual cardinal orientation of the real scene held in the picture (Table 1.8) or try to connect what they see to their actual and concrete experience of the places (Tables 1.10 and 1.11) as much as they can. Therefore, they do not need to apply the cardinal directions according to which the picture is oriented in front of their eyes in the moment of the observation, a tendency observed by contrast among Guugu Yimithirr and Tzeltal speakers.

This means that, even in the observation and description of spatial arrays in secondary layout (pictures), in ETS Arabic the objects are the key elements for the selection of the proper expressive means, as, in this case, the anchoring frame (real or secondary) of the cardinal coordinates.

Thus, linguistic communities using cardinal directions – as one or the prevalent of the semantic framing strategies in processing spatial language – present macroscopic behavioral differences in interpreting spatial arrays in secondary layouts (a bi-dimensional medium: the picture).

From the point of view of methodologies, this observation entailed for me the necessity of developing more refined strategies to systematically investigate the reasons for such differences.

I.5.7. Toward a Culture-Based Methodology

As we saw, pictures and drawings shown on a computer screen were somehow misleading in the investigation of the old language, since they introduced many foreign elements to the traditional representation of the reality in its concrete dimension (Tables 1.5 and 1.6).

A further important practical detail in the design of stimuli for the fieldwork is the fact that many of the oldest informants have sight problems, due to their advanced age, and that it is not usual among old women to wear glasses, since they are not supposed to read nor write.

In cultures which are far from writing practices and materials, the interpretation of schematic reproductions or representations of real entities are not always understandable, especially if the cultural rules for schematic and summary representation of the investigator are far from the schematizing criteria of the informants.

Indeed, one of my questions was why my informants could not decipher my drawings or my pictures, despite the fact that they seem to possess schematic figurative practices, such as the decoration of dresses and tents through embroidery. After a better analysis, I assume that these bi-dimensional arts probably attribute more importance, on the traditional symbolic
level, to colors than to the portrayed objects, whose repertory exclusively entails vegetal and geometric motives.

The emotional reactions of my informants – mostly women – confronted with drawings and pictures showed that such methods were stressing to them much more than cameras and microphones. Since they did not feel at ease with images of unknown subjects they got disoriented, although the questions *per se* were very easy: their self confidence in facing the task lessened and, in some cases, their ability to perform the task was compromised, as shown in Table 1.7.

I.5.7.1. The Question of Representing Entities on Scale. Theoretical Implications of Using Toy-Objects

As soon as I realized the misleading effects caused by pictures in the selection of the framing system between the coordinate system of the original scenes and the system of the secondary layout, I understood that I could not fully rely only on pictures nor mix data yielded by bi-dimensional and tri-dimensional stimuli. Therefore, I chose to carry on my fieldwork giving up the use of pictures and drawings and resorted to the use of a basic set of familiar toy-objects or real objects selected from the traditional living *milieu* of the Bedouin and from objects of contemporary daily use, familiar also to the oldest people.

But, since the use of indirect representations of entities in pictures had caused so much trouble, I asked myself: would my informants be able to recognize in the toy-objects representations on scale of real entities and would they attribute to the descriptions of toy-arrays the same properties displayed by real ones?

The question of the ontological interpretation of toy-objects has already been raised by Danziger & Gaskins (1993: 53), who wrote: “If we discover that in some language people use an Intrinsic frame for toy objects and an Absolute one for real objects, do they also approach these two kinds of objects in the same two ways respectively when it is not a matter of talking about them but of manipulating them?” These authors highlight the need for testing the presence of conceptual oppositions between real and toy objects. They approached the issue of stimuli selection within the framework of the relation between language and cognition; in my case, the question presented itself already on the pure and exclusive linguistic level.

Nevertheless, Danziger & Gaskins realized that the indirect representations of the objects can in some cases be interpreted as objects with different properties with respect to the originals.

However, while the orientation of pictures influenced the orientation of the arrays represented on them (Table 1.5) or the presence of the effects of perspective jeopardized the interpretation of the pictures, especially of those whose subjects were unknown (Tables 1.4 and 1.6), no relevant problem was generally detected among the aṣ-Ṣāniˁ in the interpretation of toy-objects reduced in scale as the representation of real objects. Indeed, matching responses yielded from the observation of toy-objects like toy-trees, toy-men and toy-animals of different kinds and the responses yielded from the observation of the same objects, but as real entities in the surrounding visible space of the interview, I noticed that the reduction in scale does not induce in the spatial ontology any relevant change of the semantic properties. In other words, while recognizing entities in pictures is problematic, their representation in any scale is immediately associated to the real objects.
But reactions could be different in different cultures, because toy-objects – even when representing men or horses – are not animated while the corresponding real objects are animated.

I.5.7.2. Culturally-Related, Formerly-Acquired and Recently-Acquired Objects

As just established, in the language of the aš-Ṣāniˁ, I found that pictures and drawings can only be considered as instruments for preliminary surveys, while toy-objects are valid all the way through, being recognized as representative of real entities and preserving their same ontological properties.

The preliminary use of pictures and drawings remains, nevertheless, an interesting part of the work, since it stimulated a series of considerations on cultural factors which defines and limits within certain reasonable boundaries the use of the same standardized sets of stimuli through fieldworks on different languages. Indeed, pictures and drawings enlightened the system of ontological properties of the objects of the reality in the spatial discourse, especially in comparison to the answers yielded in the work sessions where toy-objects or real-objects were used. Dramatic differences were detected using objects directly and indirectly, i.e. between their photographic representation and their real presence.

Such semantic and ontological differentiation suggested we should prefer tri-dimensional stimuli to bi-dimensional ones, and, similarly, prefer known and familiar objects to unknown objects never seen before.

As Levinson claims, the techniques for linguistic fieldwork have still to be properly developed. And this step is not easy to execute “because one needs to run artificial or natural experiments across cultures of quite different kinds from our own, while maintaining comparability in the essentials. The difficulties – methodological, ethical, cultural and political – are substantial, which is one reason why such little work of this kind has been done” (2003: 20).

A most commonly complained problem is that some of the images in the stimuli produced so far and available to fieldworkers are culturally dependent. For example, with respect to Bowerman & Pederson’s (1992) “Topological Relations Picture Series”, many researchers have reported the impossibility for their informants to linguistically represent the pictures, not only for their bi-dimensional layout – as in the case of the aš-Ṣāniˁ – but mostly because the informants do not know what the images represent. As noted by Fawcett in her unpublished MA thesis on Waorani spatial language, “one image is of a stamp on a letter, which for many Waorani is a completely foreign object because there is no post near Toñampari and even if there was, there would be very few Waorani sending letters because most of the people they know live in their community or surrounding ones. The image with a book sitting on a shelf that was attached to a brick wall was also an issue for two reasons: i) books are not traditionally used in the community (this proved to be an issue more for the older members since the younger ones now go to school and use books) and ii) the traditional homes of the Waorani have curved/angled walls made of leaves, which would make having shelves essentially impossible and thus foreign. Not to mention the fact that the shelf was against a brick wall, which could be unrecognizable to some Waorani (perhaps those who have never left the community). Beyond the difficulty of explaining culturally dependent images, it was difficult to explain an image in general without priming the speaker to use a word that they associate with the translation of what I said. For example, when someone
asked to explain a picture or clarify what kind of response I was looking for, I had a hard time explaining the situation depicted in the image without using the preposition that I would use to describe the image” (Fawcett 2012: 51).

These words could be mine, especially in relation to my experience of fieldwork in Indonesia, where people not only did not recognize the objects shown as culturally relevant – as the aṣ-Ṣāniˁ often did, producing very generic answers – but had no idea about books, shelves and wall bricks, objects which, however, nowadays are commonly used by the young aṣ-Ṣāniˁ and therefore indirectly familiar also to the elderly.

With respect to the stimuli created for the elicitation of static angular relations, the reference tasks were based on:

1. De León's photos of natural objects (in Levinson et al. 1992), which encode spatial contrasts that are not obviously lexicalizable in English,

2. the superset of Men and Tree pictures (Levinson et al. 1992), which deals with location on the horizontal plane with both featured (man) and non-featured (tree, balls) objects.

The problem with the so called ‘natural objects’ is that not every natural object is ‘natural’ in all ecological contexts. For example, in the Sangih Islands, the informants did not recognize the apples represented in some of the pictures, since no apples grow in their ecosystem.

Therefore, I used these pictures to get inspired in creating three-dimensional spatial arrays consisting in toy-objects set in the largest possible number of different relative positions. The language of my oldest informants, who represent traditional society, became more and more precise and rich as the stimuli objects selected became culturally and geographically recognizable, familiar, concrete.

In contrast, the more my stimuli oriented my old informants away from the core of the traditional world, the less they were able to articulate answers to my requests, since the stimuli were too far from the tradition, which is expressed by a culturally codified and ritualized system of knowledge.

The priming effects of cultural constraints and routine experiences were extremely evident in those arrays where animated mobile elements were to be found. Indeed, the spatial interpretation and the linguistic description of static arrays is often established on the basis of the supposed motional intentions of the components of the array, on the direction of their look and on other effects of the so called: ‘fictive motion’ (Talmy 1996), such as routine movements, functions and behavioral schemes attributed by default on the basis of recurrent or daily experience. Those elements prime the selection of the fitting Frame of Reference and preposition, on the basis of the generally observed stronger salience of motion with respect to static location (Landau 2010), making it difficult to cognitively separate the spatial sub-domain of motion from that of location.

The distinct reactions of my informants to known and unknown objects, even within pictures, set me onto the epistemological trail of the relevance for space language of the semantic properties culturally related to world entities. Since after a preliminary finding, I had ascertained that familiar and unknown stimuli yielded respective different responses, I concentrated on familiar elements, both as content and as means for elicitation strategies. Therefore, on the basis of the analysis of cross-generational cultural changes, I maintained a basic distinction already adopted for the pictures, between:
1. culturally-related stimuli objects (tent, knife, horse, donkey, camel, sheep, goat, dog, wild carnivores, tree, stone, fence, coffee pot, glass, fireplace),
2. culturally-non related stimuli objects, further sub-divided into
   2.a. “of old acquisition” (agricultural products)
   2.b. “of recent acquisition” (house, car, mobile telephone, computer).

To create the first category of stimuli – which I call culturally-related stimuli objects, I generally used utensils, objects, and animals recurring in the narrative and in the anthropological reports, to preliminarily evaluate their degree of cultural consistency and salience.

Just as I interviewed elderly informants also on ‘unknown’ or ‘unusual’ objects characteristic of the modern life – I also tested the young people on traditional objects and natural elements, in order to obtain a comparative basis. Indeed, the cross-generational difference represents a considerable cultural shift with linguistic implications.

The interesting results of this part of the enquiry – here merely hinted at – will be published in a separate sociolinguistic study, since the main scope of the present work is the description of the angular spatial relation in the traditional aṣ-Ṣāniˁ vernacular, today spoken almost exclusively by the elderly and some middle-aged members of the community.¹³

According to the aforementioned principles of stimuli-categorization, as recommended by Danziger & Gaskins (1993), I created my own superset of stimuli and games calculated to highlight distinctions relevant in aṣ-Ṣāniˁ Arabic, in the clearest and most exhaustive way possible. Nevertheless, I started with the tests generally recommended to detect the most cross-linguistic common distinctions, selecting Ground objects with and without the following distinctive features:

1. animacy
2. personhood
3. capability of motion
4. facedness (without implied motion, like shoes, chair)
5. symmetry

The elimination of the bi-dimensional stimuli and the progressive selection of tridimensional ones, classified into culturally related and non-culturally related, have been the two principal means for refining the methodology, to ensure a culture-based approach.

Levinson writes “It should be emphasized that the techniques were developed for application in a wide cross-cultural survey of spatial language and cognition conducted in field conditions, largely in small-scale traditional communities with unwritten languages (in Middle America, southern Africa, Papua New Guinea, Solomon Islands and elsewhere)” (2003: 173). I underscore the notion that such a common phase has to constitute the core nucleus of the preliminary research. But afterwards the investigation has to be elaborated

¹³ Also some young speakers seem to keep closer to the traditional language, probably because of a larger exposure to the language spoken by the elderly.
according to the linguistic, cognitive and cultural characteristics of the group, even if this takes a long time and involves many sterile attempts.

I.6. Inquiring about Spatial Relations

I.6.1. Practical Means to Elicit Semantic Information

Even without a separate abstract concept of ‘space’ (see 1.2), all languages encode in some way the spatial domain. In particular, as Levinson points out (2003: 64), there is one striking universal in spatial language: as far as we know, all languages have *where*-questions, often with a common morpheme that bridges across motion and location (Ulltan 1978). This fact implies that all languages have at least the notion of a delimited or determined space, i.e. all of them have the notion of ‘place’.

From a methodological point of view, *where*-questions in the sub-domain of static location have been the main instrument of the present enquiry. Indeed, this work presents the answers given by the aṣ-Ṣāniˁ informants to *where*-questions about the position of a certain object with respect to a second one by means of different kinds of controlled stimuli.

The aim of the investigation is to outline the semantic treatment of the projective spatial relations on the horizontal plane, i.e. of those spatial relations between entities whose description requires – in all languages worldwide – the use of some kind of coordinate system. Such coordinate systems are called ‘Frames of Reference’ (see Chapter II for their extensive definition and detailed classification).

In order to test this kind of spatial relationships, the routine *where*-question accompanying every spatial array or image was: where is object X with respect to object Y?

The theoretical problem of the investigation was not in the presence or absence of the concept of space in aṣ-Ṣāniˁ Arabic, since the interrogative adverb *wīn*, ‘where?’ is used for all static spatial relationships; the main problem was how to prime the informants toward the description of the spatial relations occurring between the object selected as Ground and the object selected as Figure, i.e. how to express the utterance ‘with respect to’ avoiding the Standard Arabic *bi-n-nisbatī ilā*.

In aṣ-Ṣāniˁ Arabic, the abstract meaning for spatial comparison – as every other kind of comparison – is in fact not separated from the concrete spatial relationship expressed by the preposition *min*, basically meaning ‘from’. So, the question associated to the stimuli was finally *wīn X min Y*?

This kind of question was well understood in all cases. But, as a normal linguistic behavior, in real-life situations, the descriptions of space only very seldom occur using *min* in the meaning of ‘with respect to’. Normally my informants, in free conversations and non-guided stimuli descriptions, used to pronounce two different sentences, one for the object taken as reference, the Ground, and one for the object to locate, the Figure, as for example: ‘there is the horse here, and the man is behind it’ or ‘the horse is north and the man is south’, or sentences inspired by fictive-scenarios like ‘the man wants to jump on the horse’ if a toy-man was seen standing close to the horse’s side. In natural spontaneous communication, speaker A addresses very seldom speaker B asking ‘where is X with respect to Y?’.

The selection of the Ground object is normally initiated by the person giving instructions and negotiated together with the person who is asking for information: e.g.

A: Where is Y?
B: Do you know X?
A: Yes
B: Y is so and so from X.

To impose a preliminary selection of Figure and Ground using the structure of the question ‘where is X with respect to Y?’ is a quite artificial but necessary practice to the aims of the present research, where a well defined set of spatial relations had to be investigated.

For example, in natural speech situations, describing a spatial array by giving topological or angular information is most of the time a personal choice of the speaker, due to a number of different particular situation-based priming causes.

My aṣ-Ṣāniˁ informants often noted the possibility of describing a given array in many ways, often personal, i.e. without any relevance with respect to cultural nor linguistic general rules. Nonetheless, some things that I observed are worth reporting: among the aṣ-Ṣāniˁ community, the elders have access to a larger asset of descriptive strategies than young people do, as we will see in detail later on. Looking at the spatial arrays that I was composing as stimuli in front of their eyes by moving two or more toy-figures in a sequence of different relative positions, mostly during the first moments of the task, the elders wondered how they should answer, if according to what we have called ‘topological parameters’ (e.g. closeness, contact) or rather providing angular information (using Frames of Reference). Indeed, the start question: ‘where is X with respect to Y?’ i.e. wīn, ‘where’, as in most of the world languages, can represent indifferently a question about position or about distance.

The momentary hesitations of the informants were due to the rich set of possibilities which could be selected to translate into their language (a mono-dimensional or linear system) the complexity of space perception and internal conceptual structure of space.¹⁴

Since I had to avoid linguistic interactions with the informants as much as possible during the tests, because I could somehow influence their understanding of the stimuli, I started moving the toy Figure at the same distance but in different positions with respect to the toy Ground, so that my informants automatically understood that what I was interested in was the angular information and not their relative distance.

I changed the objects of every array of the sequence, in order to avoid responses containing sequential topological information, like: ‘X has come close to Y’, ‘X has gone away from Y’, ‘X has moved to the other side of Y’ and so on, and to shield the informants from the tendency to create a story out of the arrays coming one after other in the sequences, i.e. to take a former scene as reference point for the description of the following array, like ‘X has come closer to Y’, ‘X is now on the opposite side’.

I also changed my own position often during the fieldwork sessions, repeating the question on the same array many times with different positions of mine. Indeed, I noticed that given two objects X Figure and Y Ground, independently from the framing system used by the speaker, the presence of additional objects or people around the array, especially if these are intrinsically oriented, can affect the outcome of the experiment.

During my survey of multilingual speakers in Singapore, I noted that young Chinese speakers had the tendency to anchor the framing system to additional objects, very familiar to them, like the computer, but external to the Figure-Ground doublet, as shown in Table 1.12:

¹⁴ On the relation between linguistic means of expression and the complexity of mental knowledge of space see Levinson 2003: 15.
L: where is the pen with respect to the ball?
I: it is in front of the ball.

Table 1.12. Effects of External Anchoring Points.

In Table 1.12, representing a real situation that occurred during my fieldwork in Singapore, we can see that the informant is sitting close to a table on which there are a computer, a ball and a pen. The array, consisting of a ball and a pen, is on his left. Since the ball represents an unshaped Ground object – in this case the projection of a frontal Region onto the ball – within which the speaker located the pen – occurred under the effect of the orientation of the computer. It seemed indeed that the orientation of the functionally partitioned and biggest object could dictate the orientation of the array, as if the latter was in a row aligned with the computer itself.

I introduced a further variant in the routine for carrying out the experiments: I set the arrays in different positions with respect to the visual field of the informants, so that they were initially aligned in the middle of the speakers’ visual field but then also in a series of different positions. I noted that the position of the array with respect to the informants could be of some relevance in the selection of the semantic strategies of description, in particular vis-à-vis the choice of considering oneself as anchoring point of the system or not (investigation of the Relative Frame of Reference - ALIGNED FIELD. See Chapter II).

