SPATIAL REPRESENTATION BY BATSWANA LEARNERS OF FRENCH: ROUTE DIRECTIONS IN URBAN SPACE

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Abstract
During the process of learning a foreign language, the learner can find him/herself confronted to new phenomena; a new culture, a new way of seeing the world, as well as a new linguistic structure. Consequently, through discourse the learner is led to construct a new referential world. Studies done by researchers such as Levinson S (1996) have shown that even in space representation, different linguistic groups do not use the same spatial frames of reference (absolute, intrinsic and relative). Setswana, like other languages such as French and English, uses all the three frames. In Tzetal, a Mayan language, the relative frame does not exist at all. This paper shows that even though Setswana language uses all the frames of spatial reference, the geographical space that Setswana-speaking learners of French are used to in Botswana and the way they manipulate space is, in most cases different from that of a native French speaker from France.

Keywords: *Linguistic structure, Setswana, French, Botswana, France*

Introduction

This paper is inspired by the fact that directions are one of the most constant subjects in second language manuals and in assessment topics both at University and in secondary schools. As a matter of fact, all Junior Secondary Schools Paper 2 Examinations have a question on spatial representation and route descriptions. This goes to show how space and route directions are an important part of human everyday life. The general objective of this article is didactic and aims at studying spatial reference in Setswana and in French by Batswana learners of French. This will be done through the study of route directions wherein learners were given a specific task of giving an itinerary from a specific point to another in urban space. As already pointed out, route descriptions are a constant theme in manuals of French as a foreign language and in examinations. This is probably so because human beings have to navigate and communicate space in their daily lives. In the same way, learners have to be able to conceptualise, to navigate and communicate space in French. This paper will also show difficulties that learners can be faced with and errors that they are commonly made by learners. The initial hypothesis is that the two languages and cultures propose, through their differences, distinct ways of space reference. A more specific objective is to show differences in the conceptualisation of space from a cultural point of view and how these differences can bring about difficulties in urban pedestrian route directions.

The Corpus

Data comprised twenty oral and written recordings from University of Botswana students in the French department. The recordings are strictly linked to route directions. The twenty informers intervene in Setswana and in French. The question that was asked each informer was to give directions from a given point within the University of Botswana to the town centre post office. The town centre is referred to as *Mainmall*. The directions were supposedly given to a pedestrian who would be walking to the said destination.

The informants comprised students in the French department in their 4th year of BA and Postgraduate Diploma in Education. Their level of French ranges from A2 to B2 levels of the Common European Framework of Languages (CEFR).

Route Directions as a Task

The task of localising a destination involves complex linguistic and cognitive strategies. This is so as it is an exercise that is often not easy, owing to the fact that it involves the spatio-temporal cognitive domain, as our analysis will show.

The functional aspect of the task

Wunderlich D & Reinelt R (1982) distinguish 4 functional aspects in route descriptions being the following:

- The identification of objects in the surroundings through the use of names and landmarks:

> Mais tu tournez à ta gauche et allez tout à droit et il y a **l'hôpital de Marina** à votre gauche et après ça à il y a un rond point mais, eh allez tout droit.
> *But you turn to your left and go straight on and there is at Marina hospital to your left and after that there is a roundabout but, eh go straight on.*

- The informer directs the requester by using directives to indicate continuous movement in the same direction (***go straight***), to mark a segment limitation (mais tu prends les gauches routes et vas tout droit… Après ça il y a un grand:: - *but take the right roads and go straight… After this there is a big ::*).

- The description is also used to situate elements through the use of position markers such as prepositions, adverbs or adverb locutions (**Derrière** le grand arbre là bas C'est le bibliothèque – *Behind the big tree there It's the library*).

- Movement verbs can be used to express movement (vous **sortez** la 'université, là bas et après vous prenez euh un taxi – *you go out the University, there and after you take a taxi*).

Some Theoretical Aspects of Spatial Cognition Acquisition and Route Directions: Cognitive and Linguistic operations of the Task

Spatial Cognition acquisition has always been an area of great interest in the areas of cognitive and language sciences. Movement has always been one of the most prosaic tasks in day-to-day life. To navigate through an unknown environment man uses graphic maps and route directions. The question of knowing how humans are able to represent physical space cognitively in order to describe it in discourse, as well as the role-played experience in the comprehension of space are at the heart of studies on the acquisition of spatial cognition. Fromage B, & Louaisil R, (2001) define spatial cognition as, a localisation activity, real or symbolic, which allows the apprehension, organisation and the use of space data. According to the definition given by Hart R.A & Moore G.T (1973:248), cognitive mapping is "the knowledge and internal or cognitive representations of the structures, entities and relations of space, that is, internal reflections and of space: in other words, the internalised reflection and reconstruction of space and thought".

Due to the strength of his mental faculty, the human being can represent space, manipulate spatial information and use concepts relating to space. The notion of spatial cognition covers concepts of acquisition, organisation, use and revision of knowledge of spatial environment. According to Klein W, (1982, 1983), representations or knowledge of the environment come from prior experience because a person remembers what he has seen or heard, movements they have made or those of things like the tramway (1994:58).

