

Folk Theories of Terrain and Direction-Giving among Young Residents of a Chinese Mountain City

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Abstract: This study examines how young residents of Shiyan, a mountain-valley city in northwestern China, conceptualise the relationship between local geography and direction-giving. We analysed 110 substantive responses to an open-ended questionnaire item on terrain influence and 39 supplementary comments on direction-giving practice using thematic content analysis. Of the 110 substantive responses, 71.8% affirmed an influence of geography, 9.1% denied it, and 19.1% expressed an intermediate view. Mountains (33.6%), rivers (30.0%) and built landmarks (26.4%) were the most frequently mentioned features, while recruitment of terrain features as reference points was the most common mechanism (31.8%). Supplementary comments highlighted navigation-app delegation, addressee-sensitive adjustment, migrant-city identity and time-distance expressions. The findings provide a descriptive account of speakers' own ecological and interactional explanations for spatial discourse. For cross-cultural translation, these explanations are best treated as source-side pragmatic assumptions that may need to be preserved, clarified or adapted, rather than as direct evidence of actual direction-giving behaviour.

Keywords: Folk linguistics; Metalinguistic awareness; Spatial reference; Cross-cultural translation; Mountain-city discourse; Shiyan

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1. Background

Direction-giving involves more than encoding spatial relations. Speakers also rely on assumptions about which environmental features are salient, what counts as a useful reference point and how much local knowledge a hearer is expected to share. Such assumptions are folk-theoretic in Preston's sense^[1-2]: non-expert accounts of how language works that speakers draw on when reflecting on and explaining their own linguistic practices. In spatial discourse, these accounts can concern both the physical environment—such as

mountains, rivers and roads—and interactional factors such as the addressee or the availability of navigation technology.

Folk-linguistic research has examined speakers' beliefs about accents, dialect boundaries and social evaluation in considerable detail ^[3], but much less is known about how Chinese speakers themselves explain the relationship between environment and everyday direction-giving. This gap is analytically important because self-reported explanations reveal metapragmatic awareness even when they do not necessarily predict actual linguistic behaviour. It is also relevant to cross-cultural communication: terrain-anchored references and assumptions about shared local knowledge may be easy to translate lexically while remaining difficult to reproduce pragmatically.

The present study addresses this gap through open-ended questionnaire responses from young residents of Shiyan in northwestern Hubei, a city whose urban space is strongly shaped by mountain-valley terrain. Rather than treating respondents' comments as objective accounts of how geography determines language, we analyse them as folk theories: locally available explanations that speakers use to make sense of direction-giving. Two research questions guide the study: (1) What folk theories do young Shiyan residents articulate about the relationship between local geography and direction-giving? (2) What additional interactional considerations do they identify when reflecting on direction-giving practice? The translation discussion that follows is an application of these findings rather than a separate empirical test of translation strategies.

Section 2 outlines the theoretical background, Section 3 describes the data and analytical procedure, Sections 4 and 5 present the terrain-related and interactional findings, Section 6 considers translation-related implications, and Section 7 concludes with the study's scope and limitations.

2. Theoretical background

2.1. Folk linguistics and metapragmatic awareness

Folk linguistics, in the tradition associated with Preston ^[1-2], treats non-expert speakers' beliefs about language as an object of study in their own right rather than simply as errors to be corrected. Such beliefs may be fragmentary, situation-specific or internally inconsistent, but they remain analytically relevant because speakers use them to evaluate linguistic behaviour and justify particular choices. Work on metapragmatic discourse makes a related point: Silverstein ^[4] and Verschueren ^[5-6] show that reflection on language use is itself part of communicative practice and can reveal speakers' awareness of the conditions shaping their choices.

This perspective is especially useful for spatial language. Speakers not only produce spatial descriptions; they also formulate explanations for why particular descriptions seem natural, efficient or locally appropriate. These explanations need not coincide with patterns observed in production data. The object of analysis here is therefore respondents' metalinguistic reasoning itself, not a claim that their stated beliefs directly represent their actual direction-giving behaviour.

2.2. Environment, culture and spatial reference

The relationship between environment and spatial reference has been extensively discussed in cross-linguistic research. Levinson ^[7] documents systematic variation in spatial reference frames, while Burenhult and Levinson ^[8] show how landscape and topographic vocabulary can be closely intertwined in particular communities. Recent reviews of landmark selection in wayfinding further show that landmarks at decision

points and route transitions are particularly effective for route directions ^[14]. This literature demonstrates that ecological and network-structural settings can both be relevant to spatial language, but it mainly proceeds from linguistic description and production data. The present study asks a different question: how do ordinary speakers themselves describe and explain the possible role of environment in their spatial discourse?

