

Language and Cognition: The Exploration of Spatial Description in English and Pashto Languages

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Abstract

This article explores the relation between language and cognition by examining the spatial description in English and Pashto. The study is descriptive and exploratory in nature. It identifies how Pashto and English speakers respond when they are asked to guide a stranger to some location, and which systems of reference they use to indicate directions and locations. For this purpose, firstly, the conversation of four speakers was recorded in Pashto and English and then transcribed and analysed by applying the rules of conversational analysis. After analysing the data, it has been found that all four speakers predominantly used the egocentric and intrinsic codes of spatial reference whereas absolute system of reference was rarely used. These findings strengthen the view that speakers are inclined to use objects in the environment as well as egocentric system associated with the speakers' point of view. Moreover, the speakers' responses are depended on the physical and situational context and independent of the languages they use. The study concludes with the understanding that there may be universal features demonstrable in the spatial domain.

Keywords: *Language, cognition, spatial description, referential systems, conversational analysis*

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Introduction

Language, what behaviourists think, is a specialized form of behaviour and all animal behaviours, including that of human could be described in terms of conditioned

responses to stimuli. However, this notion has been challenged by other linguists who claim that language also appears to provide a unique window on mental processes and that a natural language serves to structure and shape

human cognition. The pioneer of this school was Benjamin Lee Whorf who proposed a strong link between the way people think and view the world and the way they use language (Whorf, 1940). Later, this presumption came to be known as Sapir-Whorf hypothesis and it won a wide acceptance in the backdrop of the immense variety displayed by human cultures. As a linguist, he was impressed by the variety of grammatical forms and modes of conceptualization displayed by the world's natural languages. Some languages, for example, have no words for “left” and “right,” and instead describe spatial relationships exclusively by means of geocentric coordinates such as “north” and “south,” and/or object-centered coordinates such as between the river and the sea (Whorf, 1956). However, his hypothesis went out of favor when Chomsky and his followers came up with the innate theory, claiming that it is false and even ridiculous. Similarly, Pinker (1994) holds that whether language influences thought or not, it appears that thought influences language. However, the recent research in the field of relationship between language and thought has

rekindled interest in Sapir-Whorf hypothesis. The concept of time, space and color, to some extent, varies across languages, and it offers a lot for the research work in these areas. The present research focuses on the study of space—its relationship with language and thought.

Talmy (1985) and Landau and Jackendoff (1993) describe the widely held assumption that spatial language is rooted in spatial concepts that are shared universally by humans. They also state that there are substantial similarities in the stock of spatial terms that crop up across languages. Moreover, some of the research studies have shown that children's first spatial words map onto the spatial concepts which they have already acquired. Keeping in view the universality of concepts, it can be assumed that they should be expressed irrespective of the cultural or linguistic environment of the speakers. However, recent research has uncovered surprising degree of cross linguistic diversity in the use of spatial terms. Languages across the world make use of referential system in a variety of ways. The present research also draws on the study of space—its relationship with language and thought.

Moreover, it specifically focuses on the use of referential system in two different languages (English and Pashto).

Literature Review

The realization of spatial concepts across languages has been the focus of several research studies. The key point in these studies is the exploration of the relation between the language one speaks and the way one thinks. Earlier, Sapir, Whorf and Humboldt presumed that particular expressions might induce particular ways of thinking specific to those languages (Whorf, 1956). But this presumption has been challenged in recent years as most significant cognitive processes are considered universal in nature and accordingly languages themselves have been shown to conform to many universal principles. However, certain linguistic distinctions in spatial coding attracted linguists as they carried out research on different languages. Some of these research studies support the assumption that spatial terms could be expressed by using one of the three possible frames of reference. These include: (i) an absolute or geocentric

frame of reference, in which the object is seen in the larger environment (e.g., a house in the east), (ii) an intrinsic or object-centered frame of reference in which the main axis is placed in objects themselves (e.g., the front of a car), (iii) finally, a relative (or egocentric) frame of reference is the one in which the object is seen with reference to the viewer's own body (e.g., the chair to my left) (Shusterman & Li, 2016).