The informants were given the task of giving a specific route itinerary from the University to the Mainmall Post office. This task, as we've already pointed out, has a cognitive, linguistic as well as an interactive dimension. As Klein (1994) points out, in order to indicate an itinerary and give a spatial description the informer has to have a cognitive representation of the space in question. Kaplan S, (1984) refers to this *cognitive map* as a mental construction that people mobilise in order to understand and know their environment. The informer uses prior knowledge to locate the starting point, the destination and the route to take between the two points. The activation of this *cognitive map* is part of the planning process, which also includes the construction of a primary and secondary plan. The primary plan, which can be made in advance or by segments, is a section of the cognitive map in which is housed the point of departure and the target destination. The secondary plan selects and organises primary plan information.

The linguistic operation is the descriptive production of a route that has been selected beforehand by the informer. This operation also serves to identify the route and crucial points in the process of identifying the destination. The task was rendered more difficult for our informants by the

fact that they lacked some vocabulary when it came to giving directions in French. Interactional operations refer to exchanges between the informer and the requester.

Levinson's frames of reference

Levinson S, (1996) puts forward two hypothesis the first of which is that learning spatial language signifies linking spatial expressions to the whole set of spatial concepts that already exist and that are largely innate. That means that cognitive categories determine our linguistic categories. His second hypothesis is that the way that we conceptualise space is inevitably anthropomorphic and egocentric, and consequently, all cultures should have a symbolic usage of the primordial opposition right/left (based on lateral orientation). Levinson (1996) argues that spatial concepts are different from one language to another and can sometimes be completely different between two given languages. In support of his second hypothesis Levinson claims that in certain languages spatial relations are not derived through the use of corporal axes (1996). In certain languages that use what he refers to as the absolute frame, terms such as left/right, in front/behind don't exist.

Frames of reference or the coordinate systems are a system of strategies used for linguistic or non-linguistic representation of location, motion and orientation of objects. The frame of reference contains elements that can locate by identifying the direction in which one must look for an entity (Fortis J-M, 2004). Direction is projected on the entity in question starting from a frame of reference (behind, in front of, left, right, south, east etc.).

Levinson (1996) identifies three types of frames of reference being the intrinsic frame, the relative frame and the absolute frame. An entity can be localised in relation to another entity (relative localisation) and in relation to the placement of the interlocutor-observer (egocentric localisation), (Denis M, 1997).

The intrinsic frame of reference

The intrinsic frame of reference is based on inherent parts of the object and allows a binary relation representation between the figure (referent) and the ground (relatum) (Levinson 1996: 140-142). To indicate space, the speaker needs a relatum, an entity to which he can localise the referent. The figure is positioned in a search domain spreading from the centre of the relatum through a named facet of latter.

(1) The lamb is in front of the rock

In example (1), the relatum (the rock) is equal to the point of origin of the coordinate system, that is, a facet of the relatum determines the placement of the referent. Levinson (1996) also specifies that the criteria of intrinsic facet differ from one language to another, even though the frame of reference exists in all languages. In English, for example, the *front* of an object can be identified by its functional orientation (the *front* of the television), its movement direction (the *front* of the truck), or by the characteristic orientation of its users the *front* of the church). In French, words like *sur* (on) can pose a difficulty of lexical polemical nature because *sur* can raise different spatial differences between referent and relatum. Below (2) – (5) are some examples of such differences:

(2) Contact between referent and relatum: *La voiture est sur le plateau* (The car is on the trailer)
(3) No contact between the referent and the relatum: *Les oiseaux passent sur nos têtes* (The birds are passing above our heads)
(4) Abstract relation: *Je n'ai pas de feu sur moi* (I don't have a lighter (on me))

(5) Referent and Relatum: *L'image sur la photo* (The image (on the photo))

The absolute frame of reference

This frame of reference adopts an exterior point of view and allows a representation of binary relations between referent and relatum by fixing the origin on the relatum. The system of coordinates is anchored by relations fixed to the environment, cardinal points, directions defined by gravity etc. Tijana, A. (2008) indicates that the absolute frame of reference is used in all languages in the vertical dimension, but there are a certain number of languages like the Tzeltal of the Maya that doesn't use the relative frame of reference and therefore does not possess any equivalents for terms such as left, right, in front, behind etc. In the statement, *the lamb is* ***south*** *of the rock*; the relatum is equal to the origin of the system of coordinates.

The relative frame of reference

This frame of reference puts the object placement on the observer's point of view. That is to say, a ternary relationship between a referent, a relatum and a point of view come into play in this system of reference. The primary coordinate system always has its point of origin centred on a point of view. There can also be another secondary coordinates system with the origin centred on the relatum. In the case of primarily visual language, the coordinates systems are mainly defined by perceptive criteria and the point of view can be stationary or mobile. *The lamb is* ***on the left of*** *the rock* is an example of absolute frame of reference.