2.3. Culturally informed translation

Translation studies has long treated translation as a cultural as well as linguistic activity ^[9-11]. Nida's work on equivalence ^[9], Katan's account of the translator as cultural mediator ^[10], and Venuti's discussion of domestication and foreignisation ^[11] all direct attention to the relationship between linguistic form, cultural knowledge and target-reader interpretation. Work on culture-specific items and globalisation ^[12-13] further highlights the need to consider how locally anchored meanings travel across languages and communicative settings.

For the present study, the relevant issue is not whether a single translation strategy is preferable, but whether source-side metalinguistic assumptions are noticed at all. If a speaker treats a river, mountain or familiar landmark as self-evidently useful, a literal rendering may preserve denotation while leaving the target reader without the background knowledge that makes the expression pragmatically effective. The translation discussion in Section 6 therefore uses the questionnaire findings as an inventory of assumptions to be checked and negotiated, not as evidence that any particular translation solution is universally optimal. Recent corpus-based work on Chinese–English culture-specific items likewise shows that translation procedures vary with properties of the source item, including cultural markedness and semantic characteristics ^[15].

3. Data and method

3.1. Data source

The data come from a wider questionnaire on directional and spatial expressions administered in northwestern Hubei. Of 227 returns, 146 were from respondents registered as Shiyan residents. The subsample is demographically concentrated: 87.0% were aged 18–25, 74.7% were postgraduate students, and 81.5% were registered in Zhangwan District. The present analysis focuses on two open-ended items from this Shiyan subsample. The questionnaire was administered anonymously through the Tencent Survey online platform between December 2024 and March 2025, using snowball recruitment. No personally identifying information or sensitive personal data were collected.

Item 25 (Q25) asks: “Do you think geographic environment (such as mountains, rivers, valleys) affects how people here describe directions? Please briefly share your view.” Item 27 (Q27) asks: “Regarding direction-giving or describing position, do you have anything else to add? Or do you think we missed any important aspect?” Q25 yielded 110 substantive replies (75.3% of the Shiyan subsample), and Q27 yielded 39 (26.7%). For the present content analysis, a reply was treated as substantive only when it provided interpretable content beyond an empty response, a bare yes/no answer or a disclaimer of ignorance. Percentages reported below are therefore based on the substantive-response sets specified for each item.

The same broader questionnaire has been used in separate studies analysing different items (for example, Q21 route production, Q23 landmark listing and Q26 dialectal terms). The present paper analyses only Q25 and Q27 and does not overlap in the questionnaire items analysed, outcome variables, research question or theoretical framework with those separate studies.

3.2. Analytical procedure

We conducted thematic content analysis of the open-ended replies. Q25 was coded at three levels. First, each substantive reply was classified by overall stance toward the geography-direction relationship: affirming, denying or intermediate. Second, replies were coded for the geographic features they mentioned, including mountains, rivers, valleys, built landmarks, and roads or streets. Third, we coded the mechanisms respondents invoked to explain the relationship, such as recruitment of reference points, terrain-following route description, ease of comprehension and replacement of cardinal-direction terms. Multiple feature and mechanism codes could occur in the same reply.

Q27 was coded thematically for additional concerns that respondents raised about direction-giving practice. The coding scheme was developed inductively through an initial reading, category refinement and consistent application to the full response set. All coding was conducted by the author. Because no independent second coder was used, the analysis is presented as descriptive rather than as a reliability-tested classification; the category definitions, frequency tables and illustrative extracts are used to make the interpretive basis as transparent as possible.

4. Folk theories of terrain-direction interaction

4.1. Most respondents affirm terrain influence

Among the 110 substantive Q25 replies, 79 (71.8%) affirmed that local geography influences direction-giving, 10 (9.1%) denied such an influence, and 21 (19.1%) expressed an intermediate position, for example “some influence”, “not much” or “hard to say”. **Table 1** summarises the distribution.

Table 1. Stance distribution in Q25 replies (n=110 substantive)

Stance	n	% of substantive replies
Affirming influence	79	71.8%
Intermediate	21	19.1%
Denying influence	10	9.1%
Total	110	100.0%

The main descriptive pattern is a clear affirmative majority within this response set: more than seven in ten substantive replies attribute some role to local geography. This should be interpreted as evidence about respondents’ metalinguistic beliefs, not as evidence that geography has been shown to determine their actual direction-giving. The distinction is important because the questionnaire elicited reflection on practice rather than observed production.

4.2. Mountains, rivers and built landmarks lead the field

Across the 110 substantive replies, mountains and mountainous terrain were mentioned in 33.6%, rivers and waterways in 30.0%, and built landmarks in 26.4%; multiple mentions were permitted. **Table 2** summarises the feature codes.

