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DEPARTMENT OF LINGUISTICS FACULTY

2009

THE EMERGENCE OF MANDARIN METAPHORS
FOR THE INTERNET

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Conceptual metaphors underlie many of the everyday expressions we use when describing novel technology. For example, the primary metaphor IDEAS ARE OBJECTS establishes broad links between abstract and concrete domains of experience, thus licensing complex metaphors of "movement" and "exchange" of ideas through communication. Few empirical studies have focused on how novel conceptual metaphors emerge in everyday language. This paper reports the results of a corpus study, based on a 138-million-character sample of news reports from Mainland China, which charts the time course for the emergence of Mandarin metaphors for the Internet from 1994 to 2002.

1. INTRODUCTION. How are interactions with novel technologies such as the Internet described and understood? If conceptual metaphor (Lakoff and Johnson 1980, Kovecses 2002) plays a role in extending the meanings of concrete terms to apply to novel abstract referents, such as the Internet, what source domains are enlisted for the new target domain? Do new metaphors spring forth fully formed, with a rich array of source-target mappings, or are they constructed piece-by-piece with novel terms being slowly mined from a given source domain? This study attempts to answer these questions by focusing on metaphorical Mandarin terms for the Internet.

No one bothers anymore to use literal terms when talking about the Internet. Granted, back in the prehistoric days of the net, people would describe its use as something like "*using a modem to establish your Internet connection*" so that you could "*send electronic mail (e-mail) to virtually any networked computer user*" (Fraase 1994:5). Now that we are familiar with the Internet and e-mail, however, we simply talk about "*going online*" and "*e-mailing your friend.*"

One way to think of metaphor is that it is a conceptual tool that lets us cut corners to meaning, so we can say what we want with fewer words. Thus, the cyberspace that William Gibson (1984) envisioned in his seminal novel *Neuromancer* has become less and less the stuff of science fiction. English speakers have settled on a select range of expressions describing the various objects—*web site*, *web page*, *inbox*, *virus*, and myriad others—that populate the space that is the Internet. Broadly speaking, Internet users and these abstract objects are conceived of as *points* in space (as in *point-to-point communication*), while communication and interaction are events that occur through *links* or *lines* connecting these objects, and groups of such connections form *networks* (Wolf 2000:181, Høyland 2001). One of the earliest uses of *cyberspace* in reference to the Internet was by the Grateful Dead lyricist John Perry Barlow, in his 1990 essay "A declaration of the independence of cyberspace" (Sterling 1992).

The primary metaphor (Grady 1997) that underlies all of this is IDEAS ARE OBJECTS. On this skeletal framework, any virtual "entity" can be grounded in reality by describing it in terms of a real-world object (Weinberger 2002). From this it is a short conceptual hop to think of these objects as located in space. Indeed, we might suppose that a general metaphor THE NETWORK IS A SPACE underlies much of our understanding of the Internet. And English speakers are not alone in conceiving the Internet in this way. In Mandarin, the terms used to describe the Internet are also conventionalized metaphorical expressions based on the IDEAS ARE OBJECTS metaphor and describing communication in terms of spatial movement of objects. Upon the framework established by these primary metaphors, both English and Mandarin build up similar complex metaphors such as INTERNET USE IS MOVEMENT THROUGH SPACE.

Chinese speakers ground their conceptualization of Internet use as movement in a series of source-target mappings involving public transportation. Together, these mappings can be seen as constituting a complex metaphor, THE INTERNET IS A PUBLIC TRANSPORTATION SYSTEM

(**transportation metaphor**), which is a culturally specific instantiation of the INTERNET USE IS MOVEMENT THROUGH SPACE metaphor. Some key mappings of the transportation metaphor are as follows:

FIGURE 1: Source-Target Mappings for the Mandarin Transportation Metaphor

Source Domain		Target Domain
PUBLIC TRANSPORTATION	→	INTERNET
shang 上 'to board' [a vehicle])	→	*shangwang* 上网 (lit., 'go on the net' / go online
zhan 站 ([transport] 'station'	→	*wangzhan* 网站 (lit., 'net station' / web site
sudu 速度 'speed'	→	*wangsu* 网速 'network speed'
guoke 过客 'passenger, passer-by'	→	*guoke* 过客 'anonymous user'[1]
dao 到 'arrive'	→	*dao wangzhan* 到网站 'arrive at a web site'

Examples of expressions that use this conceptual metaphor are set forth below.