Brown and Levinson (1993) experimented on Dutch and Tzeltal speakers and they found differences in the reference system used by the speakers of those languages. They report that in Dutch, terms corresponding to English 'above', 'below', 'left' and 'right' are appropriate for use with object or environment-centered frames of reference whereas terms corresponding to English 'north', 'south', 'east' and 'west' are appropriate only for use with geographic frames of reference. The same system is also found in English. Different terms are used depending on which frame of reference the speakers adopt. For example, in English the position of a specific bicycle may be described either as to the north of the tree, using an 'absolute' system, or to the left of the

tree, using a 'relative' system. Nevertheless, these different reference systems are generally used in different contexts. For small layouts, it is unacceptable to use the geographic system. For example, if someone says, 'The glass is to my north' will be deemed very odd as compared to 'The glass is to my left'. Both English and Dutch languages make use of geographic reference system for the objects, at least with reference to the size of bicycles and trees. In contrast, speakers of Tzeltal, a Mayan language spoken in Chiapas, Mexico, make use of absolute system almost in all cases. In this regard the above statement, 'The glass is to my north' will be considered perfectly natural in that language.

Brown and Levinson (2000) became interested whether these differences in the use of reference frames affect the way people encode spatial relationship in non-linguistic tasks. They investigated whether Tzeltal speakers might be more inclined to use the absolute system and Dutch speakers to be more inclined to use relative frame of reference in the same tasks. They administered a variety of tasks in which the participants saw different objects

arranged in array. They then turned 180 degrees to face a response table on which they were asked to choose, reconstruct and match the original array. In the tasks, rotation reverses the relative frame of reference. What was to the left before turning around is now to the right, and vice versa. However, the same rotation does not affect the absolute frame of reference: north remains north, and south remains south. Those who encoded the relative frame of reference would recreate or choose an array that reverses the absolute order of the objects, so that the north most objects become the south most objects. On the other hand, those who have encoded the objects according to an absolute frame of reference would recreate or choose an array that maintains the north south orders of objects. Tzeltal speakers showed a bias toward responses corresponding to the absolute frame of reference, whereas, Dutch speakers showed a bias toward responses corresponding to the relative frames of reference. Pederson and Colleagues (1993) obtained similar results across a variety of languages. Another research carried out by Li and Gleitman (2002, as cited in Munnich & Landau, 2003)

have shown a replication of several Brown and Levinson's—style tasks, but included conditions in which the external environment for the task varied. The nature of the environment had strong effects on which frame of reference was recruited for encoding location in the non-linguistic tasks. For example, Li and Gleitman (2002) carried out similar experiments either inside a very plain room with blinds drawn over a window or with blinds up, exposing a view of a familiar street—or outdoors. The fewer the external landmarks, they reasoned, the more difficult it would be to use landmarks, pushing participants toward using a relative frame of reference. In contrast, a richer visual environment should encourage people to encode location using landmarks and therefore bias them toward using an absolute frame of reference. The results showed that people are rather flexible in their choice of reference frames and that these choices are partly mediated according to the nature of immediate physical environment.

English and Pashto are two different languages both culturally and geographically. And in this connection, they provide an appropriate context for

conducting this study. Further, which system of reference will they (their speakers) use to facilitate the person to his destination? Such types of questions made the researchers to carry out conversational analysis of two different speakers in order to know how they use referential system. The languages in which they spoke during the observations were English and Pashto.