Table 2. Geographic features mentioned in Q25 (n=110; multiple mentions counted)

Feature	n	% of substantive responses
Mountains and mountainous terrain	37	33.6%

Feature	n	% of substantive responses
Rivers and waterways	33	30.0%
Built landmarks	29	26.4%
Valleys and gullies	13	11.8%
Roads and streets	10	9.1%

The distribution is notable in two respects. First, mountains and rivers occupy a prominent place in respondents' own explanations of local direction-giving. Second, built landmarks appear in the same explanatory repertoire as natural features. The responses therefore do not organise useful reference points simply by a natural-versus-built distinction; instead, they suggest that perceived salience and usability as reference points are central to respondents' folk accounts.

4.3. Reference-point recruitment as the main mechanism

Respondents also described mechanisms through which geography was thought to affect direction-giving. **Table 3** reports the coded mechanisms; because more than one mechanism could be assigned to a reply, the percentages are not mutually exclusive.

Table 3. Mechanisms articulated in Q25 (n=110; multiple mentions counted)

Mechanism	n	%
Recruitment as reference points or landmarks	35	31.8%
Comprehensibility ("more intuitive", "easier to understand")	10	9.1%
Following terrain contours ("along the mountain", "along the river")	7	6.4%
Replacing cardinal terms in dense terrain	3	2.7%
Naming and place-name transmission	2	1.8%
Detours and route irregularity imposed by terrain	2	1.8%

Reference-point recruitment was the most frequently articulated mechanism, appearing in 31.8% of the 110 substantive replies. Smaller groups referred to comprehensibility, following terrain contours, reduced reliance on cardinal terms, place-name transmission, or terrain-imposed detours. The pattern suggests that respondents most readily explain environmental influence through overtly usable landmarks. At the same time, these data do not establish whether terrain also affects underlying reference-frame choice when no landmark is explicitly mentioned; that question would require production data designed for that purpose.

4.4. Illustrative extracts

The frequency patterns can be illustrated with respondents' own formulations. The following extract combines reference-point recruitment with an appeal to ease of comprehension (translations are by the author):

It has an influence. Big mountains and rivers are conspicuous geographic markers; local people often use phrases such as "walk along the river" or "over toward that mountain" that combine directions with geographic entities. This is more direct and easier to understand than plain cardinal terms.

A second extract illustrates the idea that route description follows terrain:

It affects things. The urban area of Shiyang is mostly hilly, and many roads are built along the mountains.

A less frequent mechanism concerns the transmission of local names:

There is an influence. Some valleys and rivers have special local names.

Denying and intermediate replies were generally brief. Typical denying responses included “no influence” and “not really”, while some intermediate responses added qualifications such as “it has some influence, but it mostly matters to people who live in the mountains” or “possibly, for landmarks that stand out”. These comments reinforce the point that the response set contains competing degrees and formulations of environmental influence rather than a single uniform folk theory.

5. Interactional considerations in direction-giving

Q27 invited respondents to add anything they considered important about direction-giving or position description. Because the prompt was broad, the substantive response set is smaller (n=39) and thematically heterogeneous. The resulting themes are therefore best read as supplementary concerns raised by some respondents rather than as prevalence estimates for the wider sample. **Table 4** reports recurring themes, which together account for 26 comments; the remaining 13 substantive comments contained one-off observations that did not fall into any recurring category (for example, individual anecdotes, single-mention remarks about specific personal experiences, or comments that combined several disparate ideas without a shared analytic focus). These 13 comments are noted here but are not tabulated separately.

Table 4. Themes in Q27 supplementary comments (n=39 substantive replies)

Theme	n	% of Q27 substantive replies
Navigation-technology delegation (“just use the map app”)	7	17.9%
Migrant-city identity and its lack of “local flavor”	5	12.8%
Addressee-sensitive strategy switching (elderly, non-local)	3	7.7%
Bridges, mountains and other terrain	3	7.7%
Time-distance description (“about five minutes’ walk”)	2	5.1%
Specialised systems (clock positions, latitude/longitude)	2	5.1%
Principle of concise, accurate transmission	2	5.1%
Public transport as reference	1	2.6%
Language change and generational loss	1	2.6%

5.1. Delegation to navigation technology as a legitimate move

The most frequent Q27 theme was delegation to navigation technology. Seven respondents suggested, in different ways, that a navigation app can replace or supplement spoken directions, for example by stating that “for most situations, the app can handle it” or that people should be taught to use navigation tools. These comments position the smartphone as part of the contemporary communicative ecology of direction-giving rather than treating spoken description as the only legitimate option.

