2017. *Proc Ling Soc Amer* 2, 28:1-14. https://doi.org/10.3765/plsa.v2i0.4083.

Stages of language shift in twentieth-century Inner Mongolia, China

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Abstract. Mongolian as a minority language in China is losing speakers, although several million remain in China's Inner Mongolia Autonomous Region. The case of 20th-century Inner Mongolia is an example of the long-term processes that may precede language endangerment. This paper takes Fishman's (1991) notion of language shift as a decline in intergenerational mother tongue transmission and formalizes it for quantitative research, applying the methodology to a retrospective survey of intergenerational language transmission concerning over 600 Inner Mongolians born between 1922 and 2007. Results show that bilingualism with Chinese has penetrated the entire Mongolian-speaking population, but has not thus far precipitated massive language shift.

Keywords. Mongolian, language contact, language maintenance and shift

1. Introduction. In the Inner Mongolia Autonomous Region of the People's Republic of China, Mongolian is spoken by a minority of the population and is sometimes being replaced by Chinese, the national and majority language. During the past century, Mongolian speakers have been using more Chinese and becoming more proficient in Chinese, and some descendants of Mongolian speakers no longer speak Mongolian themselves, but use Chinese exclusively.

This paper investigates the historical interplay between the increasing use of Chinese, the decreasing use of Mongolian, and an eventual *language shift*, where Mongolian may cease to be transmitted between generations. Based on a retrospective survey of intergenerational language transmission in Mongol families over the past eighty years, I identify three historical stages corresponding to three cohorts of speakers. Among those born before 1950, Chinese spread gradually and only in certain locations. Among those born 1950-1980, use of Chinese spread rapidly so that more and more Mongolian speakers were bilingual. Among those born 1980 and later, nearly all Mongolian speakers were proficient in Chinese by early adulthood. Throughout all three periods, shift to Chinese has proceeded gradually: children of bilinguals would sometimes grow up to speak only Chinese, but would more often maintain both languages. Only in the third period has the Mongolian-speaking population reached a stage where a sudden complete shift to Chinese becomes a possibility.

2. Mongolian and Chinese in Inner Mongolia. Mongolian and other languages of the Mongolic family are spoken in both Mongolia and China, as well as the Russian Federation and Kazakhstan (see map in Figure 1). The Mongolian language is called "Mongolian proper" in Mongolic

* The research reported in this paper was funded by a Fulbright U.S. Student Grant, a University of Washington Chester Fritz and Boeing Graduate Research Abroad Fellowship, and a Li Fang-Kuei and Hsu Ying Fellowship for Chinese Linguistics. I would also like to acknowledge the School for Mongolian Studies at Inner Mongolia University, the Linguistics Department at the University of Washington, and the consulting services from the Center for Studies in Demography and Ecology, Center for Statistics and the Social Sciences, and Statistics Department at the University of Washington. I thank Borjigin Badma-Odsar and the many other colleagues in Inner Mongolia who made the fieldwork possible, as well as those who consented to be interviewed. I thank Sharon Hargus, Stevan Harrell and Nathan Loggins for feedback on earlier versions of this paper. Author: Sarala Puthuval, University of Washington (s.puthuval@gmail.com).

linguistics to distinguish it from other members of the family. Mongolian proper is internally very diverse. It is classified as a macrolanguage by the Ethnologue (Lewis, Simons, & Fennig, 2016, see ISO 639-3:mon). Janhunen (2012) describes it as a dialect continuum, with the greatest dialect diversity being located in China rather than Mongolia. As shown in Figure 1, Mongolian proper is mainly spoken in Mongolia and Inner Mongolia. The present paper is concerned with all the dialects of Mongolian proper that are spoken in Inner Mongolia and adjacent territories in Northeast China *by speakers who self-identify as Mongols*. This means including a few varieties that some experts would classify as distinct Mongolic languages, such as Barg, Buriad, Ordos and Ejine. The closest corresponding ISO 639-3 code is [mvf] "Peripheral Mongolian".