Communicating route knowledge

The previous chapter allowed us to study the frames of reference that are related to the localisation of stationery entities. The study of communication of route knowledge allows a further study of the relations between language and space. According to Daniel M-P, & Michel D. (2004), communications of route knowledge involve procedural and descriptive occurrences taking place at the same time. They are procedural because one has to identify and decide on the steps to be taken and the actions to be taken at precise places. They are descriptive because one uses specific landmarks to set the scene or to identify the target environment. Route descriptions are a task that requires a process of co-construction because the subject must first construct a mental image of the space to be described and then reconstruct this image at a discursive level in the form of speech or a map. In the next part of the article we will briefly look at some important concepts of route communication.

Landmarks

Landmarks can be concrete (a law, a date) or an abstract positioning in spatial environment (Denis M et al. 2004). For this work we will only talk of the latter. Landmarks are static components of route directions. They can be bi or tri dimensional and are defined as elements, which allow for the recognition of an entity in an ensemble. Alongside the prescription of actions, Denis (1997) describes them as the two essential components of route directions. The principal function of a landmark is to give one the possibility of finding their bearings. According to Golledge R.G. (1999), an entity can be identified, as a landmark if the level of knowledge shared on entity is high, the entity is visually salient, the entity is visible at a certain distance and has an important place in society. A landmark can be an objective to be attained or an aide in localising another point in the spatial environment.

Sorrows and Hirtle (1999) identify three types of landmarks, visual, cognitive and structural. Visual landmarks possess visually salient traits. They are easy to recognise in an environment and to

memorise thanks to their visual traits and their contrast with the environment helps to highlight them. A big double storey white house can be used as a landmark amongst a group of uniform single-story houses. The statue of a shepherd and his herd of cattle in front of the University of Botswana library constitute a cognitive landmark in the sense that this statue has a cultural and historical significance in the Botswana society. The landmark object might be particular to, symbolic or atypical to the environment it is found in. Structural landmarks are associated with their use and situation in the space they occupy, for example, a parking lot at the end of the road.

Denis (1994: 418-419) attributes three functions to landmarks. They are used to signal sights where actions are to be carried out "Then you will see a church; go around it on the right"), they help locate other landmarks ("You will see a church; to the right of the church is a memorial; just to the right of the memorial is a path; take this path") and to confirm that a person is still on the right track ("Walk about 500 metres on the same street; you will pass a newspaper stand; then you will arrive at a crossroads where you will turn right").

Perspectives

According to Taylor and Tversky (1997) an individual will choose a perspective according to the complexity or the simplicity of the environment they have to describe. When contemplating space communication people will have different perspectives but are able to put themselves in other people's perspectives as well. The terms used in interpreting space or giving directions like "left" or "go right" can have a different meaning when viewed from one person's perspective compared to another. Three principal perspectives have been identified as the gaze tour, the survey tour and the route tour.

The gaze tour perspective

The gaze tour interprets the environment from a fixed point. The gaze tour implies a relative term of reference for the observer. Space description is relative to how the observer sees objects in relation to each other and in relation to their own point of observation, which is often from the exterior. This perspective involves the use of static verbs.

The route tour perspective

This perspective implies the use of an intrinsic frame of reference. The route tour is also described as an observer's mental journey across space. Objects that are part of this environment are localised in relation with the route context or the environment that makes up the route. The observer identifies himself with a moving entity. Action verbs are usually used. For example :

> Euh:: quand on/ va à [mainmall] eh :: tu {TURNE} (tournez) à :: ((droit)) parce quE : tu dois {UTILIZ}(utilise) (le) grand [entrance] [pour] l'université devant le stade eT :
> quand tu {turne}(tournez) à Gauche et {ALE}(allez) tout ((droit)) huhum il y a un/ qu'est-ce quE :::: (gestes)?
> Tu continues tout droit(-) euh et c'est en face de banque Barclays↑
> *Euh :: when one/ goes to [mainmall] eh :: you {TURN} (turn) at :: ((right)) because : you must {USE}(use) (the) big [entrance] [for] the university in front of the stadium anD :*
> *when you {turn}(turn) Left and {G}(go) straight ((straight)) huhum there is a/ what is iT :::: (gest)?*
> *You continue straight on(-) euh and its opposite Barclays bank↑*

Survey perspective

The survey perspective implies an absolute or intrinsic frame of reference through the use of cardinal points, north, south, east and west. This perspective can be used with the route perspective in route directions. Verbs used for this perspective are mainly state of being and stative verbs and presentatives (there is).

Content, structure and quality of route directions

Several researchers such as Wunderlich & Reinelt (1982), Klein (1982) and Denis (1997, 1998) have worked on the subject of the content, structure and quality of route directions. When a speaker gives directions to an addressee, he does it with the objective of helping him navigate an unknown environment so that the addressee can arrive at his destination without difficulty. A good description should, therefore, give the possibility of navigating without error on the shortest route possible. Directions of a "bad" quality could bring about bad performance on the part of the navigator. This correlation, between performance and quality, is confirmed by the works of Denis et al. (1999). According to descriptions proposed by Allen (1999), Denis (1997) and Daniel M-P, Denis (2004), the following characteristics constitute good quality directions:

- Temporal order and spatial truth of statements: spatial entities must be described according to the order in which the navigator will encounter them when he navigates space.
- Reference to landmarks: it is important that the description contains reference to visible, constant and congruent landmarks, (Denis 1997). According to Daniel, Denis (2004), the feat of navigation is made better by the association of actions[1] with landmarks.
- Vagueness and redundancy should be avoided.