Research Methodology

The method for the subject research was qualitative descriptive and the researchers took the interviews of the participants. One researcher was also the part of the conversation. Cell phone was used as an instrument for recording conversation of the first two speakers. They were asked in Pashto language to guide the researcher to the location of the Air University and Kot Hathiya. The conversations took place on mobile phone. The starting point were double road crossing (almost 1KM to the east of the road leading from Faizabad to Pir Wadhai) and NUML, Islamabad

The third speaker was also recorded for the same purpose (knowing the location and direction) but this time the venue was MK Internet

Café, from where the researcher asked for guidance. Moreover, unlike the first conversation in which the informant was asked for necessary guidance towards the required destination on mobile phone, in the present case, the conversation took face to face. The informant's name was Haseeb, a very cooperative and amiable young man, who provided very useful information about the destination (Faizabad). In the fourth conversation, the starting point was I-8 Markaz and the required destination (Commercial Market).

Data Collection

Four samples of different languages (Pashto and English), two each from both Pashto and English were collected from four different speakers. The first two speakers were asked in Pashto which was their mother tongue (L1). The first two conversations were telephonic conversations and were simultaneously recorded. The third and fourth conversations were face to face and they took place in English. The speakers' mother tongue was Urdu, but the researcher and the informants exchanged information in the speaker's second language (L2).

Discussion and Analysis

After the data was recorded, it was played on several times for listening purposes. Every possible detail of conversation, with characteristic features of spoken discourse was written on a white paper. Secondly, the conversations of the first two speakers were transliterated in Roman Pashto and then translated in English. However, the third and fourth speakers spoke in English; therefore, they were transcribed only as that was the only requirement. All possible details of the conversations, including pauses, hedges, stresses, intonations, overlapping and turn taking were noted. The researcher represented himself as N and the informant as F.

The article consists of four conversations in two parts (Part-1 & Part-2). In part-1, all the details of conversations are described with transcription and transliteration. In the second part, the conversations are presented in the form of transcription. Key is given at the end of each part which would help the reader in understanding even the minor details of the discourse.

Part-1

Conversation-1

The speaker was a student of the Air University. After introduction, he was asked by the researcher in his mother tongue (Pashto) to guide the researcher to the location of the said University. The starting point was double road crossing (as already mentioned). The speaker used deictic expressions for direction which were specific to the language he spoke (Pashto). The conversation was recorded with special focus on characteristics of spoken form of language and spatial deictic expressions. The conversation took one minute and 35 seconds. The researcher represented himself as R (Researcher) and the informant as S1 (Speaker 1). The conversation was first transcribed in Roman Pahsto and then transliterated in English (English transliteration is mentioned line by line along with original text of conversation), as shown below.

Transcription and Translation

R. _____sb(.) za air universtai ta(.)
t l a l g h a w r a m k a n a (#) n o z a
bosarangadarsham(.) molazh guide ka
da DOUBLE ROAD na(2.0)

S1. _____ (.) I want to come to your
university (.) So please guide me how I
should proceed from DOUBLE
ROAD.

S1. (word) ka tachirta pa
taxaimandaratlalghwara no (.) matlab
ma da cha daghi side na da road kam
cha da double road natala da (.)
ShaheenChowk ta makhamakh
(1.2)Air University a(X) p::rata da
kana(2.0)No da Haghanailawa (.) ka ta
charta pa ga'rhobandarazai(.) no mata
ham domra maloomatnashta(.) Kho
deomrapakasa(.) ghanishta(.)
mushkilnashta..daghasidha road cha da
zamonguniverstaitarafa razai=

S1. (word) (.) If you want to come here
by taxi then (.) I mean you will take the
same road on which you are standing (.)
It will lead you straight to Shaheen
Chowk, in front of which (1.2) Air
University is l(X) l::ocated (2.0) Apart
from that (.) if you want to come by
local vehicle(.) then I'm sorry that I do
not have the knowledge where the local
vehicle will be traced but (.) coming
here is not so difficult, because
transport from every side is usually
available=

R. = KARACHI COMPANY?

S1. Karachi company ka razai no (1.3)

matlab ma da cha tasobakhi (X)..
khiarakh ta razikhiarakh ta lag larhshai
(.) no matlab ma dad a cha tasogass lass
ta rawrhai(.) gass lass n pas batasohesa
turn naakhlai (1.2) no cha taso lag
makhtkarazai, no shaheen chowk k
bataso ta Air University (.) Milaushee.
S1. If You want to come after reaching
Karachi Company (1.3) then I mean
you will have to go to right side first (.)
then you will have to turn left(.) after
turning left you will not turn any
more(1.2) after going straight for a
while, you will see Air University (.)
N. Kha g:: g(.) DARA shukria.
N. Well S::ir(.) Thanks a lot.