Mongolian is the majority language and official state language in the country of Mongolia, with the Khalkha dialect being the basis for the standard language. But according to most estimates, more than half of the world's Mongolian speakers live in China, most of them in the Inner Mongolia Autonomous Region. The IMAR, shown outlined in black on the map in Figure 1, contains about 4.2 million ethnic Mongols as of the 2010 census (National Bureau of Statistics, 2010). In contrast, the total population of Mongolia was only 2.7 million as of the 2010 census in

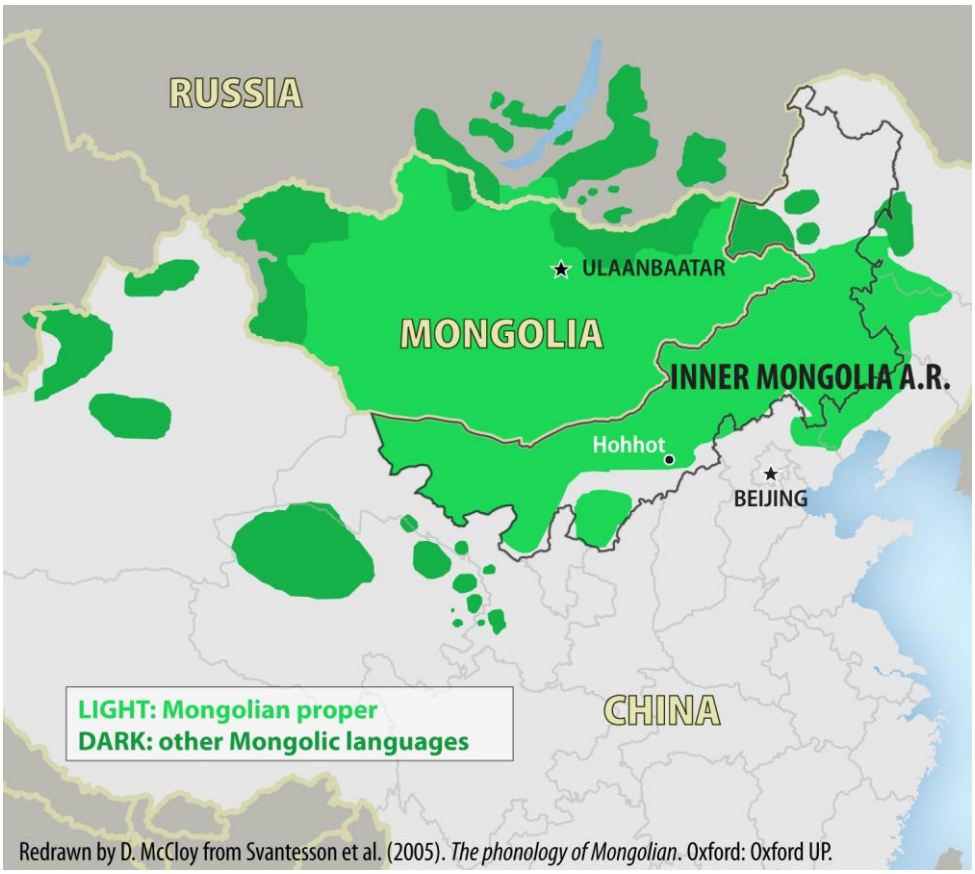

Figure 1: Geographic distribution of Mongolian and Mongolic in Northeast Asia

that country (National Statistical Office, 2010). Even though not all Inner Mongolian Mongols speak Mongolian, they still almost certainly outnumber the speakers in Mongolia (on estimating the proportion of speakers, see Puthuval, 2017a). Standard Mongolian in China is based on the Chakhar dialect, Plain Blue Banner subdialect.