Klein, (1994) defines content as the conceptual face, the cognitive aspect and the semantic message of a route direction. Landmarks and actions form an integral part of the content of a route direction. The route direction is made up of a departure point, of the target destination and the description of the route, which links the point of departure and the point of arrival. According to Wunderlich & Reinelt (1982), route directions contain nominal groups (proper names or common names), directives and verbs. Nominal verbs are used to identify the landmarks selected by the speaker. Directives structure the route directions in smaller, easy to identify elements and refer to continuous movements in the same direction (tlhamal'la/ continue straight on) or, show the limit (go fitlhel'la/until). Directives can accompany prepositions and adverbs to situate objects in space. Movement verbs express movement in space.

Klein (1994) and Wunderleich & Reinelt (1982) show a structure that comprises three segments: the initial phase, the centre phase and the closing phase. The initial phase contains the initial contact between the addressee and the informer, the expression of the request and information of the starting point until the limits of the zone of perception for both interlocutors. The centre phase contains the actual description of the route with the actions and landmarks after the starting point and before the arrival point. In the final phase the informer localises the arrival point.

Production and planning of route directions

[1] Actions, usually represented by movement verbs, show steady movement or reorientation in space.

The process of planning of a route direction has been briefly discussed earlier in this article. Route directions are considered as a very common complex verbal action, (Klein 1994:55). During oral production of route directions, the informer has to go from a mental representation more or less complex and multidimensional to a one-dimensional and linear verbal translation. Three types of operations are cited by Wunderlich &Reinelt (1982) being: cognitive (activation of the cognitive map), interactional (verbal exchanges between the speakers) and linguistic (description of the route). For Klein (1982), the planning of a route direction takes the form of three stages: the activation of the cognitive map, the construction of a primary plan and the construction of a secondary plan.

The cognitive map is a mental structuring of memories concerning the environment that is to be described. The informer must have a mental representation of the route before putting it into words for the addressee. The primary plan is the section of the cognitive map that contains the localisation of the point of departure and the point of arrival. There are two possible ways of constructing the primary plan: planning by anticipation (advance planner) and planning by stages (stepwise planner). According to Klein (1982), this primary plan is a prerequisite for a good description. In our analysis, we will try to show that our participants had difficulties in constructing a clear enough primary plan concerning a part of the route, which sometimes led the beginning of the route directions vague and difficult to follow. Advance planning is visible when the informer possesses a precise enough primary plan. The stepwise planner does not initially possess a complete plan. He elaborates the first fragment of his plan then continues by stages. The secondary plan consists of an assortment and layout of information of the primary plan. The guiding principle of this secondary plan is that of an *imaginary trail* through the primary plan from the starting point to the destination.

Route descriptions by Batswana learners in Setswana and French

Etymologically *moja* and *molema* refer to the right and left hands, letsogo la moja/letsogo le le jang (lit. "the hand that eats") and letsogo la molema (the left hand lit. "the bad hand"). Concerning route directions, modernity (big towns, roads) as well as contact with other languages have brought about a larger usage of the relative frame of reference whereas before then the Setswana culture was based more on the absolute and intrinsic frame systems. Left and right, which were initially, *ko letsogong la moja* and ko *letsogong la molema* have become *ko molemeng* and *ko mojeng, "*to the left and to the right." In other words, even though the notion of left and right has always existed in Setswana culture, their integration in route directions comes more from occidental influence and from adapting to a more modern way of life in urban space where roads usually lead to the right or the left. In general, the absolute frame is not used to localise specific places in route descriptions but for more abstract locations, for example, "*o tswa bokone*," (he is from the north).

Route descriptions in Setswana

Data has led us to put forward a hypothesis that, in cases where there are several routes possible, the informer will not necessarily choose a route according to its proximity or level of usage but according to the perceived ease of direction. To go from the university to Mainmall, *Town-Centre*, there are generally several routes of which two are the most commonly used, one by pedestrians and the other one, which is a bit longer, by vehicles (Figure 1). The results of our study show that, the directions given were those of the route usually used by public transport and other vehicles rather than the one usually used by pedestrian students to get to the town centre. This could be because this route was perceived as easier to direct than the other one, which was less complex but slightly longer. This longer route was seemingly divided into two sub sections depending on the exit that was chosen. One of two points of exit from the university was chosen; a small pedestrian gate or one of the university

main entrances usually referred to as gates. However, the route directions given by the participants, going from the starting point to either of the two entrances were all rather vague. We will come back to this point again further down in our analysis.

Figure 1. A map portarying the two possible routes from the point of departure to the destination.

On the other hand, the written directions were, for the most part, given using the shorter slightly more complex route. Another longer and more complex third route was proposed in written form by one of the participants.