(1) 上　　个　　　星期, 我　第一 次　<u>上　　　网</u>　　的　　　情形　　还　　历历在目。
　　shang ge　　xingqi, wo diyi ci <u>shang　wang</u>　de　　qingxing hai　　lilizaimu.
　　last　CLASS week, I　first time <u>get.on　net</u>　PART　situation　still　vivid.
　　"Last week I <u>went online</u> for the first time, and I can remember everything so vividly."

(2) 我　认为 "童网:　　儿童　的　<u>网站</u>" 这里 内容　丰富　　一点儿, 就　　<u>进入</u> 了。
　　wo renwei "Tongwang: Ertong de <u>wangzhan</u>" zheli neirong fengfu　yidiar,　jiu　<u>jinru</u> le.
　　I　believe kid.net　　child　PART <u>net.station</u> here content rich　　COMP　　PART <u>enter</u> PART.
　　"I decided that "Kids Net: A <u>Site</u> for Children" had the richest content and <u>entered</u> it."

(3) 互联　　　网 太 慢　　了, 要　半 天　才　　能　<u>到</u>　那 个　　<u>网站</u>!
　　hulian　　　wang tai man　le,　yao ban tian　cai　　neng <u>dao</u>　nei ge　　<u>wangzhan</u>!
　　interconnect net too slow　PART, need half day　until　able <u>arrive</u> that CLASS　<u>net.station</u>!
　　"The Internet is so slow, I had to wait forever before the <u>site</u> could <u>load</u>!"
　　[Note: English translation maps to an unrelated metaphor.]

In addition to the transportation metaphor, Mandarin also uses various terms mapped through other metaphors that build upon the primary metaphors IDEAS ARE OBJECTS and THE NETWORK IS A SPACE but, similar to English, have nothing to do with transportation. For example, the metaphor THE INTERNET IS A BOOK (**book metaphor**) or perhaps even THE INTERNET IS A LIBRARY displays a full set of conventionalized mappings, as follows:

FIGURE 2: Source-Target Mappings for the Mandarin Book Metaphor

Source		Target
BOOKS	→	INTERNET
shuye 书页 '[book] page'	→	*wangye* 网页 'web page'
liulan 浏览 'browse'	→	*liulan wangye* 浏览网页 'browse web pages'
shuqian 书签 'bookmark'	→	*shuqian* 书签 '[Internet] bookmark'
shuchong 书虫 'bookworm'	→	*wangchong* 网虫 (lit., 'networm'[2]

The following sentence shows an example of an expression that uses the book metaphor:

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[1] As in Internet chat rooms.
[2] Used to describe someone who constantly uses the Internet, similar to how *bookworm* refers to people who constantly read.

(4) 之　后　　我　浏览　　了　　许多　其他　的　　网页。
　　 zhi　hou　 wo　liulan　 le　　xuduo　qita　de　　wangye.
　　 that　after　I　 browse　PART　plenty　other　PART　web pages.
　　 "After that, I browsed through plenty of other web pages."

　　The use of the transportation metaphor and book metaphor by Mandarin speakers appears to be entirely unconscious, given the ubiquity of such expressions in modern speech about the Internet. As such, the transportation metaphor and book metaphor, together with various other metaphors such as INTERNET USE IS COMMUNICATION, fundamentally underlie the way that Chinese speakers think about and describe online experiences. This study examines how the transportation and book metaphors became conventionalized in Mandarin between 1994 and 2002.

2. METHOD AND HYPOTHESES. To examine quantitative data regarding the emergence of metaphorical terms for the Internet in Mandarin, I analyzed selections from a large corpus of Mandarin news reports (Graff and Chen 2003). The samples were monthly collections of all news reports produced by Xinhua News Bureau, the official news agency of Mainland China, from January 1994 to January 1998. In order to confirm the trends shown in these monthly samples, the study also included January 1999, 2000, 2001, and 2002, as well as September 2002, the last month of reports in the corpus. Together these selections totaled approximately 138.27 million Chinese characters.
　　To select target metaphorical terms and source domains for the corpus study, I worked with a native speaker of Beijing Mandarin to prepare lists of source-target mappings for the transportation and book metaphors, with metaphorical expressions that are currently used by Mandarin speakers. The terms and source-target mappings are introduced above (see figures 1 and 2).
　　Cameron and Deignan (2006:679) suggest that novel metaphors in English have a tendency to emerge in the form of modified nouns or verb-object phrases, and they point to example phrases such as "excess baggage" or "get rid of emotional baggage" to illustrate this point. This tendency may arise due to the role that concrete imagery of novel objects and actions appears to play in the emergence of new metaphors (Gibbs and Bogdonovich 1999, cited in Gineste et al. 2000). Zinken (2007) has also shown that metaphors emerge via the conventionalization of new analogical senses for individual lexemes. Given this line of reasoning, it might be expected that words implicated together within a given metaphor would emerge in unison. For example, *wangzhan* 'web site' lit., 'net station' and *shang wang* 'go online' lit., 'board the net' would become conventionalized at approximately the same time. Likewise, *wangye* 'web page' and *liulan* 'browse' would also emerge together. Nonetheless, given the nature of how the Internet developed, with individual web pages generally preceding fully functional sites, it could also be the case that the corpus data would show the book metaphor to have become conventionalized earlier than the transportation metaphor.