Not all informants, men and women, were willing for the interview to be recorded. In compliance with their wish, I selected for publication only pictures taken from the experiments carried out with informants who agreed to be recorded, as long as their faces were not shown. Needless to say, the outcome of the experiments conducted for this work is
consistent across the entire group. The selected examples represent general linguistic tendencies recognizable among the elders of the group. After statistic calculations, every reported answer is representative of at least 80% of the answers elicited within the same age-group.
Chapter II

Object-Based Selection of Spatial Frames of Reference:
The Relative Frame of Reference in aṣ-Ṣāniˁ Arabic

“The revival of Sapir-Whorfian ideas on the relationship between language and culture has found in space a fertile ground for the development of new relativistic paradigms”.
(G. Marotta, 2010: 8)

Overview

During my stay among the aṣ-Ṣāniˁ Bedouin in the Negev, I realized that elderly speakers pervasively use cardinal directions to locate objects in day-to-day talk, i.e. they use the Absolute Frame of Reference in locative descriptions. Nonetheless, the Intrinsic and the Relative Frames of Reference are also in use, i.e. aṣ-Ṣāniˁ Arabic shows the complete inventory of Frames of Reference described by Levinson (2003). The aim of the present chapter is to account for the criteria with which aṣ-Ṣāniˁ speakers select the appropriate Frame of Reference in each situation. I focus on the Relative Frame of Reference, in particular the semantic strategy called ALIGNED FIELD. The criteria determining the selection of the appropriate Frame of Reference in every context seem to be related to the nature of the Ground objects involved in the spatial arrays, i.e. to the features and values whereby speakers classify objects in space. Research on universal typology attempts to identify the basic inventory of these properties, usually thought to be geometric, mechanical and motor. Nonetheless, the types of these properties and the proportion in which they are attributed to the entities can vary surprisingly in a cultural modality, as we will see in the analysis of the spatial domain in aṣ-Ṣāniˁ Arabic. I will start with a general overview of the basic means used to explore the domain of space in typological analysis, introducing the concepts of Ground, Figure, Projective Relation, Region and Frames of Reference (Paragraph 1), the typological classification of the Frames of Reference (Paragraph 2) and their relevance in the debate on the existence of universal categories in language and cognition (Paragraph 3). In particular, I will deal in the present section with the ALIGNED FIELD, a sub-category of the Relative Frame of Reference, first described for the Hausa language, that I detected in aṣ-Ṣāniˁ Arabic (Paragraphs 4, 5, 6). The ALIGNED FIELD is a strategy used to project the coordinates of the Observer onto the Ground objects; it requires by definition a ‘symmetric’ Ground object, i.e. the Ground object does not possess any element which can inherently differentiate its Front Region from its Back Region. Exploring the ALIGNED FIELD in aṣ-Ṣāniˁ, in comparison to its first description in Hausa, I will show how the concept of ‘symmetry’ can vary cross-linguistically beyond its ‘logical’ definition and that it is related to non-geometric features and to culturally established values. The property of ‘symmetry’ is culturally attributed by the aṣ-Ṣāniˁ speakers in variable proportion to different Ground objects in the domain of space, as represented by different grammatical strategies within the same Relative Frame of Reference. The correspondence of one Frame of Reference to many linguistic strategies ends up destabilizing the belief in the correspondence of linguistic and non-linguistic (or cognitive) knowledge, accepted by Levinson still in 2003, as a residual component of the Universalist position.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Figure</td>
</tr>
<tr>
<td>G</td>
<td>Ground</td>
</tr>
<tr>
<td>O</td>
<td>Observer / V: Viewer / S: Speaker (Terms used interchangeably)</td>
</tr>
<tr>
<td>[CAPS]</td>
<td>Distinctive feature</td>
</tr>
<tr>
<td>L</td>
<td>Letizia (me)</td>
</tr>
<tr>
<td>I</td>
<td>Informant</td>
</tr>
<tr>
<td>NAC</td>
<td>Negev Arabic Corpus (compiled by Roni Henkin)</td>
</tr>
</tbody>
</table>

All quotations respect the original transcription systems.
II.1. Spatial Domains and Spatial Relations: Terminology and Fundamentals

This thesis deals with the selection of spatial Frames of Reference in aṣ-Ṣāniˁ Arabic, introducing some comparative data from other Bedouin varieties and from other genetically non-related languages. In particular, this chapter focuses on the Relative Frame of Reference.

In order to explain the analytical notion of Frames of Reference used in this work, I here provide some preliminary information about the terminology and the fundamental concepts adopted in the typological description of the semantic domain of space, in particular, relating to the concepts of Figure, Ground and Spatial Relations.

II.1.1. Figure and Ground

Languages tend to conceptualize and to describe the domain of space not in abstract terms but rather as a complex system of spatial relations occurring among the objects. In particular, these relations are described on the basis of their basic components: the objects which have to be located and the objects with respect to which the first are located. In this work I label the entity to be located ‘Figure’ and the entity, with respect to which the Figure is located, ‘Ground’, following Talmy (1978), Fillmore (1982), Herskovits (1986, 1988) and Levinson (2003), who loan those terms from the terminology used first by the Gestaltpsychologie.

Talmy provides the following linguistic definition of Figure and Ground: ‘The Figure is the moving or conceptually moveable entity whose site, path or orientation is conceived as a variable, the particular value of which is the salient issue. The Ground is a reference object with respect to which the Figure’s site, path or orientation receives characterization’ (Talmy 1983: 232).

II.1.2. Spatial Relations

Spatial relations between Figure and Ground can occur in the domain of static location and in the domain of motion. In fact, the separation of the spatial sub-domain of motion from that of location is only intuitively understood and it often remains not defined at all, since it is hard to clearly and unequivocally discriminate them. The parameters and levels of distinction between those two ambits are variously treated across different languages and cultures, with profound implications for the semantic strategies of spatial description.

In the domain of static location, the locative spatial relations can be of two different types: Topological (or non-projective) relations and Projective (or angular) relations.

---

15 Levinson & Wilkins (2006: 3) call the tendency displayed by the majority of the world languages to conceptualize space in terms of relations ‘Leibnizian’, as opposed to the ‘Newtonian’ conceptualization of space in absolute terms, referring to the debate on the nature of space, held in an intense mail correspondence between the two philosophers.

16 So the trivial difference between the Italian prepositional system “Giorgio vive a Roma” (Giorgio lives in Rome) and “Giorgio va a Roma” (Giorgio goes to Rome) compared to English “George lives in London” and “George goes to London” seems to be deeply enshrined in cultural semantics.
II.1.2.a. Topological or non-Projective Relations

Topological or non-projective relations\(^{17}\) are represented by utterances of the type: “object X is at place Y”, e.g. “Rony is on the dancing floor” and “Alan is in the train”; ‘Topology’ in the literature on spatial language has a wider meaning than the mathematical notion: according to Levinson & Wilkins (2006: 3-4), the conceptually simplest spatial information is said to be the topological information. The topological information can nonetheless be subdivided into sub-categories, such as ‘distance’, ‘contact’, ‘containment’. So, ‘topology’ refers to the sort of domain covered by the English prepositions ‘in’, ‘at’, ‘on’, ‘near’, ‘between’ and so forth – that is to notions of ‘coincidence’, ‘contact’, ‘containment’, ‘contiguity’ and ‘proximity’. This domain can be conceived of as essentially about spatial coincidence or its approximation (as in ‘near’), with the subsequent subdivisions of types of coincidence (such as ‘in’ vs. ‘on’); in utterances containing topological notions, nothing as complex as a coordinate system is directly invoked.

II.1.2.b. A Note on the Status of Deixis

In Levinson 2003: 66 deixis is described as a sub-domain of static topological spatial relations, but I think that deixis concerns properties of the speech event and so affects all sub-domains of the spatial experience (see Table 2.1). Furthermore, even though deictic adverbs and demonstratives in western languages (e.g. ‘this’, ‘that’, ‘here’, ‘there’) typically fail to provide projective information on the horizontal dimension, some languages, e.g. the Eskimo languages (Jacobson 1984; Fortescue 1988;) have demonstratives which have not only deictic content but also built-in cardinal directions.

II.1.2.c. Projective or Angular Relations

Projective relations or angular relations\(^{18}\) are exemplified by such utterances as: “object X is in a certain direction of Y”, e.g. “Rony is left of the car”, “Joan is in front of the building” and “Alan lives in the apartment above mine”. Space can be structured not only on the basis of topological relations, but also on the basis of the criterion of ‘direction’, a fundamental concept in the human experience of space. Direction is not only present in the physical motion, but also in the movement of the sight and it can be attributed to every line which – from a starting point – connects two points in space. Spatial relations which are described using the criterion of direction are called ‘projective’, as are the linguistic expressions which represent them (Meini 2010: 23). In case of projective relations, “(…) as soon as object X and landmark Y are substantially separated in space, it becomes important to

\(^{17}\) The notion of topological relation is loaned from mathematics starting with Piaget & Inhelder (1948) who applied it for the first time to the development of spatial representations in the child. According to these authors, the spatial relations first understood by a child are topological: ‘proximity’, ‘order’, ‘closure’ and ‘continuity’ (indeed this theory is also known as: ‘topological primacy thesis’). Later a child begins to understand Euclidean notions such as ‘metric distance’ and ‘angle’, and so he can establish projective relations. In 1978 Weinzweig claimed the topological relations referred to by Piaget & Inhelder do not exactly fit the corresponding mathematical definitions (see Meini 2010: 19). Nonetheless, the theory of Piaget & Inhelder has exercised a great influence on later studies on spatial concepts (inter alia Klein 1991, Becker 1997, Levinson & Wilkins 2006).

\(^{18}\) So Herskovits on his choice of the term ‘projective’: “English includes a number of prepositions which are used to define directions about an object, and then specify the position of another object in relation to these directions. I have called these prepositions ‘projective’, because all fundamentally involve the experience of viewing and the idea of a point of observation” (Herskovits 1986: 156).
think about X as in some specific direction from Y – some kind of angular specification becomes relevant, and a coordinate system is necessary to provide that” (Levinson & Wilkins 2006: 2-3).

II.1.3. Frames of Reference: Definition

Frames of Reference are exactly those complex mental structures, which provide the linguistic and cognitive expression of the angular information in projective spatial relations, providing the elements of the spatial arrays with a coordinate system. In other words, Frames of Reference are strategies used to mentally project coordinate systems onto spatial arrays; by such means, we can conceptualize and linguistically describe these spatial arrays. Accepting this definition in the present work, I will follow the methodology of Levinson (2003) and his use of the spatial categories labeled ‘Frames of Reference’. About the Levinsonian definition of Frames of Reference, Meini (2010: 25) notes: ‘The label ‘Frame of Reference’ has been loaned from the lexicon of Gestaltpsychologie. It is so widespread in the literature on the language of space as to be too seldom defined: we follow Levinson (2003: 24) who, quoting Rock (1992: 404), defines the Frame of Reference as “a unit or organization of units that collectively serve to identify a coordinate system with respect to which certain properties of objects, including the phenomenal self, are gauged”.

II.1.4. Summary of the Preliminary Definitions

Levinson & Wilkins provide the following table which summarizes the above mentioned linguistic and cognitive partition of the locative (or static) spatial relations between two given objects into topological relations and projective (or angular) relations:

<table>
<thead>
<tr>
<th>SPACE</th>
<th>DEIXIS</th>
<th>THE DOMAIN OF LOCATION</th>
<th>THE DOMAIN OF MOTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TOPOLOGICAL RELATIONS</td>
<td>PROJECTIVE RELATIONS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distance, Containment, etc.</td>
<td>COORDINATE SYSTEMS (Frames of Reference)</td>
</tr>
<tr>
<td>RADIAL CATEGORIES(^{19}) &amp; POINTING GESTURES</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.1. Conceptual Subdivision of the Domain of Space. Adapted from Levinson & Wilkins (2006: 3). With My Modifications.

\(^{19}\) In Levinson (2003: 65) ‘here’ and ‘there’ are labeled as ‘radial categories’; radial categories are used to establish the position of an entity (Figure) with respect to another (Ground, which can be the Speaker or the Addressee) when the Ground is the center (0) of a radial space (a circular space, imaginarily set up on an infinite number of concentric spheres). In this case, the location of a Figure with respect to the Ground can be described by the properties of a radius: length and direction. So, ‘there’ describes a longer radius than ‘here’. Such an imaginary radial space is variously partitioned across languages and cultures: some languages pinpoint only two degrees of distance from the center (0 = Ground), based on the opposition ‘close ≠ distant’, others can express further specifications (‘very close’, ‘within the hand’s reach’, ‘intermediate between Speaker and Addressee’, etc.); in other languages, such as Eskimo languages, radial categories can express the distance and the direction of the Figure with respect to the Ground (e.g. ‘distant-eastwards’, close-northwards’ etc., see Jacobson 1984 and Fortescue 1988).
II.1.5. The Use of Frames of Reference

II.1.5.a. Axes and Regions: Definitions

Projective relations between two objects can occur along:

- the Up-Down Axis (e.g.: “the bird is above your head”),
- the Front-Back Axis (e.g.: “Joan is in front of the truck”),
- the Lateral Axis (e.g.: “Joan is to the left of the tree”).

These axes are set up on fundamental asymmetries, which – according to Lyons (1997) – could be grounded in a primordial anthropocentric conceptualization of space. In other words, in orienting themselves in space, both physically and conceptually, human beings use their bodies’ inherent orientational properties, which yield pairs of opposite Regions; these oppositions are grounded on conceptual asymmetries, which can be roughly summarized as follows: the Up Region is the opposite of the Down Region, the Front Region is opposite of the Back Region and the Right Region is the opposite of the Left Region. These couples of opposite Regions constitute three orientational axes.

In contrast with the use of the term ‘symmetry’ in everyday language, where we are used to thinking about the Right/Left Axis of the human body as constituted by two symmetric halves, in this study it is conceptually considered asymmetric, since it yields the linguistic and cognitive opposition of the ‘right’ and the ‘left’ Regions.

To define the concept of Region I like to quote the following passage from Svorou (1994): “The knowledge people have about frequently encountered salient entities may have several aspects. People have a very good idea about objects they encounter in everyday life, their size, shape, texture and function. Also, they know about their component parts, and especially about the part with which they typically interact. Furthermore they know about the context within which people or other entities interact with particular entities. I propose that all this knowledge may be incorporated into the notion of REGION of an entity. In the present view of language and spatial relations, Regions constitute a fundamental notion incorporating knowledge of the physical and functional character of the entities, which in turn determines the linguistic description of spatial relations” (p. 12). Regions can be internal, external, or otherwise belonging to parts of the Ground objects, with respect to which Figure objects are located; e.g. if I say in Italian la casa è di fronte alla chiesa, ‘the house is in front of the church’.

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20 According to Lyons (1977) the vertical direction is the physically and psychologically most salient, based on the upright position of humans and on the asymmetry between the upper and lower parts of the body, on the experience of the effects of the gravity and on the canonical position of sky (above) and earth (below). The Front / Back Axis is rooted in the asymmetry between the anterior and posterior part of the body (Front Region and Back Region), where the anterior part represents the optimal direction for producing and receiving external messages. In particular this direction is involved in the bilateral interaction, where two subjects turn to face each other (this position has been called ‘canonical encounter’ by Clark 1973: 34-35).

21 As supported by its late recognition by children, in a gradient of salience, the Lateral Axis (Right-Left Axis) should occupy the lower position. The relatively scant salience of the Lateral Axis should be due – according to Clark – to the substantial symmetry of the human body with respect to it. Its acquisition seems to be related to cultural factors and daily practices as writing, reading and driving (Meini 2010: 24). According to Lyons (1977: 691) the Up / Down Axis and the Front-Back Axis are polarized: the upper and frontal semi-axes are positive, since they describe the visible space of our interaction, while the lower and posterior semi-axes are negative in the same respect.
church’, *fronte* (lit. ‘forehead’) represents the Region of the church with respect to which the house is located.

It is important to note that Regions can be parts of the Ground objects (generally derived from body parts, like ‘head’, ‘chest’, or from geometric elements, like ‘corner’), but can also be extended beyond the physical boundaries of the objects. In the former sentence, indeed, I do not mean that the house is attached to the ‘front’ of the church, but rather that it stands in its vicinity. Furthermore, the meaning that *fronte* ‘forehead’ acquires in this specific context is given by the coordinate system according to which the Speaker projects the concept of ‘Anteriority’ onto the building of the church, i.e. according to the Frame of Reference selected by the Speaker when the building of a church is the Ground object of a spatial array.

### II.1.5.b. Axial Restrictions in the Use of the Frames of Reference

Thus, with respect to Levinson & Wilkins’s partition of the spatial relations that we have observed in Table 2.1, we can add that:

1. Frames of Reference, as presented by Levinson (2003), and, more generally, in the tradition of these studies, are applied only to the description of the horizontal plane;
2. the horizontal plane can be conceptually divided into the sub-domains of Front/Back Axis and Lateral Axis.

Levinson himself (2003: 66) explicitly includes the Up / Down Axis among the domains described by Frames of Reference, but he provides no evidence of the use of Frames of Reference in the description of the Up / Down Axis. Indeed, the vertical dimension does not ever seem to be partitioned according to such mental and linguistic schemes, because it generally presents itself like an axis, i.e. as a one-dimensional space (consisting only of the up-down direction): “(…) perceptual cues for the vertical may not always coincide, but they overwhelmingly converge, giving us a good universal solution to one axis. But the two horizontal coordinates are up for grabs: there simply is no corresponding force like gravity on the horizontal. Consequently there is no simple solution to the description of horizontal spatial patterns, and languages diverge widely in their solutions to this basic problem: how to specify angles or directions on the horizontal” (Levinson 2003: 35).

In other terms, “the definition of directions along the Front / Back Axis and on the Lateral Axis can be provided only when an origin or a reference point are given, while these are not essential for providing information on the Up/Down Axis” (Meini 2010: 24).

Summing up, we can say that Frames of Reference are cognitive and linguistic coordinate systems providing (by means of various strategies) the angular information necessary to locate an object X (Figure) with respect to another object Y (Ground) only on the horizontal plane, where the speakers have to specify in which direction the Figure is located with respect to the Ground.
We can thus modify Table 2.1 to Table 2.2 as follows:

<table>
<thead>
<tr>
<th>SPACE</th>
<th>DOMAIN OF LOCATION</th>
<th>PROJECTIVE RELATIONS</th>
<th>DOMAIN OF MOTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOPOLOGICAL RELATIONS</td>
<td>PROJECTIONS</td>
<td>TOPOLOGY &amp; TOPONYMY(^\text{22})</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Front/back Axis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>USE OF COORDINATE SYSTEMS (Frames of Reference)</td>
</tr>
</tbody>
</table>

Table 2.2. Extended and Modified Version of the Conceptual Subdivision of Space proposed by Levinson & Wilkins, 2006: 3.

\(^{22}\text{This is the distinction formulated by Levinson (2003: 67) between ‘topology’ and ‘toponymy’: ‘In English, the prepositions (‘at Wimbledon’, ‘in London’, ‘on Salisbury Plain’) clearly assimilate toponyms or placenames to the topology system, but in many languages, place names specifications require no spatial relators (one says in effect ‘he is Wimbledon’), or occur with a special locative case, adposition or other distinct construction, hence we need analytically to distinguish toponymy from topology’}. Anyway, toponymy is seen in this work as belonging to the sub-domain of topology. The issue of Bedouin place names is not dealt with in this work, even though from the data at my disposal and provided by Bailey (1984: 42-57), Musil (1928) and other works, it can be observed that Bedouin placenames are rich in meaning and it can be hypothetically proposed that the Bedouin strategies of place naming represent productive mapping systems. This issue requires further investigations (for general literature on toponymy, see Levinson 2003: 69).
II.2. The Levinsonian Typology of Frames of Reference

When we observe a spatial array, still or in motion, and want to describe it to a listener, three aspects are cross-culturally and cross-linguistically variable: (i) what is the salient information we select,23 (ii) how do we translate this complex *perceptum* into linear speech, and (iii) on which parts of the speech do we distribute the information we want to provide the listener with. This section deals with the second aspect.

According to Levinson (2003: 35), essentially three main Frames of Reference emerge as solutions to the problem of description of horizontal spatial directions. They are appropriately named ‘Intrinsic’, ‘Relative’ and ‘Absolute’. With respect to former theories on linguistic space-framing, Levinson classifies Frames of Reference on the basis of their functional characteristics and not on the basis of the point of origin of the axes in utterances.24

II.2.1. The Absolute Frame of Reference

The application of the Absolute Frame of Reference can be illustrated with a sentence of the form “He is north of the house” to represent the following situation in Table 2.3:

![Absolute Frame of Reference Diagram](image)

Table 2.3. The Representation of the Absolute Frame of Reference (from Levinson 2003: 40).

The semantic scheme of this spatial utterance is given by a ternary system including a Figure, a Ground and an coordinate system, called ‘allocentric’, since it is anchored onto external fixed bearings, which are – in the specific case of Table 2.3 – the cardinal directions.

The Absolute Frame of Reference is considered as the most exotic one within the inventories of spatial strategies detected by Levinson (2003: 3) with respect to the European languages, which generally do not show it.

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23 Talmy (1983: 225) introduces the notion of ‘schematization’, i.e. “a process that involves the systematic selection of certain aspects of a referent scene to represent the whole, while disregarding the remaining aspects”. Tyler and Evans (2003: 53) proposed the functionalist notion of ‘vantage point’, that “suggests that how a particular spatial scene is viewed will in large part determine the functional nature of a particular spatial scene”. In other words, spatial relations between entities are not fixed once and for all, rather they largely depend on the speaker’s perspective (Vandeloise 1991: 23).