Analysis

It was necessary for both the participants (the researcher and the informant) to know the starting point and the final point before other information about the in between places could be communicated. In that case it was Double Road from where the researcher was to proceed to his destination (Air University). Hence, the researcher gave the initial information required for the common understanding between himself and the informant. The informant was in a good position, knowing the context of situation. While guiding the researcher,

he knew where he was standing. Therefore, he used the word Double Road and other anaphoric references such as *daghi* (which means same, as described in line-1 of the text) *da* (it, line -2) and *charta* (where line-4). These references were spatial deictic expressions used by the informant. When the researcher was a little uncertain at a point, he overlapped, bringing the attention of the informant towards the famous place (Karachi Company) of which the researcher has some knowledge where it was situated. Again, it enabled the informant to give more information. He used spatial deixis like *khiarakh* (right side) and *gass lass* (left side). These words have been written the above-mentioned text in bold form in both translated and transliterated forms.

Conversation-2

R. _____ wroor (.) ta wo daa dy KOT
HATHIYAL pura lyar ro washaye (.)
NUML naa (.) wya naa wyaa wrez wo
dy kur taa der chakkar shaa (1.3)

R. _____ brother (.) will you please
guide me to KOT HATHIYAL(.) from
NUML(.) I may visit your home some
day (1.3)

S2. Daas waka chy (.) NUML naa chy kala ro wabzy (.) bya wo **ulta taraf** ta rawun shy 7up Chowk taraf taa (.) ya da::dy metro station taraf taa (.) metro station ta chy wa raasay bya ba:: metro bus taa wo laakshay (.)Metro bus naa wo bya pa FAIZABAD kiz shay (.) waata chy warasy **ulta taraf** taachy kim rood dai egh taa wo lur shay (.) waata wo da::110 number kooch rosii egh ta wo laak shay (.)

S2.____ so when u leave NUML take your left and go straight towards 7up roundabout(.) or towards metro station(.) and then take the metro bus till FAIZABAD(.) after reaching Faizabad take the road on your left side(.) and there you will get on coach 110(.)

R. 110 number kooch wo may chirta kizaa wii?

R. Where will 110 coach drop me?

S2. Agha wo dy pa Athal Chowk kiza vii (.)Athal Chowk yeh akheri stop daai dy 110 number gaadi (.) Chy dy gaadi naa kiz shay bya wo **ulta taraf** taa board lage dalai vii Kiani Road pa noma (.) pa egh road wo seeda seeda lur shay takreebn paanch chay so meter (.)

S2. It will drop you on ATHAL

CHOWK(.) and this is also the last stop for 110 coach(.) when you get down from the coach (.) take your left and there will see a board, displaying KIANI ROAD(.) from there go straight for almost 5 to 6 hundred meters (.)

S2. bya wo waata m::makki masjid pa noma gaa lay roshi o dy egh gaa lay **ulta taraf** taa wo board lagay dalai v dy KOT HATHIYAL (.) baas pa egh road chy lur shay makhta wo dikanina roshi o (.) dy dikanina makhta Government Girls College han daai (.)

S2. Then there a street with the name Makki Masjid comes and there is a sign board of Kot Hathiyal (.) When you go on that road there are some shops (.) There is also a Government Girls College in front of shops (.)

S2. baas pa egh na chy makhta lur shay **ulta taraf** taa gaa lay ta nanawza (.) chy kima awalama gaalay rushi umm **shii taraf** taa (.) pa egh shay chy kim awalama koor daai agha dy mizh daai.