5.2. Tuning descriptions to the addressee

Three replies explicitly identified the addressee as a reason to adjust direction-giving strategy. Respondents suggested, for example, that older hearers may need more finely segmented steps and that non-local hearers may need more recognisable landmarks. Although the count is small, the theme is analytically relevant because it shows that some respondents conceptualise direction-giving as an audience-sensitive activity rather than as a fixed transfer of spatial information.

5.3. Migrant-city identity as an alternative frame

Five respondents invoked Shiyang's migrant-city identity to qualify the idea of a distinctive local direction-giving style. One respondent wrote that "we are a migrant city with no particular local characteristics; we just use ordinary direction-giving methods". This framing contrasts with the ecology-centred accounts found in many Q25 replies. The present data cannot determine whether the two framings belong to different respondents or coexist within individuals, but their coexistence at the sample level shows that local identity can be narrated through more than one explanatory lens.

6. Translation-related implications

The questionnaire did not test translation performance, so the following points should be read as practice-oriented implications rather than empirically validated translation rules. The findings identify source-side assumptions that may become relevant when mountain-city spatial discourse is translated for readers who do not share the same environmental or local knowledge.

6.1. Treat terrain-anchored reference as pragmatically motivated

When a source text uses a mountain, river or other salient feature as a reference point, the expression may carry more than locational content: it may reflect a local assumption that the feature is readily identifiable and communicatively useful. Recent experimental work on landmark selection shows that a landmark's position relative to the turn and decision point systematically affects whether speakers select it for route instructions^[16], reinforcing the point that reference-point choice is functionally meaningful rather than purely lexical. A translator can therefore ask two separate questions—whether the reference itself should be retained and whether the target reader needs additional orientation to use it. Depending on genre and audience, preservation, brief clarification or partial reformulation may each be defensible. This is compatible with the broader translation-studies emphasis on balancing source-side cultural anchoring and target-side accessibility^[9-12].

6.2. Reconstruct addressee knowledge where necessary

The Q27 comments on older and non-local hearers suggest that at least some respondents already treat shared knowledge as a variable in successful direction-giving. In translation, the same issue can arise when local landmarks, terrain features or administrative units are obvious to source readers but opaque to target readers. Where the communicative purpose requires practical orientation, a translator may need to make relevant background information more explicit. The present data support attention to this problem, but they do not prescribe a single form or amount of explication.

6.3. Preserve competing local framings

The response set contains both ecology-centred accounts of direction-giving and a smaller migrant-city framing that questions the existence of strong local distinctiveness. For translators, the important point is not to choose between these accounts in advance, but to recognise which framing a particular source text constructs. Where both are relevant, translation should avoid flattening the tension into a single, supposedly uniform image of the city.

6.4. Contextualise navigation-technology delegation

References to “using the map app” show that some respondents regard technological delegation as an ordinary option within direction-giving. Whether an equivalent expression is pragmatically routine in a target context will depend on genre, audience and communicative situation. A translator should therefore preserve the pragmatic force of the utterance—helpful suggestion, routine delegation or possible dismissal—rather than assuming that literal wording alone will reproduce its effect.

7. Conclusion

This study analysed 110 substantive metalinguistic replies from young Shiyan residents on the perceived influence of local geography on direction-giving, together with 39 supplementary comments on direction-giving practice. A clear majority of Q25 replies (71.8%) attributed some influence to geography. Mountains, rivers and built landmarks were the most frequently mentioned features, and reference-point recruitment was the most common articulated mechanism. Q27 added a smaller set of interactional themes, including navigation-technology delegation, addressee-sensitive adjustment and migrant-city identity.

Taken together, the findings describe how respondents themselves make sense of spatial discourse in a mountain-city setting. For cross-cultural translation, their comments can serve as a checklist of source-side assumptions worth examining: whether a terrain-based reference is presumed to be self-evident, whether the addressee is expected to share local knowledge, whether local identity is framed ecologically or through migration history, and whether delegation to navigation technology carries a routine pragmatic meaning. These are interpretive considerations rather than tested prescriptions for translation practice.

The study has three main limitations. First, the sample is concentrated among young, highly educated and predominantly urban respondents, so it cannot represent older speakers, rural residents or the broader Shiyan population. Second, coding was conducted by a single researcher without independent inter-coder reliability testing. Third, the data are questionnaire-based metalinguistic reports rather than situated interaction or production data. These limitations mean that the study can characterise reported folk theories but cannot establish causal effects of terrain or the actual frequency of the described practices. Future work can compare age and residential groups, combine metalinguistic and production data, and use independent coding to test the stability of the categories.

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Disclosure statement

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