24 ‘(…) whether the origin is speaker (or addressee) or not, is simply irrelevant to this classification’. (Levinson 2003: 38). This approach takes distance from former descriptors like: topological vs. projective spatial connectors, deictic vs. intrinsic usages of projective prepositions, and so on (see: Bierwisch 1967, Lyons 1977, Herskovits 1986, Vandeloise 1991, and psycholinguists as Clark 1973, Miller & Johnson-Laird 1976).
Levinson emphasized that “this keeping track of fixed directions is, with appropriate socialization, not a feat restricted to certain ethnicities, races, environments or culture types, as shown by its widespread occurrence (in perhaps a third of all human languages) from Mesoamerica, to New Guinea, to Australia, to Nepal (Levinson 2003). No simple ecological determinism will explain the occurrence of such systems, which can be found alternating with, for example, relative systems, across neighboring ethnic groups in similar environments, and which occur in environments of contrastive kinds (e.g. wide open deserts and closed jungle terrain)” (2003: 49).

According to my direct experience in Indonesia, there exists a variegated typology in the application of the Absolute Frames of Reference: some languages, such as Sangih, use only the cardinal directions; others, like Balinese, use local landmarks for the north/south axis and cardinal directions for the east-west axis.

The adjustment of relevant natural elements to the representation of abstracted cardinal directions is apparently a widespread strategy among Absolute framing languages. In fact, absolute directions present themselves as complex cultural meanings, bearing spatial information combined with social and cultural knowledge. On this issue, Levinson writes: “(…) places of particular sociocultural importance may come to be designated by a cardinal direction term, like a quasi-proper name. Secondly, where the system is abstracted out of landscape features, the relevant expressions (e.g. ‘uphill’ or ‘upstream’) may either refer to places indicated by relevant local features (e.g. local hill, local stream) or to the abstracted fixed bearings, where these do not coincide” (Levinson 2003: 49).

As we have said, many languages make extensive, some almost exclusive, use of the Absolute Frame of Reference on the horizontal plane, fixing arbitrary bearings, ‘cardinal directions’, corresponding to different extents to compass bearings.

While some languages have no way of expressing notions like ‘in front/ behind/ to the left/ right/ side of Ground object’ as determined by the location of a Viewer or Speaker, Bedouin vernaculars seem to share a characteristic concurrence of Frames of Reference, possibly ranging throughout all three possibilities. Among the Bedouin vernaculars spoken throughout the Middle East and North Africa, the presence of the Absolute Frame of Reference has been detected by Nishio in Jbali (1996), where the upstream/downstream orientation of the St. Catherine’s wadi yields a local Absolute Frame of Reference. With respect to the salience of cardinal directions and to their specific cultural and ecological values, Ingham (2002: 299-303) reports from Najdi Arabic several path-encoding motion verbs which provide different kinds of information, such as inclination of the terrain, movements along land contours, location at the time of day and, of particular interest here, the cardinal directions of the march and gradual changes of direction. Such a system seems to be strictly related to the adaptation of the Najdi Arabs to the conditions of life in the desert.

25 The point is made vividly by many Austronesian island languages which fix an east-west absolute axis by reference to the monsoons, but use a ‘mountain’-‘sea’ axis to contrast with it. As one moves around such islands the one axis remains constant, the other rotates (Ozanne-Rivière 1972: 446; Wassmann and Dasen 1998: 693).
II.2.2. The Intrinsic Frame of Reference

The Intrinsic Frame of Reference involves a coordinate system centered on the Ground object: the coordinates of the spatial array are determined by ‘inherent features’ or certain ‘properties’ belonging to the Ground objects referred to in the utterances. In order to become the center of the coordinate system, the Ground object has to show some ‘inherent’ functional or geometric asymmetry, e.g. in as-Ṣāniˁ: ‘the door of the vase’ (bāb al-jarrah), ‘the head of the hill’ (rās al-gōz), ‘the belly of the mountain’ (baṭn al-bīṭīn), ‘the tail of the tent’ (dīl al-bīṭ, the lower edge of the posterior curtain of the tent), ‘the hind-legs of the tent’ (rijl al-bīṭ, each posterior pillar of the tent), ‘the face of the tent’ (wijh al-bīṭ, the entrance of the tent), ‘the face of the knife’ (wijh al-ḥūṣah, the blade).

The attribute ‘inherent’, though widely used in the literature, is misleading: indeed, such facets are conceptually assigned by different languages according to some algorithm, or learned on a case-by-case basis depending on the object, or more often a combination of these. They basically rely on culturally variable conventions. That the concept of inheritance is sensitive to cultural variation is seen in Heine’s report (1989) that among the Chamus (Eastern Nilotic), trees have an intrinsic Front Region according to their inclination or to their most prominent branch.

The Intrinsic Frame of Reference is classified as binary. The utterance: The ball is in front of the chair presumes an intrinsic Front Region of the Ground (the chair), and uses that facet to define a search domain for the ball; the same holds for The ball is in front of me / you. The notion ‘in front of’ is here a binary spatial relation, whose arguments are constituted by the Figure and the Ground: the projected angle is found by reference to an intrinsic or inherent facet of the Ground object.

Intrinsic systems are generally dogged by the multiplicity of object types, the differing degrees to which the asymmetries of objects allow the naming of facets, and the problem of ‘unfeatured’ objects (Levinson 2003: 48). In particular, the multiplicity of object types easily jams up the memory of the speakers.

II.2.3. The Relative Frame of Reference

The relative Frame of Reference presumes a Viewpoint (the Origin of the coordinate system), the Figure and the Ground. It is generally used on Ground objects which do not show any kind of intrinsic salient asymmetry; so, some salient asymmetry has to be mapped onto the Ground object from an external source (the source can be the Observer or a third reference object). So, the elements of the array will be the Figure, the Ground and an external reference.

26 The procedure varies fundamentally across languages, for example in English it is largely functional, so that the front of a TV is the side we attend to, while the front of a car is the facet that canonically lies in the direction of motion, etc. But in some languages, it is much more closely based on shape, as in Tzeltal, see Brown & Levinson (1993: 46-70).
27 Vandeloise (1991: 36) formulates the ‘principle of fixation’: ‘An object may be described relative to its usual position, even if its actual position differs from the usual position at the moment of utterance’.
For this reason, the Relative Frame of Reference is said to be ternary\(^{28}\) and point-of-view dependent (Levinson 2003: 89).

Mapping external coordinates onto the Ground object according to the Relative Frame of Reference involves a geometric transformation which may be: 180 degree rotation, reflection across the frontal transverse plane or translation (a linear movement without rotation or reflection).\(^{29}\)

a. **180° Rotation** involves the Lateral Axis (or Right / Left Axis), as shown in Table 2.4:

![Diagram](image)

**Table 2.4. Transfer of Viewer-centered Axes onto the Ground Object by 180° ROTATION.**

Thus *John is to the left of the tree* in English entails that Figure (F), i.e. John, is on the right side of the Observer’s visual field, because the primary coordinates on the Observer (O) seem to have been rotated in the mapping onto the Ground object (G), so that the left side of the Ground object corresponds to the Observer’s right side. The tree is portrayed as facing the Observer.

\(^{28}\) Fillmore defined this frame as ‘deictic’ because of its relational nature (Fillmore 1982: 37).

\(^{29}\) This subdivision appears already in Lurçat 1976.
b. **Reflection** treats the Front / Back Axis and the Right / Left Axis, as shown in Table 2.5:

![Diagram showing the transfer of viewer-centered axes onto the ground object by reflection.](image)

**Table 2.5. Transfer of Viewer-centered Axes onto the Ground Object by REFLECTION.**


According to Table 2.5, the sentence *John is in front of the tree* entails that the Figure ‘John’ is between the Observer and the Ground (the tree), because the primary coordinates on O (Observer) seem to have been reflected in the mapping onto the Ground object, so that the Ground object has a ‘front’ before which John is located. Transferring the coordinates from the Observer to the Ground object by Reflection does not cause any change in the original position of right and left, as when we stand in front of a mirror. So, F would be ‘right of the tree’ when in the same position as Table 2.4.

c. **Translation** treats the Front / Back Axis in the opposite way with respect to Reflection, while the Right / Left Axis is likewise conceptualized as in Reflection, as we can see in Table 2.6:
Table 2.6. Transfer of Viewer-centered Axes onto the Ground Object by TRANSLATION.

In Hausa (Hill 1982), the statement *John is in front of the tree* entails that the Figure John is on the opposite side of the tree with respect to the position of the Observer, because the primary coordinates on O (Observer) have been translated in the mapping onto G (Ground), so that G has a front on the opposite side of John’s position, while right/left terms stay constant (similarly to what happens in the Reflection, Table 2.5), as shown in Table 2.6. The strategy of Translation for projecting coordinates from the Observer onto the Ground object is generally called ‘Hausa System’ after Hill’s contrastive description of Hausa and English space languages (1982). In particular, Hill noted that, in certain given conditions of the array, Hausa prefers to interpret the meaning ‘in front of’ as the English ‘behind’ (i.e. in the description of Figure-Ground relations occurring in the Front / Back Axis). These conditions of the array are:

1. the Ground object has no intrinsic salient asymmetries on the horizontal plane (the Ground object is a ball-like or tree-like entity);

2. the coordinate axes are projected onto the symmetric Ground objects by means of a ‘field of orientation’ aligning the orientation of the Speaker and the direction of the Figure-Ground array. This field of orientation is called ‘ALIGNED FIELD’ (Hill 1982: 16).

In other words, the ALIGNED FIELD (and its application in the Hausa System) are related to the combination of a symmetric Ground and the alignment of the spatial field of the Speaker (or Observer), to that of the Figure and Ground. Hill observed also that in Translation the Right / Left Axis remained invariable.

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30 In the hierarchy of salience of the asymmetries based on the human body, the Front / Back Axis is considered by Hill as less salient that the Up / Down Axis and more salient than the Right / Left Axis. Hill considers the mentioned hierarchy as an implicational scale. This order is reflected in the number of entities in the physical world to which each axis is perceived as intrinsically belonging: we view more entities possessing the Up / Down Axis than the Front / Back and Right / Left (Hill 1982: 14). (See Paragraph 1.5.a).
II.3. The Frames of Reference in the Semantic Typology of Space

Having defined the cognitive and linguistic nature of semantic strategies called spatial Frames of Reference, I proceed to consider the relevance of their analysis in the typological classification of languages and finally to propose the results of my own scientific experience and their theoretical contribution to the typological enquiry.

Since the experience of space is shared by all human groups, knowledge and reasoning about space have formerly been considered to be based on universal mental categories. Consequently spatial languages were conceived as just projections of a single underlying innate set of spatial categories. Even B.L. Whorf himself, founder of the school of linguistic Relativism, seemed very cautious with respect to the issue of spatial language and spatial thought:

*Probably the apprehension of space is given in substantially the same form by experience irrespective of language ... but the concept of space will vary somewhat with language.*

(Whorf 1956: 158)

Nonetheless, the domain of space is not similarly partitioned across all languages and cultures (Peterson et al. 1996). Languages use fundamentally different semantic parameters in their categorization of spatial relations, different coordinate systems and different principles for constructing and applying such coordinate systems, with notable effects and consequences on the cognitive level (Levinson 2003: 19-20). Let’s just observe two dialects of Bedouin Arabic, Jbāli – described by Tetsuo Nishio (1992; 1996) – and the aṣ-Ṣāninī vernacular: within the same linguistic and cultural horizon, we find two diverse grammars of space, where not only prepositions, verbs, names, adjectives and adverbs of space are different or differently used, but even the coordinate systems are differently developed: the Jbāli, who inhabit the St. Catherine wadi in Sinai, show a coordinate system based on the direction of the wadi (Nishio 1996), while the elderly aṣ-Ṣāninī use the cardinal directions as well as other strategies, according to specific priming conditions. This can depend on the fact that, even though all human beings share the basic and pervasive experience of space, human groups inhabit different kinds of ecological space and get variously adapted to the environmental conditions they have to cope with. So, at the basis of the diversification of spatial languages, one can imagine the results of ecological adaptation on one hand and, of course, an intricate net of historical circumstances on the other; or, as Keith Basso would have expressed more poetically, using the words of his Apache informants, we can reflect that “wisdom sits in places” (Basso 1996).

Talking of the relationship between linguistic diversity and ecological adaptation, S. Levinson seems to have recently been paying more attention to the environmental impact on language. With respect to the use of cardinal directions for locating objects in space (i.e. the Absolute Frame of Reference), Levinson wrote in 2003: “It perhaps needs emphasizing that this keeping track of fixed directions is, with appropriate socialization, not a feat restricted to certain ethnicities, races, environments or culture types. No simple ecological determinism will explain the occurrence of such systems, which can be found alternating with, for
example, relative systems, across neighboring ethnic groups in similar environments, and which occur in environments of contrastive kinds (e.g. wide open deserts and closed jungle terrain)” (Levinson 2003: 46). In 2009, going back to the issue, Evans & Levinson affirm: “It seems inevitable that part of the explicans (of language diversity) will be that language has coevolved with culture, which itself evolved to give rapid adaptation to fast-changing environment and migration across niches. (...) The dual role of biological and cultural-historical attractors underlines the need for a coevolutionary model of human language. (...)” (Evans & Levinson 2009: 446). In this respect, the stratified complex of cognitive and linguistic resources of the old as-Ṣāniˁ can be seen as the striking result of cultural effects of the ecological adaptation to the desert life.\footnote{‘Ecological adaptation’ is not intended here in the sense of ‘adaptive determinism’, i.e. the effects of the selective pressure exerted on the organisms by environmental conditions; here, ‘ecological adaptation’ is considered the construction of a peculiar Weltanschauung and hierarchy of salience of life realia based on the relation to the environment.} \footnote{On cognitive patterns shared by Bedouin languages with Aramaic, note residual features detected in Negev Bedouin, in A. Borg 2007: 263-294.} It reflects a dense history of exchanges, contacts and acculturation at the cross-road of three continents. This seems to be supported by certain cognitive and semantic traits that are common to other languages, like Aramaic, spoken by the Bedouins as the lingua franca of the Middle East at least until the beginning of the Islamic era.\footnote{On the reasons for the choice of this Bedouin group and for preliminary ethnographic information, see Chapter I.} According to Evans and Levinson, the coevolutionary models have to account for the linguistic mutations, even those which are observable on-the-spot in the inventory of modern languages. Unfortunately, because of the continuing disappearance of languages, only a scanty part of the linguistic world asset has been and will be tested and unveiled. Because of the urgency of describing linguistic systems which are disappearing basically due to global cultural change, and accepting Evans & Levinson’s plea for a principled and exhaustive global mapping of the world’s linguistic diversity (2009: 446), my thesis attempts to add new material to the linguistic world sample of spatial systems, outlining the grammar of space in the Bedouin Arabic dialect spoken by the as-Ṣāniˁ, who live in the northern area of the Negev.\footnote{About the Balinese spatial system in language and cognition, see Wassman & Dasen (1998) and Levinson (2003).}

In an early embryonic version of the coevolutionary hypothesis, Levinson & Wilkins stated that “(...) hunters, sailors and taxi drivers are in a different league from the ordinary city-dweller. This suggests that many aspects of effective spatial thinking depend on cultural factors, which in turn suggests limits to cognitive universals in this area” (2006: 1). So, curious to test the possible relationship between ecological adaptation and space semantics, I started a cross-cultural observation of the hypothetical coincidence of semantic structures and cognitive categories with life activities and the related skills, across different linguistic families. In particular, I had the occasion to test the systems of traditional societies of long-distance travelers such as the Austronesian sailors of the Pacific (Sangih, Makassarese, Bedjaw and Balinese\footnote{About the Balinese spatial system in language and cognition, see Wassman & Dasen (1998) and Levinson (2003).} people) and the Bedouin Arabs. The outline which emerges from this three-year long research presents itself with general converging aspects (such as the use of
cardinal directions as a linguistic coordinate system), alongside a wide range of specific variations and semantic effects, as exemplified in this work.

In fact, Frames of Reference are not only geometric coordinate systems *sic et simpliciter*. Given that Frames of Reference are complex mental structures which provide angular information in projective relations, we should add that they always work in *embodied situations*: i.e. Frames of Reference are coordinate systems and – at the same time – they also include certain parameters of evaluation of the properties of the objects involved in the spatial arrays.\(^\text{35}\) Furthermore, these properties are to a great extent culturally determined, as will be demonstrated in this work, on the basis of the aṣ-Ṣāniˁ data. Indeed, looking at the question of Frames of Reference from a relativistic point of view, it is proper to remember L. Talmy’s suggestion that: ‘If grammatical specifications generally correspond to (linguistic) cognitive structuring, then the nature of that structure is largely relativistic or topological rather than absolute or Euclidean’ (Talmy 1988: 171).

Levinson (2003: 3) stated that ‘the choice of a predominant frame of reference in language correlates with, and probably determines, many other aspects of cognition, from memory, to inference, to navigation, to gesture and beyond’, assuming that ‘human spatial cognition is culturally variable’ (Levinson 2003: 4).\(^\text{36}\)

Indeed, cultural differentiation occurs not only in worldwide perspective: it is not difficult to observe differences across age-groups within the same society, when radical changes have occurred in the way of life (like the process of sedentarization) and profound acculturation processes (e.g. the transition from an oral to a written culture due to systematical schooling and literacy). This clearly emerges as a difference between elderly and young people in the aṣ-Ṣāniˁ, as evidenced in the way different age-classes react and answer to differently designed stimuli used in elicitation tasks.\(^\text{37}\)

With respect to the relation between language and cognition, Levinson (2003: 21) stated: ‘Suppose that two languages A and B utilize as spatial coordinate systems fundamentally different semantic parameters (call them A’ and B’). Now, suppose we can demonstrate on first principles that, in order to use semantic parameters of the type in A, individuals would have to carry out various mental calculations that users of B’ would not require (or not at least by virtue of B’). Let us call this mental calculator α. Now we can set out to try and find if speakers of A have α, while speakers of B do not’. By means of this statement, Levinson (2003: 133) provides a very well delineated picture of his hypothesis on how languages work with respect to cognitive systems, rescuing in his work a light version of

\(^{35}\) The recent tendency to focus on the relation between the selected Frame of Reference and the objects of a given spatial array finds an extreme expression in Brewer and Pears (1993): the two authors conclude that Frames of Reference are nothing else than the ‘reference objects’. In this work, I retain the substantial distinction between Frames of Reference and ‘reference objects’ of the spatial arrays. In my description of the aṣ-Ṣāniˁ language of space, the properties of the Ground objects are crucial not only in the selection of the appropriate prepositions which describe their spatial relations (Cooper 1968; Leech 1969; Bennet 1975; Miller & Johnson-Laird 1976; Jackendoff 1983; Herskowitz 1986; Vandeloise 1991), but also in the concurrent selection of the appropriate Frame of Reference.

\(^{36}\) ‘We cannot hold both to the thesis of the congruency of thought and language and to the thesis of the universality of conceptual categories’ (Levinson 2003: 15).

\(^{37}\) On the design of stimuli and the relationship between age, schooling and ability to read images and to decode the perspective in the images, see Chapter I.
Whorfian Relativism, fundamentally sustaining that the nature of the relation between language and cognition can be well described by Slobin’s ‘thinking-for-speaking’ theory (Slobin 1996).  

But if the question about the implication of linguistic and cognitive structures in the minds of the speakers is asked in this way, the world’s linguistic situation seems to comprise several monolithic entities, each of which represents the coincidence in language and cognition of a given scheme: for example, each culture should be distinguished by the presence of a certain Frame of Reference in language and cognition.

Firstly, the description of the aṣ-Ṣāniˁ use of Frames of Reference will lead us through this exposition into the issue of the mechanisms of linguistic variation - within and beyond the Arabic Sprachraum – compelling us to take a stand in the dispute on the existence and value of linguistic Universals.