3. RESULTS AND DISCUSSION. In addition to preparing the lists of target expressions for the book and transportation metaphors, I also planned to conduct searches for *hulianwang* 'Internet' lit., 'interconnected network', judged by myself and a native speaker of Beijing Mandarin to be the most conventional Mandarin name for the Internet, as well as *yintewang* 'Internet', another widely used name. However, when conducting the frequency counts for other expressions and reviewing their use in context, I also realized that other terms, such as *jiaohu wangluo* 'Internet' lit., 'interactive network' were also in use during the studied period. Therefore, in order to establish a general sense of how frequently the Internet was used as a discourse topic, these three terms were sampled together as a group.

For each of these target terms, I conducted separate frequency counts for each month of corpus data, manually eliminating false hits for words that were used in senses unrelated to the Internet[3] to obtain raw frequency counts. Based on these raw counts, I then calculated the frequency per million characters for each term per month. Having determined these monthly frequencies per million characters, I charted the following trends:

- the emergence of general terms used as names for the Internet;
- an overall comparison of general Internet names versus book and transportation metaphor terms, grouped together as an aggregate measurement;
- a close-up comparison of the book and transportation metaphor terms, grouped as aggregate totals;
- a detailed breakdown of terms used within the book metaphor; and
- a detailed breakdown of terms used within the transportation metaphor.

These charted trends are shown and discussed below.

Two target terms, *guoke* 'net user' lit., 'net passenger' and *wangchong* 'networm', had practically zero hits in the corpus sections that I analyzed. Apparently this is because either (1) they emerged after September 2002, the most recent date for the corpus data on hand, though these terms are currently used in Mandarin; or (2) the corpus, being composed of news reports, was too formal to include these metaphorical terms, which might be used primarily in informal contexts. Fortunately, the lack of results for these terms affected the measurements for each metaphor equally, since it knocked out one term from each metaphor group, leaving three target terms for each group.

FIGURE 3: Rise and Fall of Mandarin Terms for the Internet

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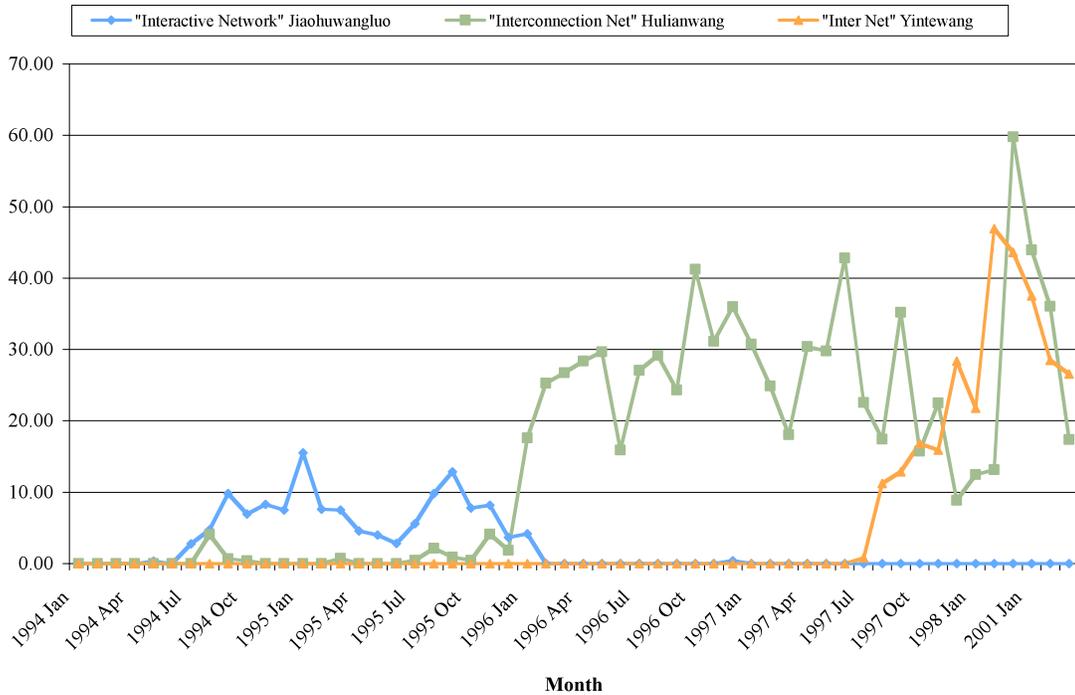
[3] Such as *shangwang* ("approach the net"), which had various false hits referring to soccer, as well as *liulan* ("browse") and *shuqian* ("bookmark"), which have unrelated literal meanings.