The official state language in China is Standard Chinese (Chinese: *Pǔtōnghuà* "the common speech"), a member of the Mandarin dialect group. Within Inner Mongolia, Mongolian is a co-official language with Standard Chinese, and still very much a minority language: as of 2010 the IMAR was 79% ethnic Han Chinese and only 17% ethnic Mongol (the latter percentage including people of mixed ethnic origin and people who do not necessarily speak Mongolian). The local dialects of Chinese spoken in Inner Mongolia belong to the Mandarin group toward the east and the Jin group toward the west, and there is a localized form of Standard Chinese (Puthuval & Wang, 2016). For the rest of this paper, "Chinese" refers collectively to all these varieties.

The PRC's Autonomous Regions were created supposedly to grant a certain amount of political autonomy to national minority groups (also translated as ethnic minorities, in Chinese *shǎoshù mínzú*). Even so, the Mongolian autonomous region has had a relatively low proportion of Mongol residents ever since it was created in 1947 (Bulag, 2002). Figure 2 shows how the ratio of Han to Mongols in the population has evolved during the 20th century, based on historical census figures from 1912 to 2007 (compiled in Song, Zhang, Wang, & Mao, 1987; Zhao & Yang, 2009). There was already a significant Han majority in Inner Mongolia in 1912, the year the Republic of China was founded and the last imperial dynasty ended. However, geographically the Han residents were concentrated in just a few areas that had a higher population density. The implication for language contact is that, while some Mongolian-speaking communities were experiencing intensive contact with Chinese during the 19th and early 20th centuries, others experienced almost no contact during that time (Puthuval, 2017b).

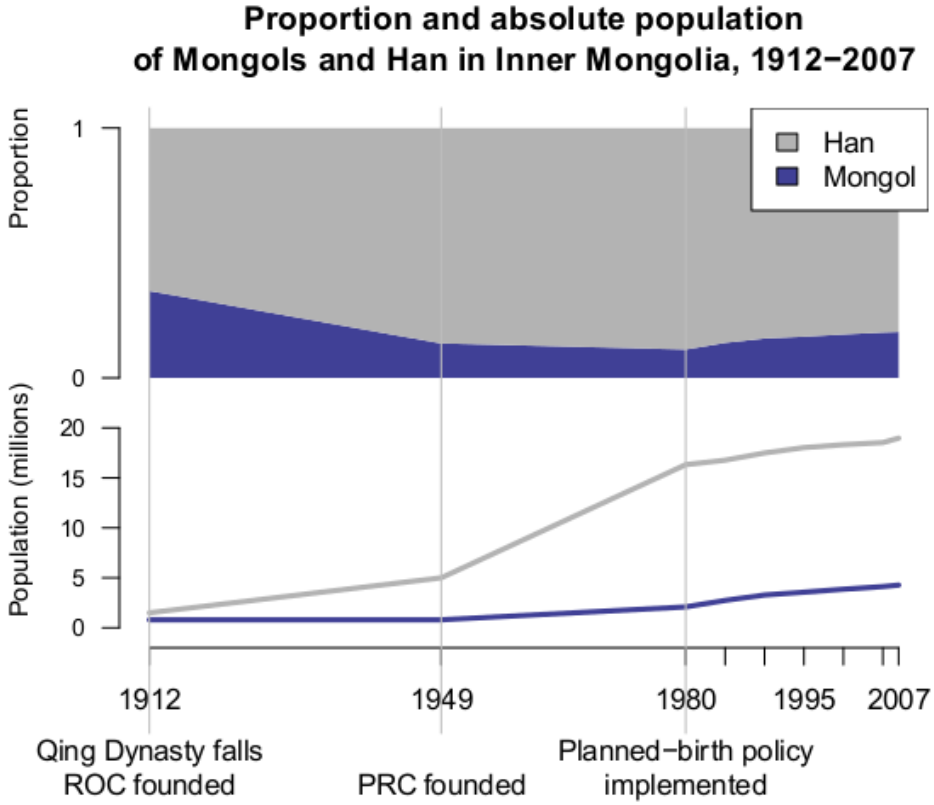

Figure 2: Changing population of Mongols and Han in Inner Mongolia, 1912-2007, from census figures collected in Song et al. (1987) and Zhao & Yang (2009).