In the history of the debate on Universals, (from the classic Realism of Plato and Aristotle, to the Nominalism of Ockham and Abelard to the Idealism of Kant and Hegel), philosophers generally disagree on whether universal properties exist in reality or merely in thought and speech. The doctrine of Universals has pervaded the linguistic debate on the relationship between cognition and language of the last decades due to Chomsky’s claims regarding the existence of Universal Grammar (Chomsky 1965). This theory can be seen as an extreme derivation of the typological program (Comrie 1989; Whaley 1997; Croft 2003): indeed, the Universal Grammar theory, attempting to account for the process of linguistic acquisition, postulates that the principles of grammar are shared by all languages and are innate in every human being. In the second half of the 20th century typology had to face Chomsky’s theory (Evans & Levinson 2009: 429). Starting from this confrontation, Levinson – among the first – addressed the cross-cultural enquiry of the fundamental and common experience of space, turning the investigation of the semantics of space (pioneered by L. Talmy 1976) into the investigation of the relationship between language and cognition within the cultural domain of space (Levinson 1996; 2003). Later, investigation of the relation between thinking and speaking required research into the nature of the relation between language and cognition (Levinson 2003:28). The question of the relation of thought and language is basically rooted in the tradition of the debate on the existence of universal cognitive properties and the undeniable variations of their means of expression, a debate developed within the theory of linguistic determinism. Slobin (1996: 70) starts his preliminary reconnaissance of the history of the idea of linguistic relativity and linguistic determinism quoting W. von Humboldt’s Über die Verschiedenheit des menschlichen Sprachbaus und ihren Einfluss auf die geistige Entwicklung des Menschengeschlechts: “Language is the formative organ of thought (...). Thought and language are one and inseparable from each other” ([1836]1988: 54), therefore “There resides in every language a characteristic worldview. As the individual sound stands between man and the object, so entire language steps in

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38 For the latest developments of this last theory in the frame of acquisitional studies, see Landau on the interference of linguistic primes on cognitive activity in children’s mind (Landau 2010).
39 For experimental studies about the priming function of grammar on structuring the cognition in the child, see Landau 2010.
between him and the nature that operates, both inwardly and outwardly, upon him (...). Man lives primarily with objects (...) [but] he actually does so exclusively as language presents them to him” ([1836]1988: 60). Subsequent exponents of the theory of linguistic relativity were E. Sapir and his student B.L. Whorf, who stated: “Users of markedly different grammars are pointed by their grammars toward different types of observation, and hence are not equivalent as observers, but must arrive at somewhat different views of the world” ([1940] 1956: 221) and “Every language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyzes nature, notices or neglects types of relationships and phenomena, channels his reasoning, and build the house of his consciousness” ([1942] 1956: 252). In the frame of relativistic studies, the position of F. Boas (1911) exemplifies a ‘less deterministic approach’ (Slobin 1996: 71), based on the concept of ‘obligatoriness of expression’, according to which the set of obligatory grammatical categories of a language ‘determines those aspects of each experience that must be expressed’ (Boas 1938: 127). He was followed by Jakobson: ‘The true difference between languages is not what may or may not be expressed but in what must or must not be conveyed by the speakers’ (Jakobson 1959: 142). In the frame of this weak determinism, Slobin postulates the existence of a special ‘kind of thinking, intimately tied to language’ (Slobin 1996: 75), and marks the dynamic priming function of the acquired language on this particular cognitive device (‘thinking for speaking’ theory).

The present work enters such a debate with a new cultural approach, different from the methodologies used to describe linguistic systems until nowadays in the literature: this stimulating new perspective is made possible because the aṣ-Ṣāniˁ language of space amazingly presents itself with the complete set of framing strategies, i.e. the Absolute, the Relative and the Intrinsic Frame of Reference, consistently selected according to cultural criteria used for the ontological classification of the objects of reality. The consequent question is thus: will the aṣ-Ṣāniˁ cognitive system be consistent with such a linguistic situation? The answer to this question will be discussed in a specific section at the end of the section on the Frames of Reference.

In fact, languages use coordinate systems in a very puzzling way, establishing such fuzzy boundaries between them as to compel us to reformulate their definition and to better understand which criteria govern their application. Furthermore, speakers often change perspective and anchoring when speaking, describing, telling, and referring according to the force, the expressivity and the meaning they want to give to their own words, or according to the deictic information they want to encode and according to a number of other variables, which can eventually also be attributed to constraining cultural reasons. One of the most dangerous effects that the so-called ‘paradox of the observer’ can produce in scholars coming from the contemporary globalised Western world is to lead them to underestimate the constraining force of cultural rules.

This study of the language of the aṣ-Ṣāniˁ aims at better accounting for the complex process of translating cognitive and cultural meanings into language. I start from the observation that different Frames of Reference are used by my informants according to the circumstances, as we will see in detail, and thus I aim to determine the criteria according to which Frames of Reference are selected, focusing on the Relative Frame.
II.4. The Relative Frame of Reference in aṣ-Ṣāniˁ Arabic

In order to test the presence and distribution of the Relative Frame of Reference in the language of the aṣ-Ṣāniˁ elderly, and in particular of its effects on the projection of the Front / Back Axis of the Ground objects, I selected several sequences of stimuli in which different kinds of Ground objects appeared. In the following paragraph I will present the results obtained selecting a stone, a tree, a flock, a donkey, a horse, a man, a sheep and a goat as Ground objects. The stimuli consist in toy-objects.

The choice of the Ground objects was not random: first of all, all these objects are part of the speakers’ traditional cultural environment. Some of them, like stones and trees, could easily attract the projection of external coordinate systems, being geometrically ‘symmetric’, i.e. showing no inherent difference on the Front / Back Axis nor on the Right / Left Axis. Ground objects like stones and trees are widely considered as inanimate symmetric objects and frequently used in the literature for detecting the Relative Frame of Reference (see: ‘Man and Tree Stimuli’ in Levinson 1992, kit 1.: 7-14 and Hill 1982: 22).

Nonetheless we know that not in all cultures are trees considered as symmetric objects: for the Chamus trees have an intrinsic Front Region corresponding to the direction of their inclination or to their most prominent branch (Heine 1989). Furthermore, within the mineral kingdom, on a large scale, mountains, hills and peaks often have an intrinsic partition, as happens, for example, in aṣ-Ṣāniˁ, where a crag on the slope of a mountain represents its nose (ḥašm al-gōz ‘the nose of the mountain’).

To stones and trees, I added several sets of stimuli with Ground objects such as animals of different size and with different functions: the horse, used for quick transport mostly in war; the donkey, used for heavy load and slow transport; the man; the sheep and the goat, still bred for the wool and, nowadays – mostly as food. The flock was selected as Ground object because it represents a plural Ground of many units. Since everyone of its units can move independently, the flock can assume different shapes and directions and can become more concentrated or more diffuse.

A methodological clarification is needed with respect to the use of photographs taken during the experiments. Not all informants, men and women, were willing for the task to be recorded. Respecting their will, I selected for the publication only the pictures taken from the experiments carried out with those informants who openly agreed to be recorded, never showing their faces. Needless to say, the outcome of the experiments performed in this work is consistent across the entire group. The selected examples represent general linguistic tendencies recognizable among the elderly of the group.

Beside the general tendencies, I note personal variations among my informants, due to cross-generational changes, education levels, number of spoken languages and the acquisition of the ability of writing and decoding images on different supports. The informant is always portrayed in the pictures, being the only person visible; when several people are in the picture, or the Informant is not easily recognizable, entities are indicated by a red arrow:
THE STONE
1. L: wēn al-ḥmār min ad-dims?
I: aḥḥīn al-ḥmār wāgif wara ad-dims, mwajjih ˁ-al-jāl at-tāniy.⁴⁰
L: where is the donkey with respect to the stone?
I: now the donkey is standing behind the stone, it is facing the other direction.

THE TREE
2. L: wēn al-ḥmār min aš-šajarah?
I: aḥḥīn al-ḥmār wāgif wara aš-šajarah.
L: where is the donkey with respect to the tree?
I: now the donkey is standing behind the tree.

THE FLOCK
3. L: wēn al-ḥṣān min al-ġanam?
I: al-ḥṣān wara al-ġanam.
L: where is the horse with respect to the flock?
I: the horse is behind the flock.

⁴⁰ ˁa- and ˁ- stand for the preposition ˁala ‘on’, ‘at’.
| THE DONKEY  
| (the toy-donkey is perpendicular to the visual field of the Observer) | 4. 
| L: \( \text{wīn az-zalamah min al-\(\text{hmār}\)?)} | I: \( \text{az-zalamah wara al-\(\text{hmār}\).} \) 
| L: where is the man with respect to the donkey? | I: the man is behind the donkey. |

| THE HORSE  
| (the toy-horse is facing toward the Observer) | 5. 
| L: \( \text{wīn aš-\(\text{ṣa\(\jmath\)}\)arah min al-faras?)} | I: \( \text{aš-\(\text{ṣa\(\jmath\)}\)arah wara al-faras.} \) 
| L: where is the tree with respect to the horse? | I: the tree is behind the horse. |

| THE MAN  
| (the toy-man is facing toward the Observer). | 6. 
| L: \( \text{wīn al-\(\text{hmār}\) min az-zalamah?)} | I: \( \text{al-\(\text{hmār}\) wara az-zalamah.} \) 
| L: where is the donkey with respect to the man? | I: the donkey is behind the man. |

Table 2.7. Relative and Intrinsic Frames of Reference: Object-Based Contrastive Distribution in the aṣ-Ṣānī Language. The Back Region.
As we can see from the descriptions presented for the images in Table 2.7 the language of the elderly aṣ-Ṣāniˁ presents itself with a striking variability of spatial referential strategies, alternating the Intrinsic Frame of Reference and the Relative Frame of Reference.

Regardless of the position assumed by the objects of the arrays with respect to the position of the Observer, when the Ground object is of the type donkey / horse / man, the Intrinsic Frame of Reference is automatically applied (images 4, 5 and 6).

Images 1, 2 and 3 show that the strategy of Translation is used to project the spatial coordinates of the Speaker onto the Front / Back Axis of the Ground objects (see Table 2.6). This means that, when the Ground object is a stone / tree / flock, no salient asymmetries are inherently recognized by the speakers to these objects on the Front / Back Axis, the reason why such asymmetries are projected from the Observer onto the Ground objects according to the rules of the Relative Frame of Reference. These objects are thus considered as ‘symmetric’ on the Front / Back Axis, i.e. the speakers do not recognize in them any inherent Front or Back Region.

In all reported cases, where no intrinsic partition of the Front / Back Axis is recognized in the Ground object, in order to process the linguistic description of the array, the aṣ-Ṣāniˁ speakers establish a larger field of orientation. This larger field is ordinarily constructed according to a Relative strategy, i.e. projecting the coordinate system of the speaker onto the Ground object. In particular, in Table 2.7 images 1, 2, and 3 the Back Region is projected onto the side of the Ground object which is closer to the Speaker and the Front Region onto the opposite side, i.e. the further side with respect to the Speaker’s position. The coordinate system projected onto the Ground object is a parallel extension of the original coordinate system centered on the Speaker, i.e. it is obtained by Translation (see Table 2.6). Translation is possible because Ground, Figure and Speaker are aligned. So, this solution for the projection of the Front / Back Axis onto symmetric Ground objects has been labeled by Hill ‘the ALIGNED FIELD’, first detected and described by this author in the Hausa language (Hill 1982).
II.4.1. A Noteworthy Asymmetry in the aṣ-Ṣānīˁ Treatment of the ALIGNED FIELD

From a quantitative analysis of the answers given for all those stimuli which were meant to explore the Front / Back Axis along the ALIGNED FIELD (or ‘Hausa system’), in the language of the aṣ-Ṣānīˁ, an evident asymmetry can be observed in the treatment of the Front Region with respect to the Back Region. In Table 2.7 the examples concern the description of the Back Region of symmetric and asymmetric Ground objects (indicated by the use of the preposition *wara*) while in Table 2.8 the strategies of description of the Front Region are reported.

In Table 2.8 we can see that the use of *giddām* appears only with asymmetric Ground objects (donkey / horse / man), i.e. when the Intrinsic Frame of Reference is applied (images 5, 6 and 7). The treatment of the Front Region of symmetric Ground objects (stone / tree / flock) – i.e. in the ALIGNED FIELD - presents some specific characteristics.

When the speakers had to answer questions in which the Figure object was *wara* ‘behind’ a symmetric Ground object, i.e. according to the ALIGNED FIELD, the answers came generally quicker and more homogeneously, i.e. according to a generalized rule shared by all speakers for the lexicalization of the Back Region in the circumstances when the ALIGNED FIELD is applied (Tables 2.7 images 1, 2 and 3).

When I turned to observe the answers given for the lexicalization of the corresponding Front Region, where – consistently to the application of the ALIGNED FIELD – I would expect the use of utterances like ‘F *giddām* G’ (‘Figure in front of Ground’), my expectations were mostly disappointed. The lexicalization of the Front Region in the ALIGNED FIELD was variously solved by the elderly over the age of 65, as we can see in the following Table 2.8 images 1, 2, 3 and 4:
1. 
L: wīn al-ḥmār min ad-dims?
I: al-ḥmār ‘a-nuṣṣ ad-dims, biʔīd ‘annih šwayyih.
L: where is the donkey with respect to the stone?
I: the donkey is in the middle of the stone, a little bit far from it.

2. 
L: wīn al-ḥmār min aš-šajarah?
L: where is the donkey with respect to the tree?
I: now it faces toward the tree, but a little bit far from it (the tree), in the middle, in the middle of the tree.

3. 
L: wīn ad-dims min aš-šajarah?
I: ḥattēṭīha ‘a-nuṣṣ aš-šajarah.
L: where is the stone with respect to the tree?
I: you have put it in the middle of the tree.

4. 
L: wīn al-ḥṣān min al-ǧanam?
L: where is the horse with respect to the flock?
I: the horse is beside the flock.
5. L: wîn aš-šajarâh min al-hmâr?  
I: aš-šajarâh giddâm al-hmâr.  
L: where is the tree with respect to the donkey?  
I: the tree is in front of the donkey.

6. L: wîn aš-šajarâh min al-faras?  
I: aš-šajarâh giddâm al-faras.  
L: where is the stone with respect to the horse?  
I: the stone is in front of the horse.

7. L: wîn al-faras min az-zalamah?  
I: al-faras giddâm az-zalamah.  
L: where is the horse with respect to the man?  
I: the horse is in front of the man.

Table 2.8. Relative and Intrinsic Frames of Reference: Object-Based Contrastive Distribution in aṣ-Ṣâniˁ Language. The Front Region.

Thus, the aṣ-Ṣâniˁ strategy for the spatial description of aligned arrays located in the middle of the Observer’s visual field and with symmetric objects as Ground, cannot be formally represented by the paradigm of the ‘Hausa system’, as it has been described in the literature. This is the reason why I designate this particular aṣ-Ṣâniˁ strategy using the more general label of ALIGNED FIELD. The aṣ-Ṣâniˁ system presents itself with a set of solutions
for the description of the Front Region, which is never lexicalized by the preposition *giddām* ‘in front of’.\footnote{The frequency of *giddām* is higher within other locative strategies, such as the Intrinsic Frame of Reference. Generally speaking the use of *giddām* strictly depends on the properties attributed by the speakers to the Ground object. Such properties are prototypically non-recurrent in the Ground objects of the ALIGNED FIELD, which are symmetric, as we have already discussed.}

In other words, given a symmetric Ground and the geometric circumstances of an ALIGNED FIELD, the projection of the Front Region and of the Back Region onto the Ground object do not occur by default, as seems to be the case in the Hausa system. The aş-Ṣāniˁ speakers look at the properties of the Ground objects rather than following the geometric layout of the visual field. It seems thus, that under the label of ‘symmetric objects’, the spatial entities selected as Ground in the ALIGNED FIELD show in different proportion other properties too, which affect the selection of the prepositions used to describe the spatial relations between them and the Figure objects. We will explore this issue later, speaking about stone / tree / flock and sheep / goat.

Indeed, the selection of the prepositions is very important, and it has to do with the reason why the opposition *wara* ‘behind’ / *giddām* ‘in front of’ in the ALIGNED FIELD seems not to exist. Or, we should ask: why are the informants so reluctant to describe the Front Region in the ALIGNED FIELD using *giddām* consistently to their use of *wara* to describe the Back Region in the same circumstances?

In only one case did a middle aged man use *giddām* to describe the position of a horse with respect to a flock of sheep, when the flock was aligned between him (the Observer) and the horse (the Figure): in the same situation as in Table 2.8 image 4, when I asked: *wīn al-ḥṣān min al-ġanam?* “where is the horse with respect to the flock” the man answered: *al-ḥṣān wāgif giddām al-ġanam* “the horse is standing in front of the flock”. In the immediately former task, he had used *wara* to describe the opposite situation, where the horse (Figure) was aligned between him and the flock (Table 2.7 image 3). He admitted that he had used *giddām* just because of the geometric opposition with respect to the former case where he had used *wara*, but he was not convinced of the way he had used *giddām*. He thought about it and said: “No, wait a moment, the horse would have been *giddām* the flock only if all the sheep of the flock would have been moving in a row aligned in the same direction after the horse”. And after this, he finally corrected his answer to the stimulus representing the Ground flock between him and the horse with the following sentence: *al-ḥṣān ‘a-janb al-ġanam* “the horse is beside the flock”.

If we trace back the process of grammaticalisation of the prepositions *wara* and *giddām* we clearly have to deal with an evident semantic asymmetry: *giddām* originates from g.d.m, the same root as *gadam* ‘foot’,\footnote{The only Bedouin dialect in which the root g.d.m is directly related to the idea of ‘foot’ seems to be ‘Azāzmih Arabic, especially in the use of the preposition *migdim* ‘foot; at the foot’: *‘indiy dāhab migdim A:mm Rjām* [poet.] ‘I have a granary full of gold at the foot of A.R.’ (I thank Prof. A. Borg for providing this example). But the transparency of the affinity of the preposition with the body part name is dubious. In fact, the use of g.d.m to indicate ‘foot’ is not very diffused among Bedouin dialects, with some exceptions, like *gadam, pl. agdām* in ‘Anazeh (de Landberg 1940: 63); the most common word for ‘foot’ is *riğl*, including leg and foot. The aş-Ṣāniˁ do not recognize the reported meaning of *migdim* ‘at the foot of’ as proper, saying that *migdim* is related not to} while *wara* does not have any etymological
relationship to body-parts located in the Back Region of human or animal body nor in any other kind of natural elements.\textsuperscript{43}

Thus gadam is originally part of the inventory of roots related to the human body, which is intrinsically partitioned and asymmetric with respect to the Front/Back Axis. Furthermore, with respect to ‘forehead’, ‘eyes’, ‘brows’, ‘chest’ and other body-parts used across languages to lexicalize the spatial relations occurring in the Front Region of the Ground object, the semantic meaning rooted in giddām strongly correlates this preposition to the idea of the natural and prototypical direction of the forward movement, the direction in which we are walking.

All this to say that since a preposition is etymologically bound to objects which show - [SYMMETRY] on the Front / Back Axis and + [MOBILITY], as is the case of giddām (which in its semantic history is related to the direction of the march of intrinsically oriented and mobile beings), the aš-Šāni\textsuperscript{5} speakers avoid or at least will somehow resist projecting it onto objects which show + [SYMMETRY]\textsuperscript{44} on the Front / Back Axis and - [MOBILITY].

To project a Front Region onto a stone / tree / flock or onto a single sheep / goat is thus perceived by the aš-Šāni\textsuperscript{5} speakers as stranger or more erroneous than to project a Back Region onto them, since the Back Region is prototypically less animated than the Front Region in asymmetric and mobile bodies, from which such a semantic distinction originally yielded.

Furthermore, the semantic origin of wara is literally less ‘embodied’ than the etymological origin of giddām; in an ‘object-sensitive’ spatial system,\textsuperscript{45} this fact can favor the extension of wara (and other prepositions not originally bound to body-parts) to a larger set of ontologically differentiated entities (under the respect of properties like [ANIMACY], [DIRECTIONALITY] and [MOBILITY]) and to a larger set of geometric arrays than the set of situations where it is possible to properly use giddām.