S2. When you cross it, enter the street on your left side (.) then enter the first street on your right side (.) the first house in that street is ours.

Analysis

As the researcher did not know

the final destination but few places from the starting point, so the informant had to guide him in detail. This conversation took place face to face so it was easier for both, researcher and informant, to communicate the desired final destination easily. However, the initial point was National University of Modern Languages where both, researcher and informant, were present. As researcher knew the initial places, he was not told the initial places in detail. Therefore, the informant provided researcher with little information about initial places. When the researcher was unsure about the public transportation (Coach 110), he asked about the last stop of that transportation, hence, enabling the informant to provide more information about public transportation. Informant also brought researcher's attention towards signboards (Kot Hathiyal, Kiani Road) for identification of places. Furthermore, he also used spatial deixis like *shii lus* (right side) and *ultra taraf* (left side). These words have been highlighted in translation and transcription text. The conversation took 1 minutes and thirty three seconds.

Part-2

Conversation-1

The conversation of the third informant was also recorded for the same purpose (knowing the location and direction) but this time the venue was MK Internet café from where the researcher asked for guidance. The informant, a very cooperative and amiable young man, provided the required information about the destination (Faizabad). He made use of gestures and eye movements which showed his good attitude. He was very confident in speaking English. The recording time was noted which was fifty eight seconds. All the characteristics, reflected in the conversation were recorded and transcribed. The researcher identified himself with R and the informant is represented as S2.

Transcription

R. AssalamuAlaikum (.)

S2. Waalaik um ussaalam (1.2)

R. Wats your name please? (2.0)

S2. hh My name is _____ (2.0)

R. Would u kindly (.) guide me? (.) I want to::go to:: Faizabad (.)

S2. Yes of course Sir(.) Sir first of all (.) I want to tell you that you are standing on(.) MKN net cafe (.) first of all take a straight path (.) (word) hh(.) and there is few KM meter f (X) few meters away, there is Oxford Public School (.) and along with there is a STREET=

R=(with HIGH WAY?=

S2. = yes of course (.) from the street you will turn left (.) there is Iqbal Town=

R. =SERVICE ROAD?

S2. Yes (.) From Iqbal Town (.) again turn to the left side (.) you again turn to the left then please g(x)go straight forward (2.0) two, three KM away there is Faizabad.

R. Thank you (.) thank you

S2. Ok

Analysis

Unlike the first conversation which took place on cell phone, in the third conversation, the researcher and the informant were both at the same place. So, the informant took it as his utmost duty to have a common understanding about the starting point—the MKN Net Café. He used the important landmarks and places like

Oxford Public School which was at a relatively shorter distance. As the conversation was in English, the informant looked at ease to use English system of length. For example, the words like Kilometre and meter were used which helped a lot in indicating the exact locations. Important places, which occurred between the starting point and the desired destination, were also helpful in reaching at the final point. For example, names like high way, Service Road, Iqbal Town etc. made a necessary part of conversation. The conversation ended when the final information about the estimate distance of the destination (Faizabad) given by the speaker.

Conversation-3

This conversation took place at the same place where both, researcher and informant, were present. The informant, who was a university student, provided the information about the destination (Commercial Market) with small details. He made good use of his gestures which showed his confidence. The recording time of this conversation was one minute and thirteen seconds. All the characteristics, reflected in the

conversation, were recorded and transcribed. The researcher identified himself with R and the informant is represented as S3.

Transcription

R. How are you?

S3. I am fine, Can I help you? (.)