Reports of language shift from Mongolian to Chinese have been seen since the early 19th century at least. To take just a few examples: in the 1840s, some Mongol villages in Inner Mongolia's Hetao Plain region had already abandoned Mongolian for Chinese (Huc, 1850). In the 1940s, the Hetao region was entirely Chinese-speaking apart from a small number of Mongols ages forty and up (Wang, 2000). In the 1990s, Mongolian was in the process of being lost among urban and upwardly-mobile Mongols in Dongsheng City in the Ordos area (Bulag, 2003). In the mid-2000s, Mongolian youth were using less Mongolian and more Chinese compared to their parents (Lim & Ansaldo, 2016). All of these authors are pessimistic about the future of the Mongolian language. But notice that, over the hundred-and-seventy-year period covered by these reports, each successive author is describing an ongoing or recent language shift process, not a long-ago completed one. We can infer that shift from Mongolian to Chinese did not happen just once in Inner Mongolia, but has been happening at different times in different places and among different subgroups of people. Furthermore, it is by no means a foregone conclusion that Mongolian will be abandoned by all. The language is still spoken today by millions of Mongols of all ages, and there are still schools where Mongolian is the primary medium of instruction. It is hard to claim that Mongolian in Inner Mongolia is an endangered language, but hard to claim that it is safe and stable either. Rather, this seems to be exactly the type of gradual or cumulative language shift which, according to Fishman (1991) and Krauss (1992), may go on for a long time before ever reaching the stage we now recognize as "endangered".

My goal in the present paper to reconstruct the time-course of contact between Mongolian and Chinese in 20th-century Inner Mongolia, that is, the interplay between the spread of Chinese, the loss of Mongolian, and the overall stability of Mongolian-Chinese bilingualism. My description will be based on recent fieldwork using questionnaire and interview methods.

3. Theory and methods. In order to accomplish the above goal, a secondary goal is to formalize Fishman's (1991) concept of intergenerational language transmission such that it can be used for quantitative research.

3.1. Theories of language maintenance, shift and endangerment. Language shift happens when a group of people stops using one language in favor of another, such that subsequent generations no longer acquire the original language. Its opposite is language maintenance, when a group continues using its original language alongside another language. My working definitions of language maintenance and shift are based on early sociolinguistic formulations (Fishman, 1964; Weinreich, 1953). Given this understanding of shift, there are two levels at which linguists might study it: language use in everyday life, and the transmission of languages between generations (i.e. language acquisition). Sociolinguistic work on language shift has generally focused on observing language use in bilingual communities (e.g. Gal, 1979; Li, 1995). Psycholinguistic work on minority-language bilingual speakers (heritage speakers) has focused more on acquisition, especially how well each language is acquired (e.g. Montrul, 2008). The present paper follows the precedent set in the language endangerment literature, where, though both use and acquisition receive attention, transmission to children is considered key to determining how severely a language is endangered. For example, a UNESCO-convened committee of linguists, writing guidelines for evaluating language vitality and endangerment, states that "The most commonly used factor in evaluating the vitality of a language is whether or not it is being transmitted from one generation to the next", citing Fishman's (1991) precedent. They go on to say that "Endangerment can be ranked on a continuum from stability to extinction" (UNESCO Ad Hoc Expert Group on Endangered Languages, 2003). These statements reveal some tension between an either/or view (asking "whether or not" the language is being transmitted) and a

gradual view (ranking endangerment "on a continuum".) A similar tension is seen when Fishman, in the same work cited above, remarks that "language shift is often a slow and cumulative process" (Fishman, 1991, p. 40). Fishman considered such gradual processes of shift to be very difficult to observe, since by the time people became conscious that the language was threatened, the gradual phase was already over. This may be why systems for ranking a language's degree of endangerment tend to take an either/or view of transmission, or at best an all/some/none view. As a case in point, the UNESCO guidelines make a three-way distinction between a language being transmitted to *all* children, *some* children, or *no* children. The rest of their continuum is measured by how old the youngest generation of speakers are, and by incorporating other factors besides transmission. To date, theorizing about language maintenance and shift has taken little account of situations where *some* children of speakers are acquiring the language—particularly the question of *what proportion* of children are acquiring it.