The trend of general names for the Internet showed that *jiaohu wangluo* 'interactive net' was one of the earliest terms for the Internet but died out as soon as a more appropriate name, *hulianwang* 'interconnection net', became dominant, as shown in figure 3.

Although a third term, *yintewang* 'Internet', was coined as a phonetic borrowing from English—indeed, the first instance of this term in the corpus was an article in August 1997 announcing its coining by a researcher at a prestigious national research institute—it did not replace *hulianwang*, which had already become sufficiently established. As mentioned above, *hulianwang* is currently the most conventional name for the Internet in Mainland China.

The overall comparison of emergence trends for book metaphor terms and transportation metaphor terms is shown in figure 4.

FIGURE 4: Overall Comparison of Internet Terms and Book / Transportation Metaphors
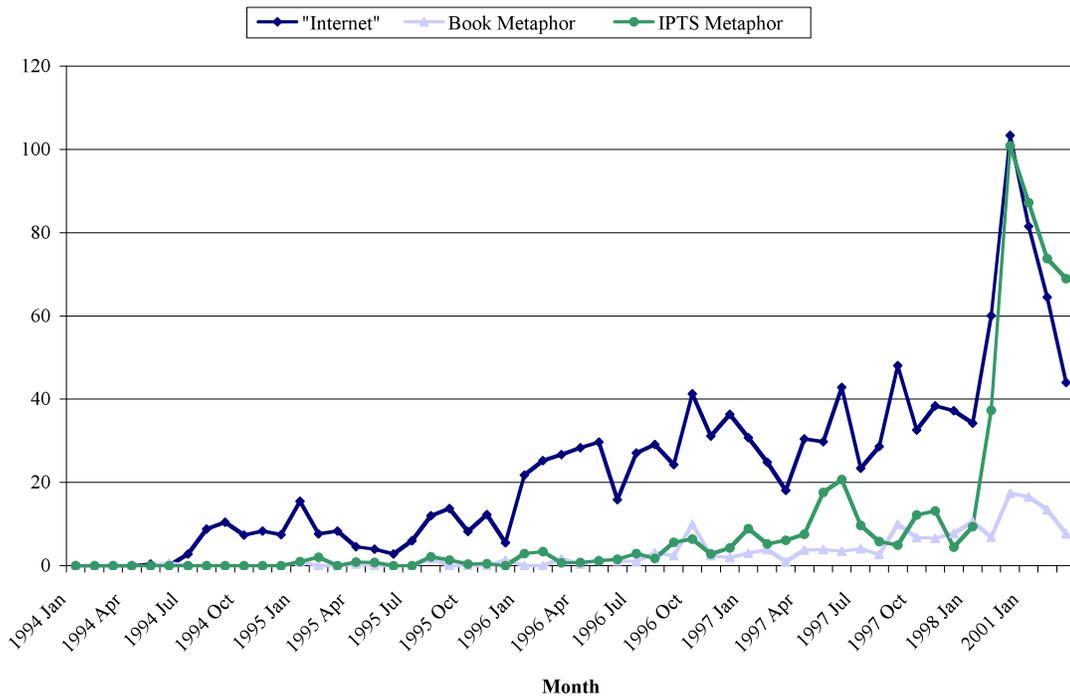
As the graph in figure 4 illustrates, these two metaphors emerged at roughly the same time. Apparently their conventionalization did not begin until approximately October 1996, two full years after the Internet had entered public discourse. Based on a preliminary review of the terms used to describe the Internet during this two-year period from October 1994 to 1996, it appears that literal terms were heavily used to describe the new technologies and services involved in the Internet. It would, however, be useful to study texts from this period more closely to determine what metaphors—or proto-metaphors, perhaps, with individual words mapped through primary conceptual metaphors—may have been in use.