The written production, contrary to the oral one, gives the participant more time to construct a mental map and construct sentences that are more complex even though they were generally kept short. Another importation difference between oral and written directions is that oral directions correspond to interactive discourse and hence feedback between the speakers has to be spontaneous and immediate. In oral discourse, the informer has less time to prepare his verbal message and to consult his short-term memory whereas in writing he can use long term memory. According to our hypothesis, in written form, most participants chose the shorter but seemingly more complex route because they had more time to manage their description, to search for the needed lexicon and for the mental processing and planning of the route. As this is not a face-to-face interaction, there is less tension and the informer is probably more confident that he would be in face-to-face communication.

Perspectives and frames of reference

When giving directions in Setswana, our participants favoured the route perspective. A small minority used a mixed perspective including route and survey. Examples of route descriptions using the route perspective below:

Q1
1. I : [ ] O heta sekele ya ntlha e, o bo o tlhamalala o heta marina ka ha raeteng (-) ka ha mojeng

3. I: O bo o tlhamalala o tla heta sekele e ngwe gape gone hoo
4. D: Ha Marina?

5. I: Ee, [after] Marina.
6. I: O bo o tlhamal'la [and then] go na le tsela e e tswang ka ha raeteng le ka ha lefteng, o tla bo o tsaya ya [left] »

1.*"I:* [ ] *you pass this first roundabout, then you go straight on you pass marina the right*
3. I: You then go straight you will pass another roundabout there
4: A: At Marina?

5. I : Yes, [after] Marina
6. Then you go straight [and then] there is a road coming from the right side and from the left side, you will take the one coming from the left side

Q2
1. «I: [ ] Ha o tswa fa (-) o turna [to your: : right]
When you leave here (-) you turn
2. D: [To my]?

3. I: [You just go to straight and then you face] ko pele o tabo o tsamaya hela,
further down you just continue

4. o heta [admissions] tla bo go na sekonterenyana gone foo, o tla bo o se heta, o tla bona [gate] e nyennyane, ke yone o tswang ka yone o ya Mainmall
you pass [admissions] *there will be a little tarred road there, you will pass it, you will see a small* [gate], *it's the one you will exit at*

5. I: O crossa tsela o bo o potela ka kwa ga tsela
You cross the road then you go over to the other side of the road
6. I: Ha sekeleng wena you go [straight]
At the roundabout you…

In the two examples above, Q1 and Q2, the informers adopt a more intrinsic frame of reference as the "furniture" that makes up the space are localised in relation those that constitute the route. Here the relatum is the person navigating space and the space furniture is localised in relation to this person, example Q1, "*o heta marina ka ha raeteng*" (you pass Marina on your right). Other route perspective markers in our data include the use of action verbs, "heta (pass), *tswa* (exit), *tsaya* (take) etc." Also included were personal pronouns that were used when addressing the traveller, "*o* (you." However, we noted that there was a very small number of projective adverbs used. Most of the informers did not use projective adverbs at all and only three were used, "*ko morago* (behind), ko pele

(in front) and *go bapa* (near). Most of the participants preferred a more global and abstract description by using the presentative "go na le" (there is" and the possessive form to set the scene:

> "Go na le le building e e nang le diphologo," instead of,
> *There is a building with animals*
>
> "there is a building with animal's sculptures in front of it," or,
>
> "ka ha ga Pep ke Orange" (showing with a with a hand gesture), instead of,
> *this side of Pep its Orange*
>
> "Pep o lebagane le Orange" or,
> *Pep is opposite Orange*
>
> "Ha o ntse o thamaletse le sone go na le mabala jaana, mabala a GSS" (*As you continue straight (on it) there are some grounds (like this), GSS grounds*), instead of something like,
>
> "… after the Anglican church you will see a sports grounds ahead."

It is noted that entities were often mentioned without any relation between them and the navigator or other entities in the vicinity. The presentative "there is" in examples Q1.6 and Q2.4 shows a survey perspective even though there was no use of the cardinal points.

Actions

Actions and landmarks, as we have mentioned before form part of the essential components of route directions. Actions can show progress (without change in orientation) or reorientation (change in orientation). Actions are shown by movement verbs. There is a large quantity of movement verbs but, as Tversky & Lee (1998) point out, only a small quantity is used in route descriptions. As a matter of fact, less than eight movement verbs were counted in our corpus.

> I: « O tsamaya hela, o heta [student] cen aa [student] o heta [library] wa go heta [student] sentara »
> *You just walk, you pass [the student] cen e e [student] you pass [the library] you are going to pass the [student]) centre.*
> ***Progression action, no change in orientation.***

Analysis shows that the route descriptions given by our participants represent a movement that is perceived as having a starting point and a point of arrival. The verb "tswa" (exit, leave," has an inchoative aspect and shows a conceptualisation of the origin or beginning of movement. Verbs with a terminative aspect, "goroga (arrive), "tsena" (enter/ arrive)" represent a conceptualisation of movement towards a destination. Nevertheless, the verb "to be (at)," was also used to show arrival at a destination, example:

> I: « O bo o turnela ka ha raeteng, o mo Mainmall ha o rialo »
> *Then you to the right, like that you're at Mainmall*
> ***Reorientation action, movement with change in orientation***

The verbs "turnerla, crossa, kgabaganya" used by participants represent a conceptualisation of the origin and destination of movement on a single horizontal plan. The term "crossa" is a combination of the word "cross" and the Setswana verb flexion "a." The verbs "tlola" which can mean

"cross" or "jump" can be a representation of a conceptualisation on a vertical plan but in our corpus it represents movement on a horizontal plan as the road in question is completely flat and in actual flat does not have any uphill or descent.