Since the present study is concerned with a relatively long time-scale, intergenerational transmission is an appropriate level of observation. In this paper, I take the stance that although the either/or view of transmission can be appropriate when applied to individual speakers or families, only the gradual, cumulative view makes sense at the level of the speech community or speaker population. This becomes particularly obvious for large, heterogeneous communities such as the Mongols of Inner Mongolia. In the next section, I describe an extension of Fishman's theory of language maintenance and shift that is better adapted for examining a gradual and partial process of language shift.

3.2. Modeling shift and maintenance as outcomes of intergenerational language transmission. If, instead of asking "whether or not" a language is being transmitted, asking "at what rate" it is being transmitted, then we move from a qualitative to a quantitative question. I propose that intergenerational transmission can be studied quantitatively by simply formalizing the definitions of language maintenance and shift, as follows.

In an environment where two different languages (say Chinese and Mongolian) are being used, each individual person might be proficient in either or both. A child will not necessarily acquire the same repertoire of languages as its parents (or whoever is raising the child). If the caregivers are bilingual, the child may still drop one of the languages, while if the caregivers are monolingual, the child might easily acquire the other language from people outside the family. A case of *language shift* can be defined as a child who does not acquire Mongolian despite being raised by Chinese-Mongolian bilingual parents. Crucially, this excludes children whose parents did not know Mongolian in the first place, e.g. where language shift took place in some earlier generation. This is important for tracing a language shift process through time. A case of *language maintenance* can be defined as a child who acquires both Mongolian and Chinese, and was raised by parents who are likewise bilingual. If the parents only spoke Mongolian but the child eventually acquires both Mongolian and Chinese, this is not a case of maintenance but rather a case of *language spread* (cf. Cooper, 1982; Nichols, 1999), where Chinese has spread to a new speaker.

Having identified each child (or rather each caregiver-to-child transition) as a case of shift, maintenance, spread, etc., we can extend the analysis to the speech community or population level, by considering the rate or proportion of each type of case within a group of people.

- Rate of *shift* = proportion of Chinese-monolingual children, given Bilingual parents/household
- Rate of *maintenance* = proportion of Bilingual children, given Bilingual parents/household

- Rate of *spread* = proportion of Bilingual children, given Mongolian-monolingual parents/household

The above proportions are calculated as conditional probabilities, for example the probability of a child's being a Chinese-monolingual speaker on the condition that their parents were bilingual. Note that, besides the theoretically interesting "shift", "maintenance" and "spread", there are six other possible intergenerational transmission outcomes for a total of nine, summarized in Table 1. The conditional probability analysis accounts for all of them, and the same formal definitions could be applied to any bilingual or multilingual environment, although the more languages, the larger the matrix.

		Generation 1		
		Mong. only (M)	Both lgs. (B)	Chin. only (C)
Gen. 2	Mongolian only (M)	M to M	B to M	C to M
	Both lgs. (B)	M to B (spread)	B to B (maintenance)	C to B
	Chinese only (C)	M to C	B to C (shift)	C to C

Table 1: Transition matrix for intergenerational language transmission

3.3. Field survey methods. To collect data for an intergenerational transmission study according to the above model, colleagues[1] and I developed a questionnaire containing five sections: 1, basic demographic information including location of residence; 2, self-reported proficiency in Mongolian and Chinese, spoken and written; 3, early childhood language environment, including the location of residence and the language proficiency of parents and other family members; 4, proportion of Mongolian vs. Chinese used in early childhood and during schooling; 5, interviewer notes, including the proportion of Mongolian vs. Chinese used during the interview and the location of the interview. We intentionally made it brief and simple—it could be administered in 10-15 minutes—because to meaningfully evaluate the transition probability matrix, a sample of at least 150-200 people would be required, and ideally more.