When we look more closely at the breakdown of terms used in the book metaphor, it is clear that the terms did not emerge simultaneously. Instead, the use of key verbs such as *liulan* 'browse' and *shang wang* 'go online' lit., 'board the net' preceded the emergence of their corresponding nouns. For the book metaphor, *wangye* 'web page' became conventionalized about nine months after its verb.

FIGURE 5: Comparison of Terms within Book Metaphor
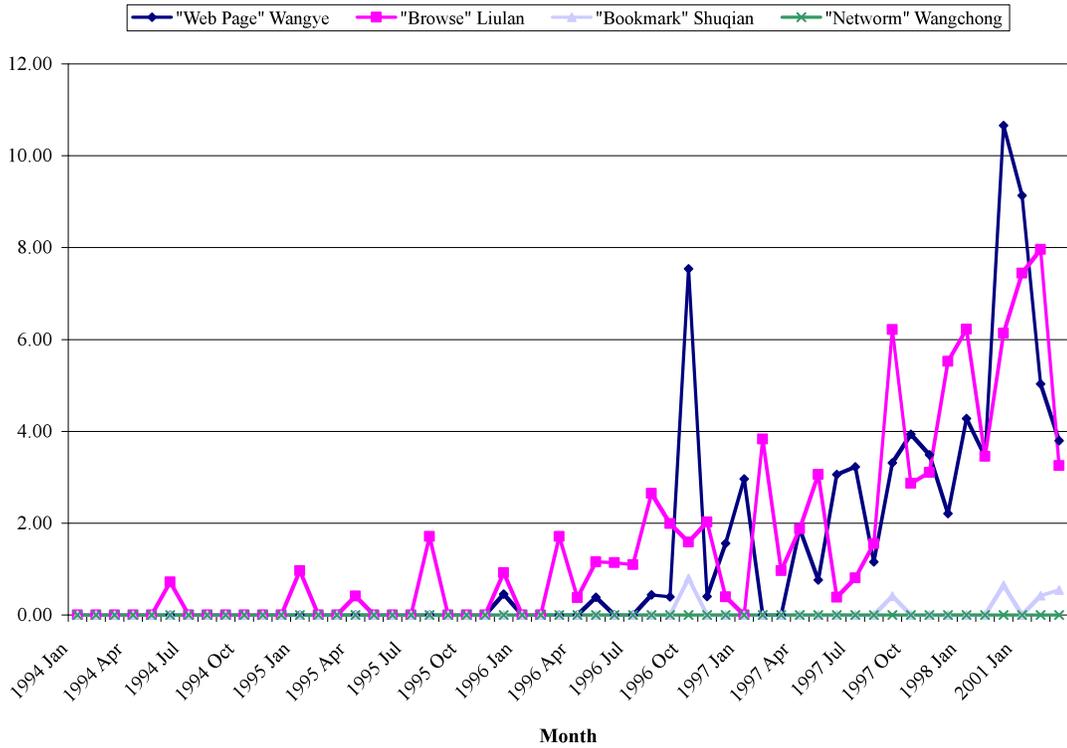
For the transportation metaphor, this lag is even longer:

FIGURE 6: Comparison of Terms within Transportation Metaphor
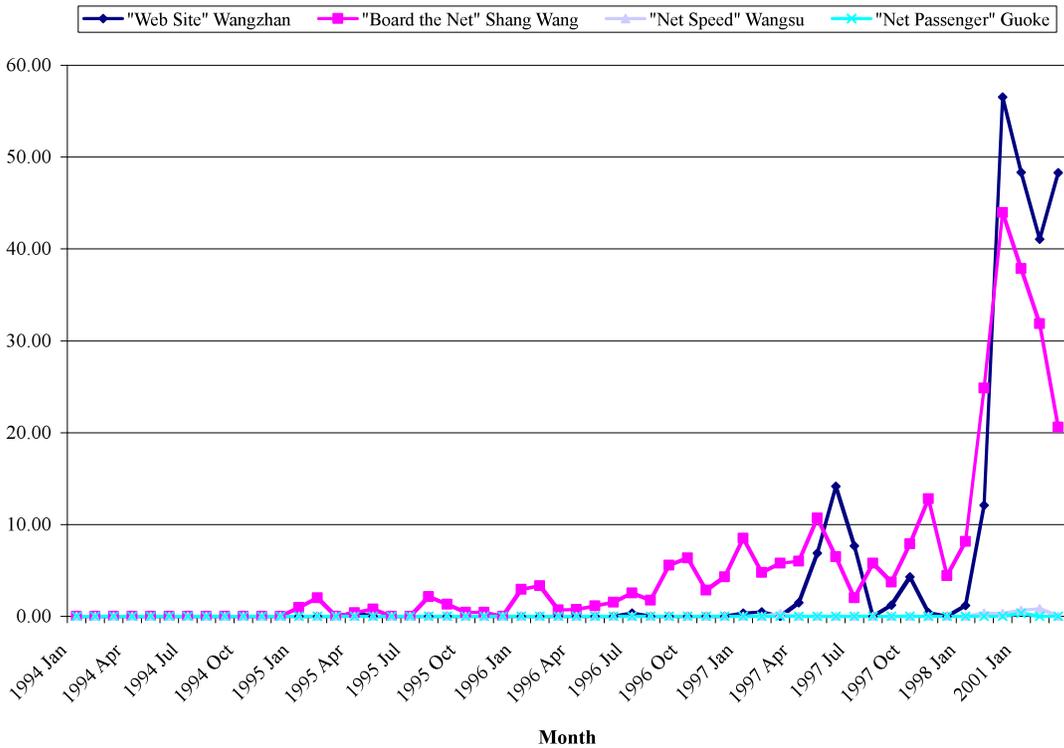
In this case, we can see that *wangzhan* 'web site' emerged nearly two years after *shang wang* 'go online' lit., 'board the net' was established. That the book metaphor terms emerged at essentially the same time suggests that their "emergence" in Mandarin might in fact have been borrowings from existing metaphorical terms in English for technologies that were no longer novel. In contrast, the transportation metaphor terms may have emerged in parallel with similar English terms, together with novel technologies in both English- and Mandarin-speaking areas. A corresponding study of the emergence of metaphorical English terms for the Internet could test this notion.

4. CONCLUSION AND FURTHER RESEARCH. For the book and transportation metaphors in Mandarin, the source-target mappings did not emerge simultaneously to create a fully formed conceptual metaphor. Instead, new metaphorical verbs appeared before the conventionalization of new metaphorical nouns. It might be possible that such patterns of emergence are common to new metaphors. If so, then I would predict that new metaphors are established first through (1) the coining of new (metaphorical) senses for verbs, but (2) attachment of such verbs to non-metaphorical NP arguments. After a new metaphorical verb becomes conventionalized, the source-domain mapping it establishes serves as a grounding point to build out additional metaphorical nouns within the same source and target domains. Further research on the time course for emergence of other metaphors, both in Mandarin and other languages, could shed more light on this issue.

Another direction for further study would be to determine what factors correlate with the choice of specific metaphorical terms. For example, why would Mandarin speakers choose *wangzhan* 'web site' lit., 'net station' to describe web sites, thereby providing grounds for the conventionalization of other terms under the transportation metaphor? It is possible that the primary factor is how well the objects or events denoted by source domain terms are integrated into speakers' everyday lives. In other words, social and cultural factors modulate how strongly a given source domain term can ground a target domain concept. Mandarin speakers are assumed to have more experience using and talking about public transport than English speakers, and therefore public transportation terms in the MOVEMENT THROUGH SPACE source domain map more easily to the new target domain for Mandarin speakers. Indeed, railway travel accounted for nearly half of all Chinese passenger traffic in the mid-1990s (PRC Statistical Bureau 1996), though in the United States rail travel surely represents only a mere sliver of the total.

A final possibility for further research would be to extend this study to metaphorical expressions used for other technologies old (telegraph, telephone, and television) and new (mobile phones, instant messaging, and online gaming). Across languages, it is likely that metaphors for communication are established on the basis of universal primary metaphors like THE MIND IS A CONTAINER and IDEAS ARE OBJECTS. However, cross-linguistic variance is predicted in the specific mappings between source and target terms when complex metaphors emerge for new technologies, as with the Mandarin transportation metaphor.

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