In the table below is a representation of recurrent verbs that were used to express progression or reorientation. In the third column we have put verbs that don't usually express a circular trajectory but which, in our corpus, have been used to express progression and change of direction.

Progression	**Réorientation**	**Réorientation avec verbes n'exprimant normalement pas de trajectoire circulaire**
Tsamaya o tlhamaletse, *continue straight on* Tswa, *leave* Feta, *pass* Crossa/ralala/tlola, *cross*	*Turna* to your left, *turn to you left* Tsaya ya left, *take the left one*	O tsamaya o tlhamaletse [*on your right*] *You go straight [on your right]* Crossa/tlola, *Cross*

For the verbs "crossa/ralala (cross), there is a change in direction if the observer finds himself parallel to the road that he has to cross. Afterwards it is possible that he continues on the initial direction, (Figure 2). To cross the road without change in orientation, the navigator has to find himself in a position perpendicular to the road he has to cross.

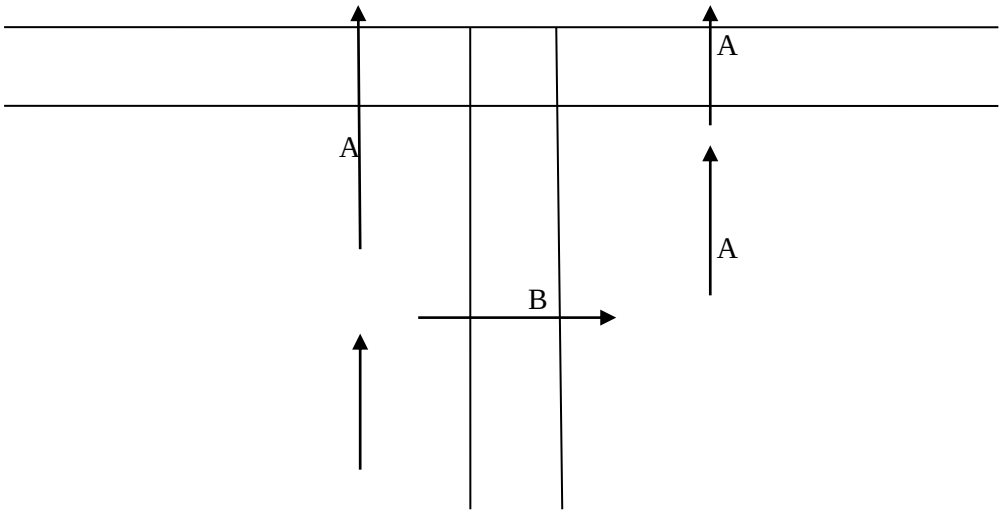

Figure 2. *Progression action and reorientation using the verb "cross"*

If the observer follows tractor AA the progression does not entail a change in orientation, that is to say, he crosses without reorientation. Nevertheless, the trajectories AB and BA imply reorientation in space.

Landmarks

Landmarks, as we have already noted, are another essential component of route descriptions. A landmark must possess salient visual traits with regard to its environment. Some few recurrent landmarks were noted in our study especially connections (roundabouts, roads), cult places (churches),

public service places (Marina hospital, town hall) etc. The two routes chosen have a considerable number of entities that could be used as landmarks but only a few were used. This might be due to the complexity of the cognitive activity. The mental map of the informer can be more or less complete depending on the person and the memory activities put into play as well as the interactional strategies. As oral production presupposes face-to-face interaction, reaction time is limited, so the subject has to choose landmarks that he deems pertinent. Some of the landmarks that could have been mentioned, but hardly appeared in both the oral and verbal descriptions include a Mosque, the university Administration building which one has to pass by or through to get to the main entrance. Again, when there are several landmarks, the informers tend to choose one and leave out the others. For example, the first roundabout was chosen instead of the Mosque, the second roundabout tended to take second place as compared to Marina hospital. In some cases, the second round about was chosen instead of the Anglican Church and the sports grounds, which are quite large and make up a big part of the route were sometimes left out in the route description. However, in the statement, "o tlhamalla hela o ya go heta ***bo*** Princess Marina" (you just go straight, you will pass Pricess Marina(s)), the plural marker "***bo***" are a signal to the addressee to be on the lookout for several landmarks in the Marina Hospital area, with the latter being chosen as the most important.

The study showed several confirmation landmarks; "[*you just go straight*] ko pele o tla bona [*building*] e tona e kwadilwe *Admissions*…" and landmarks associated with actions "o tlhamalla hela o ta heta ***bo*** Princess Marina." Contrary to what Denis (1997) affirms, landmarks associated with actions are less than those of confirmation. Moreover, there are a lot of presentatives like "go na le" (*there is*) used to confirm a landmark.

Elements that were identified as landmarks in our data include, the two roundabouts, Marina Hospital, the GSS sports grounds, the Town Hall, the Town Hall traffic lights and the Orange shop. According to our data the most recurring landmarks are the first roundabout and the traffic lights.