Interviews were done by myself and a small group of graduate student volunteers at Inner Mongolia University, all of us proficient in both Mongolian and Chinese, and all except me having native fluency in one or both. We recruited participants through a mixture of informal social networks and institutional channels such as schools and local government offices, attempting to balance age groups, obtain broad geographic coverage, and balance the number of Mongolian-speaking and non-Mongolian-speaking individuals. Some interviews were carried out one-on-one with the interviewer taking notes. Others were done in larger groups, with respondents filling out the questionnaire forms themselves, guided by one or several interviewers. A few of the one-on-one interviews were audio-recorded to capture anecdotal and autobiographical details that would not fit on the questionnaire. Questionnaires were printed in Mongolian and Chinese, and interviews were conducted in whichever language was most convenient. Proficient bilinguals were usually interviewed in Mongolian.

[1] Borjigin Badma-Odsar and his students Ürele and Sačural at Inner Mongolia University helped create it. The complete questionnaire in Mongolian, Chinese and English is included in Puthuval (2017b).

3.4. Language proficiency data. All of the language proficiency data were obtained by self-report. The questionnaire had a four-level scale, Fluent, Moderate, A little and None, similar to other self-report questionnaires used in China (e.g. Hasierdun et al., 2012; Xu & Dong, 2006). Each questionnaire included two generations: interviewees evaluated both themselves and their parents, or other early-childhood caregivers, on the same scale. Though self-reported language ability is not as reliable as a behavioral test of language ability, it was important to be able to use a consistent scale for both generations. Because we needed to include people of all ages in the "child" generation, it was not going to be possible to directly interview all of the parents and caregivers, since many of them would be deceased at the time of the interview.

We used the criteria shown in Table 2, defining "Chinese" and "Mongolian" to include all dialects spoken in the region. Interviewers were trained to explain the criteria and, if necessary, ask follow-up questions to clarify individual speakers' proficiency. Interviewers made sure to emphasize that an average person's spoken-language communicative ability, even in a non-standard dialect, should be described as Fluent, not Moderate. Otherwise, many speakers would have interpreted Moderate to mean "average" or "ordinary", either out of modesty or because of the connotations of the Mongolian and Chinese wording on the survey. Spoken and written ability were evaluated separately.

	Label (Chinese, *Mongolian*)	**Speaking/listening**	**Reading/writing**
1	**Fluent** 熟练 *bolbasurangɣui*	Can express thoughts easily, including complex ideas.	Can easily read books, newspapers, articles etc.
2	**Moderate** 一般 *yerü-yin*	Can easily hold a conversation about everyday matters.	Can easily read simple materials like text messages, letters.
3	**A little** 略懂 *ǰaɣaxan medexü*	Can say a few words or short phrases, e.g. numbers, greetings.	Knows the alphabet (Mongolian) or knows some characters (Chinese).
4	**None** 不会 *medexü ügei*	No ability whatsoever.	Never learned to read in that language, or learned a little and forgot.

Table 2: Questionnaire criteria for evaluating language ability

3.5. Intergenerational transmission analysis. For the purpose of the present paper, only the spoken ability data are analyzed, and the four-level scale is reduced to a binary classification between speakers and non-speakers. Anyone at the Fluent or Moderate level is considered a speaker, and anyone at the A Little or None levels is a non-speaker. The idea behind this cutoff is that the Moderate level is sufficient for everyday communication, and therefore a Moderate speaker would be capable of transmitting the language to children.

With two languages, the binary classification yields three types of speaker: Mongolian only, Mongolian plus Chinese (bilingual), and Chinese only. I will label these (M), (B) and (C) respec-

tively. In reality, a so-called Mongolian-only speaker may know some third language (examples from our data include Russian and Tibetan), as might a Chinese-only speaker (the most common example from our data being English).[2] When I refer to (M) or (C) speakers as "monolingual", it is not strictly accurate, but only a convenient way of contrasting them with Mongolian-Chinese bilinguals (B).