The aš-Šāni\textsuperscript{5} language preserves the remnants of a spatial system deeply based on the features of the object protagonist of the arrays. We see indeed, that, even in the application of the ALIGNED FIELD, which is a sub-category of the Relative system, the characteristics of the objects and the values that they possess with respect to the criteria of [ANIMACY], [MOBILITY], [DIRECTIONALITY] have a priming effect in the selection of strategies for the description of their spatial relations.

\begin{itemize}
\item ‘foot’, but rather ‘to the first part of a tent or of a natural element which appears in front of you when you are approaching it’ (see migdim al bīt, the middle pole in the front row of poles of the tent, Shawārbah 2007: 376).
\item Lane lists wara as ‘an adverbial noun in place and time’ (Lane 1968: Book I, 2933), with no reference to any usage in relation to body-part names of the Back Region of human nor animal body. It is indeed not easy in general to determine the borderline between the still adverbial usage of a noun and its passage to prepositional usage (Blau 2010: 202). Lane quotes the verb istawara, ‘to run away one after the other (said of escaping camels)’ whose meaning encodes the conceptual schema of a multitude of entities aligned one after the other and going in the same direction.
\item Using the sign (-), I intend the mathematical operator ‘minus’, to indicate the absence of the given [FEATURE].
\item For the methodological and theoretical implications of these observations see Conclusions.
\end{itemize}
Thus, the core of the aṣ-Ṣānīˁ spatial system presents itself with the evidences of a mighty classificatory system of the entities of the world, which strongly primes the partition of the entities into spatial REGIONS, according to a set of ontologically defined parameters.

In the language of the aṣ-Ṣānīˁ, in the use of a projective system like the Relative Frame of Reference, which is mostly applied in the situation that we have called ALIGNED FIELD, the resistance to the projection of the Front Region onto symmetric, inanimate and immobile objects is problematic, perhaps because of the ‘embodied’ origin of the preposition giddām, which generally indicates the spatial relations occurring in the Front Region of the Ground (‘Figure in front of Ground’).⁴⁶

Nonetheless, in a cross-generational perspective, the general tendency among the younger generation is the use of the preposition giddām to express the Front Region of a stone / tree / flock in the ALIGNED FIELD. To understand the new trend, I can hypothesize a shift of the attention from the inherent properties of the objects to the geometric oppositions of the arrays. In other words, younger people use giddām because of the geometric opposition giddām-wara ‘in front of’-‘behind’ primarily applied to inherently oriented objects such as a donkey / horse / man and a tent). This primarily intrinsic opposition existing in the objects which are asymmetric with respect to the Front/Back Axis becomes geometrically extended to the symmetric objects in the ALIGNED FIELD; in other words, in the eyes of younger people stone / tree / flock have no intrinsic or inherent face, but they acquire the giddām-Region because of the geometric opposition relating giddām to wara: according to the geometric logic, if an object has the wara Region, then it can possess also a giddām Region. This shift of perspective and mental habit observable in the younger people can be the result of schooling, acculturation and the geometric fixation of the sedentary settling.

In this respect, the experiment described in Table 2.8 image 4, carried out with a young informant (less than 50 years old), was of special relevance, since he showed the recent tendency to use prepositions according to the geometric properties of visual fields (like the [ALIGNMENT]), neglecting the inherent or ontological properties of the objects selected as Ground. The prevalence of the ontological properties of Ground objects in the description of spatial relations, in my opinion, are observable as priming semantic factors strikingly effective in the language of the elderly (above 65 years old).

Interestingly, the importance of the properties of objects does not entail a wider use of the Intrinsic Frame of Reference in the language of the elderly: on the contrary, the Intrinsic Frame of Reference is widely observable in the language of the young people, due to the prevalence of functional criteria to classify a large number of objects of the modern life and to a more restricted and localized conception of space, perhaps due to their sedentary life style. The primacy of the culturally attributed properties of the objects in the way the elderly describe the spatial relations represents the strategy of selection of the more appropriate Frame of Reference among the large asset of possibilities that they exploit.

⁴⁶ Beside giddām, the preposition gabl expresses the spatial relations occurring in the Front Region. gabl appears in the treatment of the ALIGNED FIELD in opposition to baˁd – which is used for the Back Region, as a further but less used strategy of the aṣ-Ṣānīˁ language. Interestingly, gabl (as baˁd) does not derive from the body-parts system.
II.4.2. ‘Figure Hidden by Ground’: A Difference between Hausa and aṣ-Ṣāniˁ Arabic in the Treatment of the ALIGNED FIELD

When Hill described the ALIGNED FIELD in the Hausa language, given the general rule of Translation of the coordinate system from Speaker onto Ground object, he pointed out the characteristic features of its application. In one case, that I call FIGURE HIDDEN BY GROUND, the rules of Translation seem to be broken. If the Figure object is hidden, either partially or wholly, by the Ground object, then the projection of the Front/Back Axis does not respect the rule of Translation. Indeed, in Hausa a Figure object which is hidden by the Ground object is always described as in the Back Region of the Ground object: the hindrance of the vision attracts the use of the Back Region even when the rules of the ALIGNED FIELD would require the use of the Front Region, or, in other terms, the hindrance of the vision primes the use of the projective strategy of Reflection (see Table 2.5), as shown in Table 2.9:

\[
\begin{align*}
go \text{ kwallo can baya da itace.} \\
(\text{lit. look ball there back with tree).} \\
\text{there’s the ball behind the tree.}
\end{align*}
\]

Table 2.9. Figure Hidden by Ground: The Hausa Projective Response. From Hill (1982: 22, Figure 6).

Differently from the Hausa speakers, under the conditions of the ALIGNED FIELD, the aṣ-Ṣāniˁ speakers do not project a Back Region onto the invisible part of the Ground object in order to locate a Figure object hidden or partially hidden by the Ground object: in case of Figure hidden or partially hidden by a symmetric Ground in the conditions of Table 2.9, aṣ-Ṣāniˁ speakers would resort to different strategies to describe the position of the Figure with respect to the Ground: on a small scale, with Figure partially hidden by Ground, they would use the different strategies adopted to lexicalize the Front Region (see Table 2.8 images 1, 2, 3 and 4). On a large scale, when the Figure is totally hidden by the Ground, such as a wadi located on the other side of a mountain, aṣ-Ṣāniˁ speakers prefer the expression minnih w ḍād lit. ‘from it (the Ground) and away’ (from the Observer), i.e. on the opposite side of the Ground with respect to the position of the Observer.
In the realization of the ALIGNED FIELD in aṣ-Ṣāniˁ Arabic, the analysis of the ontological properties of the Ground objects have a strong binding effect, perhaps stronger than in Hausa, and always stronger than certain conditions of the array, such as the ‘visibility’ of the Figure with respect to the Ground.

When an object in the role of Ground determines the use of the ALIGNED FIELD, this means that aṣ-Ṣāniˁ speakers consider it to be symmetric, like the stone / tree / flock, as we have seen. Since the object is viewed as symmetric, the projection of the Front/Back Axis is generally by Translation. Thus prototypically the symmetric object has a Back Region close to the Observer and, opposite to it, a Front Region. This given, the projection of the Back Region in the place of the Front Region onto a symmetric Ground is carefully avoided, or, in other words, in presence of symmetric objects, the projection of the coordinate system never happens via Reflection, not even in the case of hindrance of vision.

The doubtful cases – where a conflict between Translation and Reflection could arise – are solved by using special expressions, like the couple minnih w jāy lit. ‘from it (the Ground), and coming’ toward the Observer / minnih w ġād lit. from it (the Ground), and away’ from the Observer.
II.4.3. The aṣ-Ṣāniˁ Sheep / Goat in the ALIGNED FIELD: The Cultural Relativism of Spatial Ontologies

We have introduced features like [SYMMETRY], [MOBILITY] and [ANIMACY], generally used to classify objects of reality in different languages, also with respect to their properties in spatial discourse. We hypothesize that such properties are not universally attributed to the same entities and in the same proportion in all languages. The inventory of properties itself may vary across languages and cultures, as clearly appears from the aṣ-Ṣāniˁ data.

First of all, with particular reference to discourse about space, human groups live with different ecosystems, different animal and vegetal species, and different kinds of topographical elements. As a consequence, they develop their economical activities according to different adaptive strategies. These strategies bring humans to rely on different sources of supply, to invent diverse ways to build houses and instruments for daily activities, to get oriented in space and to culturally organize the space itself. So, some elements from the mineral, vegetal and animal reign and among the human artifacts become more culturally salient than others, more important, more necessary. Some of their parts, functions and properties are more exploited, other are considered of lesser benefit.⁴⁷

These ontologies are at the basis of the cultural representations of space expressed in languages. I use the label ‘ontology’ and not ‘hierarchy’ because in fact the partition of the realia on the basis of certain properties does not entail in all languages and cultures a hierarchical classification based on a vertical scale of implications, similar to the taxonomical system according to which western contemporary cultures represent the natural world, after the evolutionary theory of C. Darwin. So, even though the sheep, the goat and the horse should belong to the same animal category on the basis of certain shared features and on the basis of our scientific precognitions, in aṣ-Ṣāniˁ Arabic, as we see below, they present themselves in the linguistic description as very different entities, sheep / goat being in an intermediate position with respect to stone / tree / flock and donkey / horse / man.

Let’s observe the following pictures, taken from experiments for detecting the values attributed to Front and Back Regions in arrays which are aligned to the center of the visual field of the viewer, according to different objects selected as Ground, in Table 2.10:

⁴⁷ Traditional narrative is an extraordinary source of knowledge about the properties attributed to different entities. In the fictional space of narration, the distribution of ‘ontological properties’ and ‘cultural salience’ to natural elements, trees, stones and animals, reveals its relativistic foundations. Some entities often become main characters of tales and can speak and move even if they don’t do so in real life, while others who actually show a stronger animacy or capability of motion get neglected, or among entities who should apparently show the same features, some enjoy a greater fortune. Translating this observation to the linguistic domain of space, at the basis of a relativistic approach to the debate on ontologies, and in particular on spatial ontologies, I observed that the presence or lack of a determined set of features - which is generally accepted in the scientific discourse (e.g. a sheep / goat should be more mobile and more oriented than a stone / tree / flock, and as mobile and oriented as a donkey / horse / man) do not always correspond to the expected linguistic behaviors in a cross-cultural perspective.
The informants referred to the toy-sheep interchangeably as ǧanamih or ḫurūf / ḫarūf. I choose to refer to it consistently as ḫurūf, which properly means ‘lamb’ or ‘young sheep’. In fact, this term is commonly used in ʿaṣ-Ṣāniˁ to designate ‘sheep’ generically, perhaps because sheep are considered nowadays almost exclusively as a source of food.

Table 2.10. Different Gradations in the Attribution of the Feature [SYMMETRY].

As we can clearly see in Table 2.10, with the objects of the array aligned to the center of the Observer’s visual field, we see again the application of the Relative Frame of Reference for both Grounds, i.e. stone and sheep. In both cases (stone and sheep as Ground), the Relative Frame of Reference is applied according to the strategy of the ALIGNED FIELD, which we have already extensively described (Table 2.7 images 1, 2, and 3 and Table 2.8 images 1, 2, 3 and 4).

But we note a relevant difference in the grammatical treatment of images 1 and 2 in Table 2.10: we note a different grammatical treatment with respect to the selection of the stone or of the sheep as Ground object:

(Ground= Stone) image 1:

\[ al-hīn al-ḥmār wāgif \text{ wara ad-dims } \] ‘now the donkey is standing behind the stone’.

(Ground= Sheep) image 2:

\[ \text{ad-dmūs, minnih \ w ġād} \] ‘the stones are from it (the Ground) and away’ (with respect to the Observer).

---

48 The informants referred to the toy-sheep interchangeably as ǧanamih or ḫurūf / ḫarūf. I choose to refer to it consistently as ḫurūf, which properly means ‘lamb’ or ‘young sheep’. In fact, this term is commonly used in ʿaṣ-Ṣāniˁ to designate ‘sheep’ generically, perhaps because sheep are considered nowadays almost exclusively as a source of food.
Image 1 represents the prototypical effect of the ‘ALIGNED FIELD’ in the aṣ-Ṣānī system: the symmetric Ground (stone) receives by translation the coordinate system of the Observer, i.e. the Observer and the Ground object (stone) are aligned. In particular, the symmetric Ground (the stone) receives the projected Back Region (but not the Front Region, as we have seen in Table 2.8).

Image 2, according to my expectations, should be linguistically processed according to the Intrinsic Frame of Reference, since the sheep/goat has a face, so it should have an intrinsic or inherent Front Region, like the donkey/horse/man (Table 2.7 images 4, 5, 6). I thus expected thus the application of the Intrinsic Frame of Reference, in a sentence like “the stones are in front of the sheep”. Nonetheless this never happened, and faced with a sheep/goat Ground the speakers prefer to use the Relative Frame of Reference, and specially the strategy of the ALIGNED FIELD, as is the case with the stone/tree/flock, but with some differences.

Image 2 is meaningful because in such a situation, the location of the stones should correspond to the Front Region of the sheep/goat, and since the sheep/goat has a face, the hypothesis of an ‘inherently-framed’ answer like: “the stones are in front of the sheep”. The intrinsic positioning should be primed by both the anatomical properties of the animal and the general partition of the ALIGNED FIELD (i.e. in relative positioning). But this is not the case: the resistance against projecting a gidām-Region onto a sheep/goat is as strong as the resistance against projecting the gidām-Region onto a stone/tree/flock, despite the fact that the sheep/goat has a face: thus, having a face and deserving a Front Region seem to be two different deals, at least for the aṣ-Ṣānī sheep/goat.

The presence of a donkey/horse/man as Ground in a spatial array attracts the use of the Intrinsic Frame of Reference, as we can see in Table 2.7 images 4, 5, 6. In Tables 2.7 images 1, 2, 3 and in Table 2.10 we see that the position of a given Figure with respect to a stone/tree/flock and to a sheep/goat is assigned according to the Relative Frame of Reference, in particular, that of the ALIGNED FIELD. But the sheep/goat differs from the stone/tree/flock (Table 2.10).

The speakers attribute a Back Region to a stone/tree/flock and choose other strategies for indicating the Front Region, since gidām seems to them inappropriate (see Table 2.8). But in the case of the sheep/goat the ALIGNED FIELD is realized via anchoring the center of the coordinate system on the Speaker and using two prepositional phrases: minnih w jāy / minnih w ġād, regardless of the facing direction of the sheep/goat. The only exception is coincidence of the rear part of the sheep/goat with the Back Region of the ALIGNED FIELD (see Table 2.11 image 1, below).

This means that the single sheep/goat is treated just like the entire flock (Table 2.7 image 3 and Table 2.8 image 4), i.e. closer to symmetric objects than to asymmetric ones. The fact that the sheep/goat has a face like the donkey/horse/man seems not to be so relevant.
Interestingly, when the informants have to substitute the lacking Front Region of the Ground object in the ALIGNED FIELD, they generally resort to two distinctive strategies for distinguishing a stone / tree / flock from a sheep / goat:

- in the case of a stone / tree / flock as Ground, the informants resort to geometrical descriptors, like 'a-nuṣṣ aš-ṣajarah ‘in the middle of the tree’ or distance descriptors, like biˁīd šwayyih ‘a little bit distant’ as we have seen in the answers in Table 2.8 images 1, 2, 3 and 4.
- in the case of a sheep / goat as Ground, the speakers generally use the expression minnih w ġād, lit. ‘from it (the Ground) and away’ with respect to the Observer, i.e. the Figure is beyond the Ground.

The pair of prepositional phrases minnih w ġād and minnih w jāy is here considered as a distinctive marker of the ontologic properties of the Ground objects such as the sheep / goat, distinct from other symmetric objects like the stone / tree / flock. But these two phrases are also used in other situations where the Relative Frame of Reference is preferred. We have already seen, for example, the case of the Figure partly or totally hidden by the Ground (see Paragraph 4.2), where minnih w ġād is used is used to indicate the position of a Figure totally hidden by a Ground, instead of the use of baya ‘behind’ shown in the Hausa language. A further significant use of minnih w ġād and minnih w jāy beyond the symmetric Ground will be treated in Paragraph 4.3.b.

To summarize our findings, while the presence of a donkey / horse / man as Ground in a spatial array attracts the use of the Intrinsic Frame of Reference, the location of a given Figure with respect to a stone / tree / flock or to a sheep / goat is assigned according to the Relative Frame of Reference, in particular, according to the strategy of the ALIGNED FIELD, i.e. the coordinate axes are projected onto the Ground object according to the perspective of the Observer and not according their inherent features. While speakers habitually project the Back Region onto symmetric Grounds according to the rules of the ALIGNED FIELD (Hausa system), they generally avoid projecting the Front Region on Grounds that they believe to be symmetric entities. With respect to this last problem, speakers resort to two different semantic strategies to distinguish the stone / tree / flock from the sheep / goat (geometric evaluations instead of the Front Region for the stone / tree / flock, and minnih w jāy / minnih w ġād for the sheep / goat).

II.4.3.a. A Minor Ontological Conflict: The Face of the Sheep / Goat and the Back Region of the ALIGNED FIELD

As we have seen, even though sheep / goats are treated as symmetric Grounds and prime the use of the ALIGNED FIELD, they are distinguished from stones and trees within the ALIGNED FIELD because in some circumstances they prime the use of the minnih w jāy / minnih w ġād strategy: although the sheep / goat has a face, speakers do not project onto it a Front Region even when its face coincides with the Front Region projected on the Ground in line with the geometric properties of the ALIGNED FIELD (Table 2.10 image 2). In accordance with the general layout of the ALIGNED FIELD – when the back part of the
sheep / goat coincides with the Back Region, *wara* ‘behind’ is regularly used, as in the case of the stone / tree / flock, as in Table 2.11 image 1. However, the Front Region of the sheep / goat does not prime *giddām*, as for the donkey / horse / man Ground (Table 2.8 images 5, 6 and 7), but rather *minnih w ġād* (Table 2.11 image 2).

Table 2.11. Coincidence of the Rear Part of Sheep / Goat and Its Face with the Back and Front Regions Respectively of the ALIGNED FIELD respectively: Semantic Effects.

The examples reported until now on the effects of the presence of a sheep / goat as Ground in the ALIGNED FIELD associate the sheep / goat to the stone / tree / flock, i.e. to symmetrical objects. Nonetheless, the use of the special *minnih w jāy / minnih w ġād* strategy demonstrates that the sheep / goat occupies an intermediate position between the mineral and vegetal worlds, on the one hand, and animals like donkeys, horses and camels on the other.

The intermediate position of the sheep / goat between the stone / tree / flock on one hand and the donkey / horse / man on the other hand appears once again in a light effect of the anatomical properties of the sheep / goat in the ALIGNED FIELD, i.e. when the snout and the rear part of the sheep / goat in the ALIGNED FIELD do not correspond to the Front Region and to the Back Regions respectively, as established by the properties of the ALIGNED
FIELD itself. In other words, we will observe the two cases when the sheep / goat Ground faces toward the Observer, as in Table 2.12:

1. 
   L: wīn aš-šajarah min al-ḥurūf?  
   I: aš-šajarah minnih w jāy.  
   L: where is the tree with respect to the sheep?  
   I: the tree is from it (the Ground) and coming (toward the Observer).

2. 
   L: wīn aš-šajarah min al-ḥurūf?  
   I: aš-šajarah minnih w ġād.  
   L: where is the tree with respect to the sheep?  
   I: the tree from it (the Ground) and away (with respect to the Observer).

Table 2.12. Non-Coincidence of the Face and the Rear Part of Sheep / Goat with the Front and the Back Regions Respectively of the ALIGNED FIELD: Semantic Effects.

In Table 2.11 the treatment of a sheep / goat as a Ground object is the same as the treatment of a stone / tree / flock for the Back Region (image 1), but different with respect to the treatment of the Front Region (image 2).