Oral descriptions in French

As in oral descriptions in Setswana, the majority of the participants chose the supposedly less complex but less used by student pedestrians route. It is possible that this route was chosen because the landmarks are more visible: the first and second roundabout as well as the hospital are visible from the university main entrance.

The analysis of oral descriptions in Setswana and French showed some differences between the two. The French route descriptions are longer than the Setswana ones. We want to attribute this to the fact that Setswana being the mother tongue of our participants, cognitive activities (activation of the mental map, preverbal planning etc.), activities pertaining to memory and linguistic activities (vocabulary, grammar etc.) are less heavy than in a foreign language. For this reason, route descriptions in Setswana are shorter, more precise than those in French. However, the route descriptions in French give more information on landmarks and they in a way become more precise than the Setswana descriptions. On top of the landmarks given in Setswana descriptions we find new ones like the Mosque, the UCCSA church, Barclays bank, Debonairs pizzeria, KFC as well as the Zambian embassy at the Mainmall. Our explanation of this is that, doubting their clarity in their description in French, the students compensate their language deficiency by giving as much information as possible, especially on landmarks.

In both French and Setswana we found the same movement verbs used to represent progression and reorientation. The verb "*entrer*" (enter), which is polysemic in Setswana, is sometimes used instead of the verb "arrive" (arrive). This is attributed to a problem of transfers. For

lateral directions "straight on," we have expressions such as "aller tout droit" (go straight on) and "continuer tout droit" (continue straight on) whereas in Setswana we have "tlhamalla" (go straight) or "tsamaya o tlhamaletse" (go in a straight way) which, in the corpus, can mean go straight on or continue straight on. Example:

I : 2. Euh:: quand on/ va à [Mainmall] eh :: tu {TURNE} (tournez) à :: ((droit)) parce quE : tu dois
I : 3. {UTILIZ} (utilise) (le) grand [entrance] [pour] l'université eT : quand tu {turne} (tournez) à Gauche
I : 4. et {ALE} (allez) tout ((droit)) hu hum il y a un/ qu'est-ce quE :::: (gestes)?
…
I : 5. EUH Vous passez, vous passez les bureaux et après les bureaux de Conseil il y a des des le Mainmall

Lines 2 and 3 illustrate a progressive action whilst lines 4 and 5 show reorientation in space. Only the verbs "*tourner*" and "*prendre*" (turn and take) are used to show action that represents change in orientation whereas in Setswana the verb "go" is used with a prepositional locution to express reorientation to the left.

Comparison of the structure and the quality of descriptions in Setswana and in French

In the previous chapters we talked about the quality and content of a route description as well as the importance of a primary plan. We will evoke this notion again in trying to explain some of the difficulties our participants had in giving route directions. In general, our participants had a lot of difficulty giving directions between the section that comprised the starting point and the exit point from the university, be it the small gate or the main entrance. The directions lacked clarity and precision. Route indications were usually given through hand and arm gestures. This part of the route has a long corridor and buildings of different colours and age, which could have been used as landmarks but were not. Example:

I: [*Ok*], [*from here*] o tsamaya o tlhamaletse ka ha (geste), gore o ye go tswa ka [gate] e,
[Ok], [from here] you go straight on this side (pointing gesture), so you exit at this [gate]

I: o tsamaya o tlhamalaletse [on your right] gore o tle o tswe ka gate e tona …
You go straight [on your right] so that you can exit through the main gate…

I: Oh [*from here*], o tswa mo sekolong go na le gate e nyennyane
Oh [from here], leaving the institution there is a small gate

D: Gate e nyennyane e ha kae?
Where is the small gate?

I: Euh, ko morago ga *admin*
Euh, behind the admin

D: Ga ke itse gore *admin*….
I don't know where the admin….

I: Gao itse *admin*?
You don't know admin?

D : Ne ke tswa ka ha !
I came from that way!

I: Ha o tswa ha o *turna* to your:: [*right*]
when you leave here you turn to your:: [right]

D: [*To my*?]

I: [*You just go straight and then you face*] ko pele o tabo o bona [*building*] e tona e kwadilwe *Admissions* [not] *admin*
[*You just go straight and then you face*] *further down you will see [building] written Admissions [not] admin*
……
I: Ee, o tla o tla, go na le gate e ngwe e nyenyane ka ha (geste de pointage en direction générale du portail)
Yes, you you will, you will, there is another small gate this side (pointing in the general direction)

I: O tsamaya hela o heta [*student*] cen aa student cet o heta wa go heta [*student*] sentara
You go straight on you pass the cen aa student you pass you will pass [student] centre

I: And then wa go tswa ka [gate] e e ka ko [*stadium*]
And then you are going to pass by the [gate] on the stadium side
…..
I : Ha o tswa mo ::
When you leave here ::
I: Gone fa re leng teng fa
Right here where we are

I: O tlhamal'la straight go fitlha o tsena ha sekeleng
You go straight on until you reach the roundabout

Despite the considerable number of buildings that could have been used as landmarks the participants seemed to have difficulty linking these landmarks to actions in order to describe this section of the route. There was a near abusive use of the verb "tlhamalla" (go straight), sometimes without consideration that, there were curves in the corridor and that at some point the navigator had to change orientation to get to either one of the exits. The use of the adverbial locutions also posed some problems for our participants. There was a lot of hesitation with left and right directions and these hesitations were usually followed by hand gestures which were seemingly more for the benefit of reassuring the speaker himself that the direction given was indeed correct. In some instances the informer did announce a wrong direction and then changed after using the hand to point to the direction that they wanted to give.