R. Yes (.) could you please guide me?
I::want to go to Commercial market?
(1.3)

S3. Yes why not Sir (.) right now you are standing at Ranchers I8 Markaz (.) from here you have to get on the public transportation (.) hh that will drop you=

R = (w h a t P U B L I C
TRANSPORTATION? =

S3. =umm I guess you::you would have to get on taxi (.) to reach the FAIZABAD metro station (.) and from there (.) you have to get on metro station towards REHMANABAD (.) and when you get down entre the street=

R. =on which SIDE of metro station?

S3. On the RIGHT SIDE of metro station (.) enter the street and keep on going till it ends (.) then take the left turn hh (.) and then take the first right

and there you will reach
COMMERCIAL MARKET (.)

R. Alright (.) Thank you

S2. (.) Welcome

Analysis:

This conversation also took place in English. The starting point was I-8 Markaz where both, researcher and the informant, were present. So, it was easy for the informant to provide the required destination (Commercial Market). He started with the important landmarks and places like Faizabad metro station which was near and known destination to the researcher. The informant was a University student and he also seemed interested in responding in English.

Key

1. (.) Indicates pause of one tenth of a second.
2. (1.2) and (1.3) Indicate a second and two and three micro seconds respectively.
3. CAPS Indicates the stressed parts in the conversation.
4. (word) is used for the words (which are) not clearly recorded and listened.
5. :: It is used when the speakers stutter.
6. ? Indicates rising intonation.
7. Comma indicates falling intonation.

8. _____ shows the speaker's name, which is intentionally left blank.

Conclusions

The four speakers were found a bit different in their approach because of the situation they were in. The first speaker guided the researcher through cell phone. Moreover, because the references were not directly visible to the speaker, therefore, he indicated the places and direction (left, right, front and back) which were relative to the environment as well as to the researcher. The environmental and object oriented approach to spatial terms was more suitable as compared to the absolute (geocentric) system as the objects in the immediate surrounding helped the researcher to find and reach the desired destination. Further, the informant also shared his knowledge about the most convenient means of transport (taxi) of which he was sure and the one about which he did not have sufficient knowledge. It shows the speaker's concern regarding the possible confusion on part of the researcher in terms of using the means of transport (taxi or local transport). In other words, the speaker's timely guidance helped the researcher to avoid

this confusion. The situational context was different with the second speaker (S2) and he accordingly explained the places and directions by making gestures and pointing in the direction he was facing (the speaker and the informant were at the same place). It was found that the speaker took time to map the places in his mind and the relative distances between the locations, occurring in the way. It was observed that both relative (egocentric) and intrinsic systems of reference were used in both the cases. For example, the Pashto speaker used the word *Khi*(right) once, *gass* (left) and *sidha* (straight) twice which are related to relative system of reference. This means that the speaker's response was based on the relative position of the researcher as he guided the latter from his (the researcher) point of view. In other words, the speaker did not rely on any fixed angle associated with cardinal directions (north, south, east and west) in a broader sense, but the direction in which the researcher was moving. Therefore, he used the phrase *daghi side na* (from that side) and then referring to the road leading from "Double Road" to "Air University". In the second conversation too, the

words straight and left were used twice. It was concluded that speakers of both the languages made use of relative system as well as intrinsic system, possibly because they thought it was preferable to guide the researcher by mentioning the familiar places and their tentative distances and direction from other places. Intrinsic system of indicating a place with reference to another place was also helpful in many ways as we have seen in both the conversations. Moreover, one significant point was that the speakers were flexible and adapted their use of spatial terms to the physical context as well as to the situational context. For example, in the first case, the informant's response was associated with the place where the researcher was standing whereas in the second case, the speaker's response showed that he first shared the information regarding the place (MK Internet café) where he himself and the researcher were standing.

To conclude, the study shows that the informants' use of spatial terms is flexible and it changes according to the situational and physical context. Secondly, when the environment contains buildings and roads, etc.,

speakers are usually inclined to use intrinsic system. Further, it is less likely for the speakers of two different languages (English and Pashto) to use geocentric system when the other two systems could be effectively used for guiding and directing someone to the target location. Lastly, language does not make any substantial difference in the use of spatial references as both the speakers used the referential system in a relatively similar way.

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