From the results presented in Table 2.12 the treatment of the sheep / goat appears totally different from that of the stone / tree / flock: even though the snout and the rear part of the sheep / goat never entail use of the Intrinsic Frame of Reference, nonetheless the inherent anatomical properties of these animals show a slight impact on the attribution of Front Region and Back Region and their lexicalization.

49 By ‘properties of the ALIGNED FIELD’ I mean that, as we have already observed, the ALIGNED FIELD usually implies that the Back Region of the Ground is the part facing the Observer and the Front Region of the Ground is the furthest from the Observer.

50 As we have already seen, the treatment consists of a. the projection of the Back Region to the side of the Ground object which is closer to the Observer, and b. the resistance against projecting the Front Region onto the opposite side, as if the sheep / goat has no face, only a rear side.
Comparing the answers given for Table 2.8 and Table 2.12, we clearly see that encoding a stone / tree / flock as Grounds would attract geometrical or metrical information to describe the spatial relations occurring in the Front Region (e.g. 'a-nuṣṣ and other descriptors instead of giddām, as we have already noted with reference to the results in Table 2.8, images 1, 2, 3 and 4). But the use of metrical and geometrical information is felt as improper or not exhaustive by the informants when the Ground is a sheep / goat: in this case, the prepositional doublet minnih w jāy and minnih w ġād are selected, as in Table 2.11 image 2 and Table 2.12 image 1 and 2. It is worth recalling once again, that if we focus on a stone / tree / flock as Ground instead of a sheep / goat, the description of the ALIGNED FIELD would require the opposition between wara (for the Back Region) and some geometrical property (such as biˁīd, 'a-nuṣṣ, etc., for the Front Region).

If we compare the following adjacent images, as in Table 2.13 below, we immediately realize why I support the hypothesis that the strategies used in the ALIGNED FIELD when the Ground object is a stone / tree / flock are not perfectly identical to the case where the Ground is a sheep / goat:
<table>
<thead>
<tr>
<th>Ground= Stone</th>
<th>Ground= Tree</th>
<th>Ground= Sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Back Region</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
</tr>
</tbody>
</table>
| 1. L: wīn al-ḥmār min ad-dims?  
I: al-ḥmār wara ad-dims.  
L: where is the donkey with respect to the stone?  
I: the donkey is behind the stone. | 2. L: wīn ad-dims min aš-šajarah?  
I: ad-dims wara aš-šajarah.  
L: where is the stone with respect to the tree?  
I: the stone is behind the tree. | 3. L: wīn aš-šajarah min al-ḥurāf?  
I: aš-šajarah wara al-ḥurāf.  
L: where is the tree with respect to the sheep?  
I: the tree is behind the sheep. |
| **Front Region** | | |
| ![Image](image4) | ![Image](image5) | ![Image](image6) |
| 4. L: wīn al-ḥmār min ad-dims?  
I: al-ḥmār ‘a-nuss ad-dims, bi’id ‘annih šwayyiḥ.  
L: where is the donkey with respect to the stone?  
I: the donkey is in the middle of the stone, a little bit far from it. | 5. L: wīn al-ḥmār min aš-šajarah?  
L: where is the donkey with respect to the tree?  
I: now (the donkey) faces toward the tree, but a little bit far from it, in the middle, in the middle of the tree. | 6. L: wīn ad-dmās min al-ḥurāf?  
I: ad-dmās, minnih w gād.  
L: where are the stones with respect to the sheep?  
I: the stones are from it (the Ground) and away (with respect to the Observer). |

The Light Anatomical Effect: Avoiding the Conflict between the Parts of the Animal and the Regions of the ALIGNED FIELD

**THE SHEEP**
As we can observe from Table 2.13 the ALIGNED FIELD realizes its grammatical effects differently, according to the ontological nature of the Ground: the Region toward the Observer is always represented by the use of the preposition \textit{wara}, while in the opposite Region \textit{giddām} is never used, giving way to different kinds of descriptive strategies: in the case of the stone / tree / flock, we can see geometric descriptors (‘\textit{an-nuṣṣ}, ‘in the middle’) or metric descriptors (\textit{biˁīd} ‘far’). Alternatively, we find expressions like \textit{fi nafs al-ittijāh} ‘in the same direction’. In the case of the sheep / goat, the grammatical strategy is exemplified by the doublet \textit{minnih w ġād} / \textit{minnih w jāy}. The same strategy is used for the sheep / goat also in all those cases where a part of the animal can conflict with the Region of the ALIGNED FIELD, as in the case where the animal is facing the Observer. Indeed, in that case, the face of the animal corresponds to the Back Region of the ALIGNED FIELD:\textit{ wara} is thus felt as improper (because of the ‘light anatomical effect’ of the snout of the animal), as also \textit{giddām} (because of the effect of the ALIGNED FIELD). In other words, when the inherent properties of the entity in the domain of space are weak and produce ‘light’ effects, the geometric rules of the visual field of the Observer tend to compete with the ontological properties and to prevail.\footnote{In the semantic organization of space, geometric properties of visual fields override ontological properties not only in those cases where the entities present themselves with weak ontological properties, as the weak asymmetry of the sheep / goat with respect to the strong asymmetry of the donkey / horse / man in the partition of the Front / Back Axis, as we have observed in the language of the elderly \textit{aṣ-Ṣāniˁ}. The prevalence of the geometric properties is observable also in the language of the younger generations (see Table 2.8 image 4), where we witness a general weakening of attention to ontological properties, due to radical sociocultural changes: indeed, the ontological properties of those entities which inhabited the Bedouin world were conceived and shared within the group in the traditional tribal life.}

We see that while a stone / tree / flock as Ground is partitioned according to the Regions established by the rules of the ALIGNED FIELD (Back Region toward the Observer and Front Region on the opposite side), in the case of sheep / goat as Ground, the orientation of the animal affects the projection of the coordinates of the ALIGNED FIELD. The projection of the coordinates of the ALIGNED FIELD is ruled out in the case that the Regions of the ALIGNED FIELD conceptually conflict with the anatomy of the animal. In other words, even though a sheep / goat is treated like a stone / tree / flock in many possible situations within the ALIGNED FIELD, \textit{aṣ-Ṣāniˁ} speakers will never project the Back Region onto the animal according to the rule of the ALIGNED FIELD when the animal is facing toward the Observer (i.e. toward the regular Back Region of the ALIGNED FIELD).

We note from Table 2.13 that, in some cases, the sheep / goat even in the ALIGNED FIELD is processed differently from stone / tree / flock: when they are the Ground of a spatial
array centered in the middle of the visual field of the Speaker and are facing toward the Speaker, the projection of \textit{wara} onto their face is clearly avoided.

So, we can conclude that, from a semantic point of view, different Ground objects, such as the stone / tree / flock and the sheep / goat, selected on the basis of their ontological properties, produce in aš-Ṣānī namedtuple Arabic grammatical distinctions even in the application of the same strategy of Translation, comprised within the Relative Frame of Reference. This fact suggests a discrepancy between the domain of linguistic semantics (linguistic description) and that of cognitive semantics (cognitive attribution of the Frames of Reference). It indicates the importance of adopting different methodological approaches, oriented toward the analysis of the cultural ontologies of space.

The ontological properties of the objects and their partition into spatial REGIONS affect not only the Intrinsic frame of Reference, but the so-called Ternary Frames as well, including the Relative Frame of Reference (as we have just seen) and even the Absolute Frame of Reference, which is generally classified as the more abstract coordinate system. Ontological properties of objects affect the application of those systems and even the selection of the most appropriate one for each situation, establishing criteria of preference for one or another among the large set of Frames of Reference used in the language of the aš-Ṣānī namedtuple.

In order to see this, I accept the methodological suggestions of Levinson, who recommends keeping the Ground conceptually distinct from the Frame of Reference, abandoning the traditional and reductive subdivision into ‘deictic’ and ‘intrinsic’, ‘egocentric’ and ‘allocentric’ Frames. Levinson (2003: 53) elegantly decomposes the linguistic framing of spatial arrays into a combination of three very basic elements: the origin of the axes (Or), the anchor (A) and the viewpoint (V). When Ground, Center of the axes and Anchoring point are conceptually distinguished, they can be variously combined. We can thus classify the \textit{minnih w ğād} strategy (or the ‘aš-Ṣānī sheep strategy’) within the ALIGNED FIELD as follows:
1. L: wīn al-ḥmār min ad-dims?
I: hal-ḥīn al-ḥmār wāgif vara ad-dims.
L: where is the donkey with respect to the stone?
I: now the donkey is standing behind the stone.

2. L: wīn ad-dmūs min al-ḥurūf?
I: ad-dmūs, minnih w ġād.
L: where are the stones with respect to the sheep?
I: the stones are from it (the Ground) and away (with respect to the Observer).

<table>
<thead>
<tr>
<th>Ground Object</th>
<th>The stone (or tree / flock)</th>
<th>The sheep (or goat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center of the Axes</td>
<td>The Ground</td>
<td>The Ground</td>
</tr>
<tr>
<td>Anchorin g Point</td>
<td>The Ground</td>
<td>The Observer</td>
</tr>
</tbody>
</table>

Table 2.14. Formal Distinction of the Stone-Strategy from the Sheep-Strategy within the ALIGNED FIELD.
II.4.3.b. The Hausa Telephone and the aṣ-Ṣāniˁ Sheep / Goat: When the Ground is Set Perpendicularly to the ALIGNED FIELD

Comparing the Hausa system of projection of coordinate axes with the English and French systems, Hill started from cases where a symmetric object such as a ball is the Ground in a spatial array. Such cases represent the semantic core which primes prototypical use of the Relative Frame of Reference, which, we have seen, can be realized by Rotation, by Reflection or by Translation. Nonetheless, it seems that in Hausa, not only the ball primes application of the ALIGNED FIELD, but also such objects as the telephone, which Hill describes, according to the logic of European languages, as intrinsically partitioned according to its functional properties: the display is associated to the Front Region, thus the Back Region and the Lateral Regions should be attributed accordingly. But in Hausa, a Ground object like the telephone, when placed in front of the Observer’s eyes – so that the Observer sees one of its lateral sides – is treated as a symmetric object and analyzed according to the projective strategy of the ALIGNED FIELD, as shown in Table 2.15:

Table 2.15. Ground Set Perpendicularly to the Direction of the ALIGNED FIELD: The Hausa Telephone (from Hill 1982: 26, Figure 9).

While French and English speakers would locate a Figure with respect to a telephone according to the intrinsic partition of the telephone itself, i.e. according to the Intrinsic Frame of Reference (e.g. English: “the pen is beside the telephone”; French: “le stylo est à côté du telephone”), Hausa speakers use the strategy of Translation.

Furthermore, even though the telephone is set perpendicularly to the ALIGNED FIELD, so that the Front and Back Regions of the ALIGNED FIELD correspond to its lateral facets, Hausa speakers do not feel any semantic conflict and do not hesitate to use the prepositions gaba ‘in front of’ and baya ‘behind’ in correspondence to the lateral sides of the telephone. In other words, Hausa speakers do not attribute to the telephone any intrinsic partition.
A similar phenomenon occurs in aš-Ṣāniˁ Arabic: the anatomical partition of the sheep / goat Ground has only very light spatial effects, never priming the use of the Intrinsic Frame of Reference:\textsuperscript{52} 

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
1. & \\
\hline
L: wīn aš-ṣajarah min al-ḥurūf? & I: aš-ṣajarah minnih w jāy. \\
L: where is the tree with respect to the sheep? & I: the tree is from it (the Ground) and coming (toward the Observer). \\
\hline
2. & \\
\hline
L: wīn aš-ṣajarah min al-ḥurūf? & I: aš-ṣajarah minnih w ġād. \\
L: where is the tree with respect to the sheep? & I: the tree is from it (the Ground) and away (with respect to the Observer). \\
\hline
\end{tabular}
\caption{Use of the ALIGNED FIELD with Sheep / Goat as Ground Seen by the Observer from a Side.}
\end{table}

As shown in Table 2.16, the effects of the ALIGNED FIELD are evident when the Observer looks at the sheep / goat from a side, when the intrinsic Front/Back Axis of the sheep / goat should be perpendicular to the direction of the ALIGNED FIELD. This fact should generate a conflict in attribution of Regions. In those cases, as an Italian speaker, I would expect something like “l'albero è accanto alla pecora” ‘the tree is beside the sheep’, according to the Intrinsic Frame of Reference, recognizing in the sheep / goat its lateral side. But this is not the case here: similarly to what happens in the case of the telephone in Hausa, aš-Ṣāniˁ speakers resort to the use of the Relative Frame of Reference, using the doublet minnih w jāy / minnih w ġād ‘from it and coming’ / ‘from it and away’ that we have observed in Table 2.10 image 2 (the same case as in Table 2.11 image 2) and Table 2.12 images 1 and 2.

This means that in the domain of space, the sheep / goat as Ground, like the telephone in Hausa, shows no difference between its Front / Back Axis and Right / Left Axis, similarly to what happens with the stone / tree / flock as Ground. In other words, as in the case of the

\textsuperscript{52} See the section: ‘Discussion’.
Hausa telephone, it does not matter where the sheep / goat is facing, since it is treated as a symmetric Ground in all its facets.

Nonetheless, as we have already seen aṣ-Ṣāniˁ speakers apply a clear semantic distinction between a stone / tree / flock and a sheep / goat as Ground – in the former case they use the strategy of Translation for the Back Region and alternative expressions for the Front Region; in the latter they use the strategy of Translation when the Back Region of the ALIGNED FIELD corresponds to the rear part of the animal and the doublet minnih w jāy / minnih w ḡād in all other cases. Nothing similar happens in Hausa, where only the prepositional couple gaba / baya ‘in front’ / ‘behind’ is used with all kinds of Grounds in every position in the ALIGNED FIELD. In other words, the ALIGNED FIELD in Hausa is always processed according to the strategy of Translation of the coordinate axes from the Observer to the Ground, while aṣ-Ṣāniˁ Arabic applies different solutions within the range of possibilities of the Relative Frame of Reference.

It seems thus, that despite any universalistic claim, clear differences occur even in the application of the ALIGNED FIELD across cultures and languages. This is basically due to the different cultural strategies of ontological classification of the entities in the domain of space and to the different proportion according to which ontological properties and geometric schemes can prevail.

II.4.3.c. Revision of the Terminology: A Culture-Specific Descriptive Strategy

At this point, since in aṣ-Ṣāniˁ Arabic the ALIGNED FIELD does not correspond to the strategy of Translation of Front and Back Region in all cases, one could ask why I choose to retain the label ‘ALIGNED FIELD’, coined by Hill, and do not shift to a different nomenclature; or rather why I don’t simply label all these strategies under the title of ‘Relative Frame of Reference’ (see Discussion).

In fact, looking for a culture-specific descriptive strategy, the structure of the ALIGNED FIELD is much more functional to my descriptive purposes than the general label ‘Relative Frame of Reference’. In aṣ-Ṣāniˁ Arabic the Relative Frame of Reference is applied only when Observer (or Speaker), symmetric Ground and Figure are ‘aligned’, i.e. these three elements are set in a row, irrespective of the orientation of the Ground, even if it is a sheep / goat, perceived as ‘semi-symmetric’. This ‘alignment’ can be realized in the blue spaces indicated in Table 2.17: space 1 (in front of the Observer), and spaces 2 (at the right or at the left side of the Observer), i.e. in the strip of the visual field of the Observer which is parallel to his Front / Back Axis and in the strip of the visual field of the Observer which is parallel to his Right / Left Axis. In these positions the criterion of [ALIGNMENT] can be realized and, consequently, with a symmetric Ground, the Relative Frame of Reference is applied.

Unfortunately, due to the different purposes of his contribution, Hill did not describe the response of the Hausa speakers in all those cases where the arrays are placed in different
positions from the middle of the visual field of the Observer (i.e. lateral sides and other non-aligned directions).

In particular, in aš-Ṣāniˁ Arabic, the Translation of the Front Region and the Back Region, specially the latter, is adopted – within the ontological restrictions that we have observed – when the array is in the middle of the visual field of the Observer (Table 2.11 image 1; see the blue space 1 in Table 2.17), while the doublet minnih w jāy / minnih w ġād is used within the blue space in positions 2 in all cases and in position 1 only in specific cases (such as Table 2.11 image 2, Table 2.12 images 1 and 2, and Table 2.16 images 1 and 2).

In aš-Ṣāniˁ Arabic, in the whole range of non-aligned positions (indicated by the yellow ellipse in Table 2.17) – when the symmetric Ground and the Figure are not aligned with the Observer – the arrays are automatically described applying the Absolute Frame of Reference, i.e. by means of cardinal directions.

So, as a result, the [ALIGNMENT] between the symmetric Ground, the Figure and the Observer, as showed within the blue space in position 1 (Frontal Alignment) and in positions 2 (Lateral Alignment on both sides of the Observer) in Table 2.17, is essential for the application of the Relative Frame of Reference. In particular, this is true for the application of the strategy of Translation of the Back Region, in the already discussed cases, in position 1.

Table 2.17. Frontal [ALIGNMENT] (1) and Lateral [ALIGNMENT] (2): The Conditions of Use of the Relative Frame of Reference.
II.4.4. The Lateral Axis of the ALIGNED FIELD

Hill (1982) reported that in Hausa, the Right / Left Axis projected onto the Grounds could be the same as that of the Observer according to the rules of Translation (Table 2.6) or projected by Rotation, i.e. the right side of the Observer corresponds to the left side of the Ground as if Observer and Ground were facing each other (Table 2.4). The only example reported by Hill on the Right / Left Axis shows a human Ground; in this case, the Hausa speakers seem to respect the inherent Right / Left partition of the Ground (Hill 1982: 32 Figure 16). Unfortunately, the author does not mention any symmetric Ground for the Right / Left Axis. Nonetheless, the fact that the human body as Ground yields an Intrinsic Frame of Reference indicates that, at least to a certain extent, Hausa speakers pay attention to ontological properties of objects in space and that the Translation realized on the ALIGNED FIELD is not the only possible strategy applicable to arrays set in the middle of the Observer’s visual field. We regret not having more information about the ontological constraints affecting the language of space in the Hausa culture, for comparative purposes.

For aṣ-Ṣāniˁ Arabic, by placing the Figure and the symmetric Ground on a horizontal line in front of the eyes of the Observer, I could examine the semantic effects of the Lateral or Right / Left Axis of the ALIGNED FIELD.

The results are again very consistent with the effects of the low degree of asymmetry (or low degree of inherent anatomical partition) attributed to a sheep / goat in the domain of space:
Table 2.18, image 4 recalls the result of Table 2.8, image 4, but with a difference. There a horse is standing beyond the flock with respect to Observer (the flock was aligned between the Observer and the horse), and the informant said that the horse was ‘a janb al-ğanam ‘beside the flock’. Here the sheep and the tree are set along a line perpendicular to the Observer’s visual field.

But, as we noticed in Table 2.8 image 4, just as the speakers did not project a Front Region onto the flock, we note in Table 2.18 image 4 that the speakers also resist recognition of the inherent anatomical partition of the sheep / goat in the domain of space relations.
Indeed, my informant said: ‘beside the sheep’ instead of ‘in front of the sheep’, as I would expect as an Italian speaker, since in my language the sheep / goat has inherent anatomical partition, just like the donkey / horse / man.

In as-Ṣāni‘ Arabic, it seems that a sheep / goat as Ground never primes the use of the Intrinsic Frame of Reference; as we have seen, most of the time it causes several semantic effects of the ALIGNED FIELD, which, as described by Hill, should be generally restricted to symmetric Grounds like a stone / tree / flock.