In both Setswana and French no road names were used. In Botswana, villages do not have road names and the post is not delivered at the doorstep. Road names are a quite recent and urban phenomenon and hardly ever used in giving physical addresses or directions. For the most part, cab drivers and delivery companies are the ones that use precise physical addresses. Regular taxis go to specified neighbourhoods and once in the neighbourhood the passenger has to direct the driver up to the doorstep.

Comparison of the structure and quality of oral descriptions in Setswana and French

In the previous paragraphs, we underlined the importance of the quality of the content of the route description and its structure from an interactional point of view, as explained by Klein. Also

highlighted, was the importance of the primary plan. Our comparison was mainly based on the afore-mentioned.

The itinerary can be broken down into 3 segments. The first segment being the starting point up to the University exit point. The second segment starts from the University exit point to the Town Hall traffic lights or the Town hall. The third and last segment starts from the entry point into Main Mall until the destination, which is the post office. The first and second segments seemed to cause a great deal of difficulty to the informants. They lacked, for the most part, reference points in terms of names of identifiable objects or entities, directives to guide the navigator as well as prepositions, adverbs or prepositional or adverbial locutions. Most of the directions given by the informants lacked in quality, content and structure. They also lacked in clarity and precision. The directions were usually given with the aid of a gesture in the general direction of the destination instead of clear verbal descriptions. The informants usually gave the general direction and not step-by-step descriptions of route segments.

Even when the route had a number of reference points, few were given. There was an "overuse" of the expression "tlhammal'la", *continue straight on*. Often, in both languages, the descriptions were vague. These vague descriptions evoke a Setswana saying that "tsela kgopo ga e latse nageng" roughly translated to say *a crooked road does not lead one to sleep away from home* and generally meaning that no matter long or difficult the road may be, one will always find a way to their destination.

The primary and secondary plans are not well described and therefore, this gives the impression that the cognitive map is not well laid out. However, we cannot attribute the lack of a proper mental map to lack of language proficiency as even in Setswana the informants had difficulties. As a matter of matter, route descriptions in French were better illustrated than in Setswana as informants used more vocabulary related to route descriptions and space than they did in Setswana. Our study also shows that the adverbial locutions, left and right, also gave the informers a lot of difficulties. The informants when usually hesitant in their use of left and right and in order to the direction they would, after some hesitation, use their hands to point in the general direction. In some cases, informants gave the wrong direction and announced left instead of right, or the contrary.

In the second segment description, there were more reference points mentioned, for example, Marina hospital, the circles, GSS grounds, the Town hall or the traffic lights. However, at no point in their descriptions do the informants mention names of roads on this segment even though there are about three major streets that one has to cross before they reach Mainmall.

Conclusion

A route description is before anything else, a construction of a cognitive construction of spatial representation in the form of a 'map.' This map can be different from one individual to another in terms of levels of activation and also with regard to the individual's knowledge of the space or itinerary. The frames of reference that a culture adopts in conceptualising space are also important.

The question of spatial representation and route descriptions has been approached from a linguistic, cognitive and cultural point of view for learners for Batswana speakers learning French as a foreign language. This paper shows that linguistic and cultural differences can, to some extent, influence how learners manipulate space in the target language. Certain cultural practices can make it make easier or more difficult to manipulate urban space. Batswana learners are not used to using maps

to navigate in urban space, whereas, for example, in the French culture maps and street names are a regular navigating support. Route descriptions are also a matter of co-construction, which is made even more difficult by the fact that the informant has to construct that mental map before verbally communicating it to the interlocutor. Even though the three frames of reference described by Levinson exist in Setswana, the one that is used mostly is the absolute frame reference. This implies that in French, the learners have to also get used to frequently using the relative frame of reference (*left, right, take the second right or take the third left*). The use of these expressions, *left, right,* was not spontaneous in either Setswana or French route descriptions. This was made evident by the hesitations and the errors.

For a teacher of French in Botswana, this implies that he has to take into consider several aspects when teaching the topic of route directions. The teacher has to take into account the frames of reference that the Setswana culture tends to use. The teacher has to take into account that route directions not only involve a sociocultural aspect but also in great part, a cognitive aspect. The teacher has to take into account and stress the preferred frame of reference in the target language and culture. In the French culture, physical addresses in terms of street names and plot numbers are part and parcel of day-to-day route descriptions. The learner, therefore, has to learn to manipulate space in urban space. The best way for the learner to test their knowledge is through real-life experience and in the absence of such, it is imperative that the teacher provide authentic or next to real-life activities where learners can understand and manipulate space in the same way as a native speaker of the target language, or at a level close to that of a native speaker.

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