As a further effect of the weakness of the inherent facets of the sheep / goat in the domain of space, in Table 2.18 image 3 we see that, instead of projecting the side-Region onto the flank of the goat Ground, the informant preferred to resort to the Absolute Frame of Reference (on this issue see following Paragraph 4.5).
II.4.5. An Absolute Solution for a Relative Problem

The aṣ-Ṣāniˁ speakers, within their framework of descriptive choice, seem to classify the sheep / goat not exactly in the same category as the stone / tree / flock, but rather in a middle position between the stone / tree / flock, on one hand, and the donkey / horse / man on the other (see Table 2.13). Indeed, they resort to the Absolute Frame of Reference in order to describe all those cases where:

a. it is not proper to project the Front Region of the ALIGNED FIELD (using the preposition giddām ‘in front of’) even if the Front Region coincides with the face of the animal (as in Table 2.13 image 6);

b. it is not proper to project the Back Region of the ALIGNED FIELD (using the preposition wara ‘behind’) when the Back Region of the ALIGNED FIELD coincides with the face of the sheep / goat (as in Table 2.13 image 7);

c. it is not proper to project the Front Region of the ALIGNED FIELD (using any of the described semantic strategies) when the Front Region of the ALIGNED FIELD coincides with the rear part of the sheep / goat (Table 2.13 image 8);

d. no lateral facets are attributed to the sheep / goat Ground, when it is set perpendicular to the visual field of the Observer (Table 2.16).

In such cases, beside the use of the prepositional doublet minnih w jāy / minnih w ġād, elderly aṣ-Ṣāniˁ speakers very often resort to a further ternary Frame of Reference, the Absolute Frame of Reference, which entails the use of cardinal directions, as in the image here below:
(the hand in the foreground is mine)

1.

L: wīn aš-šajarah min al-ʻanz?
I: aš-šajarah giblih w al-ʻanz šamāl.
L: where is the tree with respect to the goat?
I: the tree is south and the goat is north.

Table 2.19. Coincidence of the Rear Part of the Sheep / Goat with the Front Region of the ALIGNED FIELD. The Choice of the Absolute Frame of Reference.

When the arrays are aligned to the center of the visual field of the Observer, the presence of a sheep / goat as Ground primes in most of the cases the use of the Relative Frame of Reference.

The description of the Back Region occurs by means of the ALIGNED FIELD, using the preposition wara ‘behind’ when the rear part of a sheep / goat coincides with the Back Region of the ALIGNED FIELD. The description of the Front Region by means of giddām ‘in front of’ in the ALIGNED FIELD is dispreferred with any of the described symmetric Grounds, as we have already seen in Table 2.8 images 1, 2, 3 and 4.

Furthermore, in the doubtful circumstances summarized in a, b, c, d, the elderly aṣ-Ṣānī‘ speakers often abandon the Relative Frame of Reference, expressed by the doublet minnih w jāy / minnih w ġād, and resort to the use of the Absolute Frame of Reference, i.e. to the use of cardinal directions (as shown in the example reported in Table 2.18 image 3 and in Table 2.19), since the Absolute Frame of Reference is the strategy which is extensively applied for solving all problematic cases.
II.5. The Way Out from a Cross-Generational Wavering

Interestingly, in the perspective of studies on linguistic Relativism, the presence of the ALIGNED FIELD in aš-Ṣāniˁ language is evidently hardly classifiable within the frame of the paradigmatic ‘Hausa System’. As we have seen, presumably for semantic reasons related to the etymological history of the preposition giddām, the projection of a Front Region onto symmetric objects is never used by the elderly, whose system is more strictly related to the inherent properties of the objects. In the language of the middle aged and educated people, geometric effects like the general opposition wara / giddām, can prime the use of giddām with symmetric Grounds in the ALIGNED FIELD, not without many doubts and afterthoughts (Table 2.8 image 4).

Furthermore, the aš-Ṣāniˁ attitude toward the assessment of the inherent properties of different objects, and of the effects of these culturally attributed properties in the spatial description, strongly primes the development of different prepositional means to describe the relations occurring between such ontologically different Grounds and Figures even within the same semantic strategy, i.e. the Relative Frame of Reference, whereof the ALIGNED FIELD represents a sub-category.

In particular, entities that are conceptualized as intermediate between symmetric and asymmetric Ground objects, such as the sheep / goat, even if less animated, less mobile, less oriented and less important than the donkey / horse / man, nonetheless have a face and a back, which become more salient when they do not correspond to the Back Region and to the Front Region of the ALIGNED FIELD, as the speakers demonstrate by selecting special spatial descriptors (minnih w jāy / minnih w ġād (see Table 2.12) and cardinal directions (see Table 2.18 image 3 and Table 2.19).

As we have seen, also in the ALIGNED FIELD, different conditions in the system of the elderly aš-Ṣāniˁ constrain the selection of the most appropriate description of spatial relations, a process which is ultimately multi-factorial. These conditions are:

- Ontological status of the entities in the array (and their properties);
- Semantic origin of the prepositions;
- [ALIGNMENT] (comprising the Observer, see Table 2.17);
- Directionality of the entities involved in the array.

The tendency toward the constitution of the ALIGNED FIELD in those arrays which are aligned in the middle of the visual field of the Observer, and whose Ground is a symmetric entity, reveals its effects also in the younger generation (under 50 years old). Generally speaking, the younger generations tend to be more and more prone to the use of the Intrinsic Frame of Reference and the abandon of the Ternary Frames (Absolute and Relative Frames of Reference). The observation of the properties of the entities acquires among the young people a new fashion, which is based on the knowledge of the functions of many objects of the modern life and no longer on the properties culturally attributed to salient
objects and shared within the tribe. Those properties no longer orient them toward the selection of different Frames, as was the case before.

With the young, geometric properties tend to be more prominent than inherent features in the process of selection of semantic strategies to describe the spatial relations between Grounds and Figures. Moreover, the application of the same geometric properties to all Grounds – instead of looking at their inherent properties – reduces the range of possible spatial relations between different entities, an amount which could overwhelm the memory. In fact the objects of real life are many and diverse today and the range of traditional expressive means necessarily fails to describe them, since they have no reference to the traditional life. A system which involves evaluation of the properties of every entity would affect the ‘economy of the linguistic system’ in the overwhelming complexity of the modern world. Since the objects of daily use have changed, the language of space has changed consequently. A simplified version of the ALIGNED FIELD is retained among the younger people as a remnant of the older system. Instead of being lexicalized by means of the opposition wara / some geometric and metric property (as we already know), the opposition Back Region / Front Region of the ALIGNED FIELD is lexicalized by means of the opposition gabl ‘before’ / ba’d ‘after’. Significantly the use of these prepositions is otherwise restricted in aṣ-Ṣāniˁ exclusively to the temporal domain.53

The use of gabl / ba’d in the ALIGNED FIELD implies that when the Figure is between the Observer and the Ground, the Observer would say that ‘F is gabl G’ and when the Figure is on the other side of the G, the Observer would say ‘F is ba’d G’. This means that when the Figure is between the Observer and the Ground, the vision of the Observer meets the Figure before meeting the Ground, and when the Figure is beyond the Ground, the vision of the Observer meets the Figure after having met the Ground.

Nevertheless, in practice, this system is not always realized so perfectly: it generates many afterthoughts among informants. In fact, old mental and semantic structures make their effects felt for a long time along the generations, while the system is changing. The afterthoughts of the informants are due to the fact that to describe the Back Region of a symmetric object using gabl, while the elderly would use wara, generates a conflict between the attribution of the meanings of Anteriority and Posteriority.

As I intend to show elsewhere, gabl represents the concept of Anteriority in the domain of time (‘Event1 before Event2’). In the domain of space it also represents the concept of Anteriority (‘in front of’) but in a quasi-contrastive distribution with respect to giddām. In the aṣ-Ṣāniˁ system, gabl generally represents the concept of Anteriority prototypically when two entities, Figure and Ground, are located in a situation of the ‘canonical encounter’ (i.e. Figure and Ground are facing each other), in every direction and position with respect to the Observer.

---

53 An elderly speaker from the aṣ-Ṣāniˁ narrates: gabl duxūl Isrāʾīl wa la ba’d ‘before the entrance of Israel or just after’ (Henkin 2010: 296-297). In particular, the more we proceed from older to younger informants the more we notice the disappearance of giddām ‘in front of’ from the description of Anteriority in the temporal domain (as ‘before’) and the generalization of gabl to indicate the concept of Anteriority in time.
*Giddām*, in contrast, is used when Figure and Ground are facing in the same direction, in a row, and when two entities facing each other are different in nature (a man in front of a house), i.e. when they do not prototypically meet face-to-face, as equal entities.

Both these prepositions in the domain of space are strictly related to the Intrinsic Frame of Reference, or, in other words, to asymmetric Grounds, inherently provided with Front Region and facing direction.

*Gabl* ‘before’ is used in secondary fashion when the sight of the Observer meets the Figure before meeting the Ground, as in the case described here (Table 2.20).

Both of these prepositions represent the concept of spatial Anteriority, and for this reason sometimes their semantic domains just end up overlapping. The problem is that the Anteriority in the ALIGNED FIELD is exactly the opposite of the Anteriority in the CANONICAL ENCOUNTER: the first is obtained projecting the coordinates of the Observer onto the Ground by Translation, while the second is obtained by Reflection.

Using *gabl* to describe the Region of a symmetric object which is next to the Observer in the ALIGNED FIELD would entail the description of the prototypical Back Region with a preposition indicating Anteriority; and vice versa for the opposite side. In other words, when *gabl* and *baˁd* are used to project respectively the Front Region onto the side of the Ground close to the Observer and the Back Region onto the other side of the Ground, it means that the Observer is applying the Relative Frame of Reference by Reflection and not by Translation. This excludes the application of the ALIGNED FIELD.

Nevertheless, the presence of a symmetric Ground still primes the speakers to a certain extent toward the use of the ALIGNED FIELD; but so doing, the speakers are quite waverling. They were uncertain where to use *gabl* and where *baˁd*, for example, in the case shown in Table 2.20:

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>L: where is the man with respect to the tree’ I: the man is after the t…, before the tree, no, wait a moment… the tree is before the man.</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.20. Use of *gabl* and *baˁd* in the Prototypical Case of the ALIGNED FIELD: Doubts in their Attribution along the Front/Back Axis of a Symmetric Ground.
In this case, as in other cases too, some informants ended up selecting a different object as Ground. I asked: ‘where is the man with respect to the tree?’ and they answered ‘the tree is before the man’. By selecting an asymmetric Ground (the man) they automatically renounced the basic requirement of the ALIGNED FIELD, i.e. that the Ground be symmetric.

The communicative problem facing the speakers in intergenerational discourse is basically that the distinction between symmetric objects and other objects (and the consequent use of the ALIGNED FIELD) is evidently endangered by the change of life style; in other words: the attention to the inherent properties of objects in the minds of the younger aṣ-Ṣāniˁ is already giving way, slowly but relentlessly, to different geometric schemas of the sedentary life.

II.6. Discussion of the ALIGNED FIELD

The projection of the Back Region onto symmetric objects via Translation, as we have seen in the case of the stone / tree / flock, is undoubtedly the effect of the ALIGNED FIELD. The lack of use of giddām ‘in front of’ in the respective Front Region is a semantic affect, related to the etymon of the preposition. The realization of the ALIGNED FIELD along the Lateral Axis, projecting by Translation also the right and the left side of Observer onto the Ground, as happens in Hausa, is prevented by the absence of right and left as spatial regions in the aṣ-Ṣāniˁ system. So, in ultimate analysis the effects on the ALIGNED FIELD are properly evident in the projection of the Back Region, lexicalized as wara ‘behind’.

One could potentially object that the use of wara as projection of the Back Region on the part of a sheep Ground closer to the Observer than the tree Figure, when the sheep was facing toward the opposite direction with respect to the Observer (as in Table 2.11 image 1) need not be an effect of the ALIGNED FIELD, but a very simple effect of the Intrinsic Frame of Reference. Nevertheless, as we have seen, in no other position does a sheep / goat have an intrinsic back, nor an intrinsic face, in the conceptualization of the aṣ-Ṣāniˁ speakers. So, the use of wara in that precise context is primed by the constitution of the ALIGNED FIELD, not by the application of the Intrinsic Frame of Reference.

If we move the sheep / goat to any other place where the ALIGNMENT within the center of the vision field of the Observer fails, the sheep / goat will have no Front nor Back Region: speakers will always resort to the use of ‘a-janb ‘beside’, extended to every Region around the animal, as if it were a stone / tree / flock (Table 2.18 image 4), or to the cardinal directions (Table 2.18 image 3 and Table 2.19).

Outside the ALIGNED FIELD, the only possibility of having wara al-ḥurūf ‘behind the sheep’ and giddām al-ḥurūf ‘in front of the sheep’ is when many sheep are moving in the same direction, i.e. in a moving flock (not a static flock as I used in my arrays), when they are facing in the same direction one after the other in a row, as one of my informants very well explained to me by means of my toy-objects, as shown in Table 2.21:
When the flock is the Ground, it is difficult to establish its Front and Back Region, mostly in the absence of any effect of motion; when the flock is in motion, its Regions are given by the sum of the motor directions of all its elements.

What is more difficult to understand is why the sheep / goat is considered in many cases a symmetric object and treated according to the semantic strategies of the ALIGNED FIELD like the stone / tree / flock, even if not exactly in the same way, as we have already seen. A sheep / goat, when alone, i.e. not in a flock, should have the same properties of intrinsic anatomical partition, mobility and directionality as a donkey / horse / man, but this fact did not fit the rules of speech of my informants.

Going back to the ideal inventory of possible properties which have been cross-linguistically detected and which could affect the treatment of the Ground in spatial discourse, I hypothesized that the different treatment of the sheep / goat with respect to the donkey / horse / man could be a question of size, wondering if the smaller size could be the reason for less animacy, less mobility and less inherent directionality.

I then proceeded to test the informants putting a dog as Ground instead of a sheep / goat in the same positions occupied by the sheep in former experiments, i.e. aligned in the center of the visual field of the Observer. Significantly, the dog primed the same use of the Intrinsic Frame of Reference as the donkey / horse / man. The rules of the regional partition of the ALIGNED FIELD did not appear at all. We conclude that the dog is not considered a symmetric object, although its size is more similar to that of a sheep / goat than to that of a donkey/ horse /man. The hypothesis of size was wrong.
The aṣ-Ṣānīˁ ontologies in spatial discourse show particular and special criteria for the classification of entities, which are not totally reducible to geometrical properties, like size and symmetry, nor to mechanical properties like mobility. The aṣ-Ṣānīˁ system of ontological classification of world entities presents itself with a structure of classificatory features which combines different proportions of geometrical and mechanical elemental categories, on one hand, and specific features, on the other. Those specific features are strictly related to the daily experience of the speakers with the entities in question; at the same time they entail complex semantic and symbolic properties, understandable only within the cultural context. In other words, these are culturally-related ontological features which are not understandable as cognitive universals.

Carnivore animals of the Negev, like wolves and foxes, even small-sized, are very familiar to the Bedouins as a constant threat to the flocks. These animals are considered to be very active, mobile, dynamic and animated entities. My informants say that the best sheep dogs are the half breed born from the cross of dogs and wolves, but they sometimes change their character and attempt to eat the sheep instead of protecting them, so you can’t really trust them. The carnivores have their own intentions, even their own character, and are often protagonists in fairy tales, mostly in the role of the villains, and of detailed descriptions of hunting sessions, where their interesting and somehow curious behaviors in the wild are carefully reported.

I asked my informants why the sheep appeared in many cases as less animated with respect to other animals like donkeys, horses and dogs. They answered that carnivores, similarly to horses and camels, are considered intelligent, capable of decisions about targets, movements and directions. This fact explains - for the aṣ-Ṣānīˁ - the higher mobility and directionality of these animals, their grace and their beauty, when compared to sheep.

The fact that a sheep / goat is considered a symmetric Ground in the domain of space is thus not related to its anatomical properties as such, but rather to a combination of geometric, behavioral, and symbolic meanings which, in the final analysis, represents the expression of the specific culture.

The informants said that camels and horses are treated with respect, with care. They can move across great distances, run and follow directions, while sheep and goats always go together without a precise target. They just move around never raising their head, always eating face down. Someone who has no target in life is said ‘to be one who goes around like a

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54 Alatamin 2011 Vol 2, text 1.
55 Among the Rwala, the body of the camel is used as a means to orient one’s own direction according to the stars, the same as the body of the traveler: ‘Mind the North Star, offon al-ğedi’. ‘Lay the North Star on the face of thine animal’ meaning a northerly course; ‘Lay it on thy left brow’ meaning a north-northeast course; ‘Lay it on thy left shoulder’ indicates ‘go northeast’; ‘Lay it on thy saddleback from the left’ means ‘go eastwards’; ‘Lay it on the back saddle knob’ means ‘go south’ etc. (Musil 1928: 355). As we can see, ‘right’ and ‘left’ are sometimes used. Nonetheless, their use is anchored to the system of the cardinal directions. Descriptions of spatial relations by means of ‘right’ and ‘left’ according to the Relative or the Intrinsic Frame of Reference are very rare. In the language of the Rwala the root y.m.n, from which yāmīn ‘right (side)’ comes, also produces the verb yamman ‘to set right!’ ‘Should the rider fall asleep and the animal change her course while grazing, his companion call to him ‘set thy camel riding right!’ jammenn delilak’ (Musil 1928: 355).
sheep’, or just ‘who goes where others go’. This attitude is considered a sign of limited intelligence, and a dangerous form of behavior; such people, like sheep, are seen as victims of circumstances and unable to accomplish a better destiny.

In contrast, a plethora of specific motion verbs is used to describe different manner, speed, and conditions of the gait of horses and camels.

Another important feature which affects the treatment of sheep / goats as Grounds is that they are seen usually in flocks and very seldom alone. This plurality somehow decreases the individualistic value of the animacy attributed to an individual member of the category.

The treatment of sheep / goats in the language of the elderly of the aṣ-Ṣāniˁ community raises some observations about the distributional use of the Relative and the Intrinsic Frames of Reference. We see this in the epistemological framework of the confrontation between the universal validity of the consequential order of their acquisition (/ development) and the cultural constraints that we have demonstrated at the basis of the mechanism ruling their application in the studied language. The treatment of sheep / goats could be also considered in an intermediate position between the application of the Relative Frame of Reference – in particular, the aṣ-Ṣāniˁ version of the ALIGNED FIELD – and the lacking development of a specific Intrinsic Frame of Reference for the animals in question.

I already suggested in chapter II paragraph 6. that the use of wara ‘behind’ as projection of the Back Region onto the part of a sheep Ground closer to the Observer than the tree Figure, when the sheep is facing toward the opposite direction with respect to the Observer (as in Table 2.11 image 1) is not necessarily an effect of the ALIGNED FIELD, but can be a very simple effect of the Intrinsic Frame of Reference. Since in no other position does a sheep / goat have an intrinsic back, nor an intrinsic face, the use of wara in that precise context is primed by the constitution of the ALIGNED FIELD, and not by the application of the Intrinsic Frame of Reference.

From an acquisitional point of view, the current theory accounting for the order in which Frames of Reference are developed claims the Intrinsic Frame to be earlier developed than the Relative. Levinson writes (2006: 31): “Linguists have long distinguished ‘deictic’ vs. ‘intrinsic’ frames of reference, because of the rather obvious ambiguities of a sentence like ‘The boy is in front of the house’ – the boy can be at the house’s front, or the boy can be

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56 The lack of purpose and target and the tendency to a weak will is considered by all my informants to be a severe affliction in life, and it is often described by metaphors related to the domain of motion and specially to the lack of direction in one’s motion. This behavior is often associated to that of sheep in proverbs and in colloquial expressions.

57 A detailed survey of such verbs would fall outside the scope of the present treatise. I intend to explore this issue in a future paper.

58 Animals generally living in flocks can show as single entities the semantic properties of the group. In the Bedouin languages there is a lexical difference between al-ganamah ‘the sheep’ (singl.), ganamāt ‘many single sheep’ (pl.), and ganām ‘sheep’ (collective). As outlined by Blanc 1990: [9-10], the collective term ganām is used for the flock of goats or of sheep and goats (Stewart 1990: 225). In the rural Arabic dialect of Tulkarem, ʿanzih can refer to both the sheep and the goat (while ʿanz in Negev Arabic means only ‘goat’). For the northern Arabs, ganamih is the kid of the ʿanzih, i.e. the kid of the sheep or goat (from recent fieldwork in the Northern dialects, February 2014).

59 The term ‘deictic’(Leech 1969; Levinson 1983; Levelt 1984) is replaced by the definition of the viewer-centered Relative Frame of Reference proposed by Levinson (2006: 26 and 32).
between the speaker and any side of the house (see, e.g., Leech 1969: 168; Fillmore 1971, Clark 1973). It has also been known for a while that linguistic acquisition of these two readings of terms like ‘in front’, ‘behind’, ‘to the side of’ is in the reverse direction from the developmental sequence ‘egocentric’ to ‘allocentric’ (Pick 1993): ‘intrinsic’ notions come resolutely earlier than ‘deictic’ ones (Johnston and Slobin 1979)”. Levinson also states that “The intrinsic frame of reference is close to linguistic bedrock, in that it is near universal. Although there are languages, like the Australian language Guugu Yimithirr (Haviland 1979a, Levinson 1997a), that use it minimally, most have fairly elaborate systems of one kind or another. There are languages that almost exclusively rely on it, like Mopan (Danziger 1996, 1999). Children appear to acquire it earlier than other systems (Johnston & Slobin 1979)”. As noted by the author himself, these facts are quite puzzling, because the principles for assignment of intrinsic facets are culture-specific and often highly complex’ (Levinson 2006: 81).

With respect to Johnston & Slobin’s assumptions, in the case of sheep / goats in aṣ-Ṣāniˁ Arabic, it seems that the development of a complete Intrinsic Frame partitioning the body of these animals – entailing the application of the axial opposition of Front Region vs. Back Region – should have been prevented and overshadowed by the use of the Relative coordinate system, anchored on the Observer, leaving behind only some weak semantic effects.

Summarizing these effects:
- the rear part of the sheep /goat coincides with the Back Region of the ALIGNED FIELD and is associated to the preposition wara (Table 2.11 image 1);
- the use of giddām to lexicalize the Front Region of the ALIGNED FIELD is avoided in the case of stone / tree / flock / sheep / goat (Table 2.8 and Table 2.11 image 2);
- ‘conflicting cases’ within the ALIGNED FIELD are solved by the special doublet minnih w jāy / minnih w ġād (Table 2.12);
- sheep / goats located perpendicularly to the ALIGNED FIELD do not show any Front / Back partition (Table 2.16).

The explanation I have given to justify the intermediate position of sheep / goats between highly mobile animals (donkey / horse / camel) or carnivores (seen as gifted of a high degree of volitional impulses and mobility in hunting), on one hand, and symmetric objects such as stone / tree, on the other hand, relates to properties attributed to these entities within the ontology of space in the traditional aṣ-Ṣāniˁ culture.

The origins of such a cognitive split between Grounds attracting the use of the Intrinsic Frame of Reference and those attracting the Relative Frame of Reference are doubtlessly worth investigating, because they seem to contradict the universalistic claims of those acquisitional theories supporting the earlier development of the Intrinsic Frame of Reference with respect to the Relative and their implicational relationship.

The semantic categorization of entities in space and the attribution of different features or degrees of semantic features to animals of the traditional aṣ-Ṣāniˁ world seem very likely to be primed by the routine and ritualized day-to-day experience of the linguistic group in its activities with these animals. In the traditional life, sheep farming entailed a number of different seasonal practices, from driving ahead the herds every day to neighboring grazing fields and driving them back at evening, to the temporary transfer of some members of the
family with the herds to pastures located at a certain distance from the village, to seasonal migrations along the east-west axis (toward the inland – toward the sea) involving the relocation of the entire family encampment. All these activities are described with a specific lexicon, comprising a plethora of motion verbs, often entailing temporal information according to the recurring time setting.60

As per my direct experience, the second way is still practiced by some of the elderly, exclusively men, including my informants. Generally in the month of April, they leave the village with the herds and move to the pastures, located at a certain distance from the village, where they will stay over the summer living in tents or in other kinds of provisional shelters. Nowadays, in wintry months, herds are kept within stalls inside the village. According to the narratives of one of my oldest informants (92 years old), once girls as well as boys went to watch the herds away from the village, in daily grazing or even at significant distances from the village, moving on foot or, more seldom, on camel back. This is the reason why they proudly refer to being able to ride animals and shoot for defense. The only difference was that girls and boys once moved in groups, while men nowadays move away often alone.

From tales, narrations, sayings and metaphors, we find that for the aṣ-Ṣāniˁ a notorious characteristic of the sheep / goats is that they proceed without raising the head, i.e. without knowing any direction but the next tuft of grass. Shepherds usually drive them ahead, walking behind them to prevent them from spreading around and getting lost.

In a Sinai dialect narrative (Marom 2011: 126), we find a depiction of the girl-shepherd driving the herd ahead: bitxalli lmiˁzë yğin giddâmha ‘she lets the goats go before her’.

Consequently, the routinal position of sheep / goats / flocks – especially when in motion – is alignment in front of the shepherd, facing the direction of movement. Therefore, the Front Region of the animal coincides with that of the Observer, while its Back Region coincides with the space right in front of the Observer and so its distinction becomes salient and it is expressed by the preposition wara ‘behind’ according to the general rule of the ALIGNED FIELD.

The same does not happen with horses, donkeys and camels, which are usually ridden, nor with dogs, which usually go alongside humans, when hunting or herding. These quadrupeds tend to “fuse” with humans in terms of space and movement. This differs radically from human interactions with sheep/goat herds, which the herder follows.61

The attribution of the Back Region marked by the use of the preposition wara when the rear part of the sheep / goat coincides with the Back Region of the ALIGNED FIELD could be a residual effect of an incipient intrinsic partition, where the only salient part of the animal experienced in routinal activities finds its place within the framework of the traditional spatial ontology.

In other words, the ritualized conceptualization of day-to-day activities has introduced an asymmetry in the axial Front / Back opposition, according to what has been observed by Levinson (2006: 42) “Having found, for example, the ‘front’, this may be used to anchor a

60 A further work will be devoted to the collection and the analysis of motion verbs entailing temporal meanings and directional information.
61 Thanks to Prof. J. Heath, University of Michigan, for providing me suggestive observations about the relation between shepherding practices and space semantics. A future study will treat the effects of different combinatory values of the feature of [ALIGNMENT] among Figure, Ground and Observer in aṣ-Ṣāniˁ Arabic.
ready-made system of oppositions ‘front’, ‘back’, ‘sides’ etc. Alternatively, in other languages, there may be no such fixed armature as it were, each object having parts determined by specific shapes; in that case, finding ‘front’ does not predict the locus of ‘back’ etc., but nevertheless determines a direction from the volumetric centre of the object through the ‘front’ which can be used for spatial description”.

With respect to this observation, the case of the knife in aṣ-Ṣāniˁ is very interesting, because this utensil shows an intrinsic Front Region expressed by the body part ‘face’ ("awujih al-hūsah, lit. ‘at the face of the knife’), but it has no inherent Back Region (something like *a-Ḍahar al-hūsah, lit. ‘at the back of the knife’, to indicate that something is on the opposite side of the knife with respect to the blade, is not in use).

In aṣ-Ṣāniˁ Arabic, the impact of culture-specific constraints seems to intersect and deeply affect not only the selection of the appropriate Frame of Reference with respect to the features attributed to Grounds, but also to call into question the terms of the supposedly universal process of sequential acquisition, or application, of the Frames of Reference.

In no other position but the routinal array in the ALIGNED FIELD do sheep / goats / flocks have an intrinsic Back Region priming the use of wara. It seems therefore that recurring experiences produce some effect on spatial semantic categories, as has been proved by the gradual collapse of the ALIGNED FIELD among middle-aged and youngest generations, where we evidence first the switch toward the opposition gabl / baˁd ‘before’ / ‘after’ in the treatment of the ALIGNED FIELD (paragraph 5) and then to the use of new and alternative geometric and functional strategies, as I hope to show in a future cross-generational analysis.

The priming effect of recurrent experience with sheep / goats in motion accounts for the poverty of [ASYMMETRY], [MOBILITY] and [DIRECTIONALITY] in their linguistic spatial location. But it is important to remember that, in the language of the aṣ-Ṣāniˁ, the ontological properties attributed to entities with respect to the domain of space are not necessarily valid in other linguistic domains: in the domain of space the sheep / goat is less mobile, and, somehow, less relevant than the donkey / horse / man, but the low salience of the inherent asymmetries of the body of the sheep / goat within the domain of spatial description does not correspond to a lack of knowledge about the anatomy of these animals: in a discourse among aṣ-Ṣāniˁ housewives on kitchen recipes, the anatomy of sheep / goat may turn out to be very detailed.

Moreover, as we have seen, in the domain of color terms, sheep, goats and stones enjoy the same abundance of specific terms as camels and horses (Borg 2007). This may be explained by the fact that a precise color system describing the coat is the best way to recognize each owner’s animals. 62

In sum, properties culturally attributed to the entities do not constitute an absolute ontology, according to which the entity is classified once and forever in every domain of the given language. We should rather maintain that, to a certain extent, linguistic ontologies can be considered as domain-based classifications: in spatial relations, the sheep /goat is considered as having less inherent asymmetry and salience than the donkey / horse / man, but more than the stone / tree / flock. In other domains, salience and pertinent linguistic distinctions may well change.

Chapter III

Summary and Conclusions

*The Frames of Reference: A New Relativistic Hypothesis*

During my survey, I detected the use of all three Frames of Reference in the language of the aş-Ṣānīˁ elderly. Hence I endeavored to classify their uses and distribution according to consistent parameters, focusing on the Relative Frame of Reference. The results of the present research project on the very meaning of the Frames of Reference and the rules and reasons of their application in the description of space.

Such investigation has required the development *ex novo* of a consistent fieldwork methodology, from the beginning entailing – among other things – the distinction between different categories of objects to be set in the stimuli arrays: culturally familiar, recently acquired and culturally unrelated objects. Indeed, since the very beginning of the fieldwork investigation, the culturally-based distinction of the arrays produced evident semantic effects on the ontological categorization and conceptualization of the entities with respect to the domain of static projective spatial relations. Following this path produced several outcomes, concretely and extensively demonstrating the systematic impact of cultural differences on the selection of spatial Frames of Reference.

The consequential steps of the creation of a culturally consistent methodology for fieldwork enquiry, beside other technical aspects, are described in Chapter I and – in my opinion – represent a fundamental part of this work.

I have devoted the second chapter to the analysis of the so called ALIGNED FIELD, after having detected its existence in the language of aş-Ṣānīˁ elderly informants. The ALIGNED FIELD is a special strategy for the projection of the coordinate axes of the Observer onto the Ground object in arrays set in the middle of the Observer’s visual field, classifiable within the Relative Frame of Reference. The ALIGNED FIELD was first described for the Hausa language by C. Hill in 1982. Hill started his treatment of the ‘Hausa system’ claiming that it is effective by definition on symmetric Ground objects, such as balls and trees, since the unshaped objects are naturally prone to attract the use of the Relative Frame of Reference and of its various strategies. Nonetheless, after few pages, Hill presented the realization of the ALIGNED FIELD in association with a telephone as Ground object, something unexpected for speakers of European languages, in which a telephone is considered asymmetric along the Front / Back Axis.

So, the concept of [SYMMETRY] – and the application of the Relative Frame of Reference – undergoes remarkable variations from one culture to another. We saw this also in the treatment of sheep / goats as quasi-symmetric Ground objects in aş-Ṣānīˁ Arabic. As we have seen, the presence of a sole sheep / goat, also the presence of a flock, never yields the application of the Intrinsic Frame of Reference but rather determines the application of a
range of ternary (Relative and Absolute) strategies, among which the ‘Hausa system’, or Translation, shows up only in certain positions (see Paragraph 4.3.c).

Paralleling the divergent results yielded from arrays in which different types of Ground objects were shown, the selection of the appropriate Frame of Reference seems to be entailed by certain salient geometric and metric properties of the Ground objects and of the arrays and by a complex of other cultural-based features and values attributed to the entities in different proportions by the speakers.

Not only the application of the Frames of Reference changes according to the nature of the Ground objects, but also the strategy of lexicalization of the Regions derived by the application of the same Frame of Reference, as we could see from the non-use of giddām (or any other connector which could indicate the concept ‘in front of’) in the typical Front Region of the ALIGNED FIELD. The semantic and etymological evolution of a preposition can affect and limit its contexts of use, even if the etymon of the preposition is forgotten, as in the case of giddām.

Furthermore, while the Hausa speakers only use the prepositional opposition gaba / baya (in front/ behind) to process the projection of the Front and Back Regions via Translation in the ALIGNED FIELD, the aṣ-Ṣāniˁ sensitivity to the ontological properties of the Ground objects yields a range of different semantic strategies for handling the ALIGNED FIELD, from the opposition warа (behind) / alternative descriptors for the Front Region to the doublet minnih w jāy / minnih w ġād ‘from it (the Ground) and toward the Observer’ / ‘from it (the Ground) and away (with respect to the Observer)’. This testifies to the fact that even within the Ground objects priming the application of the ALIGNED FIELD, there exists a gradient of [SYMMETRY] attributed to different entities, therefore the aṣ-Ṣāniˁ speakers demonstrate the concept that the sheep / goat is more symmetric than the donkey / horse / man and less so than the stone / tree / flock. Also, a moving flock is different from a static one and from a single sheep / goat. In ultimate analysis, aṣ-Ṣāniˁ speakers show a higher sensitivity to particular properties of the Ground objects than to the geometric distribution of the arrays.

Semantic reasons ultimately related to the nature of the Ground objects and to the semantic history of the prepositions prevent the realization of the ALIGNED FIELD in its prototypical form described as the ‘Hausa system’ in the literature. In fact, the ALIGNED FIELD can be realized in many fashions, of which Hausa and aṣ-Ṣāniˁ Arabic represent not more than two distinct cases.

We have already observed that, in aṣ-Ṣāniˁ Arabic, the Translation of the Front Region and the Back Region, especially the latter, is adopted – within the ontological restrictions that we have observed – when the array is in the middle of the visual field of the Observer (Table 2.11 image 1; see within the blue space in Table 2.17, position 1, i.e. Frontal Alignment), while the doublet minnih w jāy / minnih w ġād is used in the positions indicated by the blue spaces 2 (i.e. in all cases when the components of the array are aligned laterally to the Speaker) and in position 1 only in the specific cases when the sheep / goat is the Ground object, as in Table 2.11 image 2, Table 2.12 images 1 and 2 and Table 2.16 images 1 and 2.
Since in aš-Šāniˁ Arabic the ALIGNED FIELD does not correspond to the strategy of Translation of Front and Back Region in all cases, one could ask why I nonetheless keep the label ALIGNED FIELD, coined by Hill, and do not shift to a different nomenclature or rather why I don’t simply label all these strategies under the large title of ‘Relative Frame of Reference’.

First of all, while it is clear that the opposition between Back Region (warā) / Front Region (any other strategies but gidḍām) with a stone / tree / flock is the reflex of the application of the ALIGNED FIELD by Translation, the minnih w jāy / minnih w gid semantic strategy, although clearly belonging to the Relative Frame of Reference, is not classifiable as Translation, neither as Reflection nor Rotation, i.e. it is an outsider with respect to the ‘classical’ terminology and the inventory set up so far.

Therefore, the main outcome is the fact that, in aš-Šāniˁ Arabic, the Relative Frame of Reference is applied only when Observer (or Speaker), Ground and Figure are aligned, as indicated by the blue spaces 1 (Frontal Alignment) and 2 (Lateral Alignment) in Table 2.17; so, I chose to maintain the label ALIGNED FIELD in all those cases where the Relative Frame of Reference is realized, exactly because the criterion of [ALIGNMENT] is satisfied. In all other cases when the elements of the array are not frontally nor laterally aligned to the Speaker, the presence of a symmetric Ground object attracts the use of the Absolute Frame of Reference (see Paragraph II.4.3.c). So, in the interests of a consistent culture-specific descriptive strategy, the structure of the ALIGNED FIELD is much more functional to my descriptive purposes than the general label ‘Relative Frame of Reference’.

Such a complex system of selection of Frames of Reference and of the appropriate way for the lexicalization of the spatial description, according to which every Frame of Reference corresponds to different lexical strategies, ultimately jeopardizes the semantic coincidence of the level of the cognition with the level of the language hypothesized by Levinson (2003).

In a recent article on Yucatec language, Bohnemeyer (2011) reports the mixing of Frames of Reference adopted by the speakers, but he attributed this change of perspective to what he called ‘task specificity’, not recognizing any relation between the absence of a constant ‘default perspective’ in the linguistic tasks to any ontological classifications of Ground objects.

Indeed, geometrical and ‘logic’ rules still represent the methodological foundation of many theories of space categorization, in particular in the domain of spatial prepositions, like those of Cooper (1968); Leech (1969); Bennett (1975); Miller & Johnson Laird (1976), summarized by Herskowitz by the label ‘simple-relations model’ (1986). The most evident limitation of this model is the fact that, actually, Ground objects can be differently conceptualized within the same language and on a cross-linguistic perspective. During the 1980’s some semantic theories took cognizance of this fact, representing a turning point in the progress of the neo-relativistic perspective, as in Jackendoff’s Semantics and Cognition...
Jackendoff’s work is based on the premise that our vision of the world is largely determined by the concepts or mental representations according to which we organize the external perceptions; or as in Vandeloise’s *L’espace en français*, where the author affirms: “C’est donc vers la connaissance du monde qui nous entoure et la manière dont nous le percevons et concevons que je me suis tourné pour donner à ces mots une explication au tant complète que possible” (Vandeloise [(1986)1991: 239].

The theory of the Frames of Reference might be deeply affected by the hypothesis that the properties culturally attributed to entities in the aṣ-Ṣāniˁ worldview shape the space around them, prime the rules of their regional partition and the selection of the appropriate Frame of Reference. Such diverse combinations of Frames of Reference required by the aṣ-Ṣāniˁ system to describe the space around the objects demonstrate that the value of the Frames of Reference as universal semantic categories can be easily overcome by the particular cultural visions of reality. Such cultural factors are bound to the classification of the objects existing in the aṣ-Ṣāniˁ world, a classification which entails their specific and usual shapes, functions, values, and routine positions alongside other culture-specific features. So, beyond the widely recognized set of geometric and functional patterns presumably detected / detectable in all languages, I claim the existence of a strongly structured cultural ontology of *realia* at the basis of the semantics of space.

In the cultural ontology of spatial entities, used to classify objects in the real world, to understand their status, and speak authentically about them, every culture determines whether a given object does or does not have a certain property, and in which proportion it has it with respect to other objects.

These properties are differently attributed to the entities in the world by each culture, i.e. they largely consist in cultural variables. In my opinion, no universal inventory of geometric, functional and motor properties for describing spatial entities could ever account for all these differences.

Furthermore, the properties and their values attributed to the entities of the world vary according to the semantic domain (space, colors, food…) and according to the culture, ultimately sustaining the Relativistic hypothesis.

So, the present analysis ends up adding fresh data and insights to the question of ‘ontologies’. The traditional spatial system of the elderly aṣ-Ṣāniˁ - which possesses the three Frames of Reference recognized across human languages and formally described by Levinson in 2003 – seems to be radically based on the inherent properties of entities rather than on geometrical and metrical rules, whereas the modern system of the young generations primarily observes the geometric characteristics of the spatial arrays.

In my opinion, the essence of the semantics of space is based on the way we classify objects and bodies around us, and, consequently, their parts, which often become grammaticalized as spatial connectors (adverbs and/or prepositions). As noted by Blau in medieval Judaeo-Arabic, it is not easy in general to determine the borderline between the still
adverbial usage of a noun and its passage to prepositional usage (Blau 2010: 202). The same hybrid status is to be found also in the language of the aš-Ṣānī, as an effect of the observance of the properties of the real objects and the object-parts, which retards the development of autonomous grammatical uses (with respect to the dialects of the fallāhīn, which normally use *janb* ‘side’ without any other simple preposition, not *fī* ‘in’ nor ‘*ʿala* ‘on’). This issue will be treated in detail in a further work.
Bibliography