Each interviewee named up to four parents or caregivers, in response to the question which elder family members lived with and took care of them before age seven. To carry out the intergenerational transmission analysis, it is necessary to estimate a single (M, B, C) value for the household, representing the child's potential language input in the home. Averages for the household are calculated as follows. First, each household elder is categorized as (M), (B) or (C) in the same way as for the interviewees themselves, and the values (M, B, C) are mapped to (1, 0.5, 0) respectively. Second, I calculate the mean for all elders in a household, and map it back to (M), (B) or (C), placing the cutoffs such that households are classified as (B) if and only if they meet one of the following conditions. If at least half of the caregivers are bilingual, then the household will be classified as bilingual. If any two of the caregivers are monolingual, but in different languages, such that the child would presumably need both languages to communicate with them, then the household will be classified as bilingual. Otherwise, the household will be classified as (M) or (C) as appropriate.

Having classified each interviewee and each household of caregivers as Mongolian-speaking only (M), bilingual (B), or Chinese-speaking only (C) respectively, each two-generation dyad could then be identified as belonging to one of the nine possible transitions (M to M), (M to B), etc. Finally, the proportion of each transition in the sample was calculated as a conditional probability, as described in Section 3.1.

See Puthuval (2017b) for a more complete presentation of the methodology, the rationale behind it, and the steps in processing the data.

4. Results The sample eventually obtained is larger than originally intended. It consisted of 629 interviewees and also included data about 1,617 parents and other caregivers. Interviewees' birth years ranged from 1922 to 2007. Birth years of elder family members went back as far as the 1880s (some interviewees born in the 1920s or 1930s had been raised by grandparents). The interviewees were 96% ethnic Mongol according to their official ethnicity. The non-Mongols included Evenki and Daur (peoples of Manchuria/Northeast China who often speak Mongolian as a second language) and some ethnic Han who could speak Mongolian as a first or second language. Among the 629 interviews, 22 were audio-recorded.

The interviewees were 78% Mongolian-speaking at the "moderate" or "fluent" level, including monolinguals and bilinguals. Note that this percentage is not a result in itself, since we intentionally tried to recruit a sample that was 50% Mongolian-speaking (on why we failed, see Section 5). Published estimates of the proportion of Mongolian speakers among ethnic Mongols in China or Inner Mongolia range from 50% to 80%, so our sample is accidentally reasonably representative, but probably slightly biased toward Mongolian speakers (Puthuval, 2015, 2017b).

4.1. Rates of shift, maintenance and spread in the sample overall. For the intergenerational transmission analysis, all interviewees are treated as the "child" generation, regardless of their age; most were adults at the time of the interview. The proportions (conditional probabilities) of

[2] A logical fourth type is one who speaks neither Chinese nor Mongolian. But since we defined "Chinese" and "Mongolian" to include all dialects of each, the "neither" type was extremely rare. We encountered a few "neither" cases where we were told the person was deaf, and few with no explanation. All were dropped from the analysis.

each transition were first calculated for the sample as a whole. The transitions most relevant for the research questions are: shift to Chinese (B to C), maintenance of Mongolian-Chinese bilingualism (B to B), and spread of Chinese (M to B). The proportion of shift was 0.165, meaning that among children raised in bilingual households, 16.5% failed to acquire Mongolian. The proportion of maintenance was 0.818, meaning that among children raised in bilingual households, 81.8% acquired both Mongolian and Chinese. (Note that these do not add up to 100%, so a small percentage of children raised in bilingual households failed to acquire Chinese.) The proportion of spread was 0.819, meaning that among children raised in Mongolian-monolingual households, 81.9% acquired not only Mongolian but also Chinese. Again, these represent the mean proportion of shift, maintenance and spread for all interviewees regardless of when they were born. We can already see that bilingual maintenance (B to B) is far more common than shifting to Chinese (B to C). Note that the (C to C) transition also occurred: 42.3% of Chinese-only speakers among the interviewees were raised in Chinese-monolingual households, indicating that language shift must have taken place during an earlier generation, assuming they were descended from Mongolian speakers at all.

Next, to investigate historical change, the conditional probability calculations were broken down by age cohorts based on the interviewee's (the "child's") decade of birth.

4.2. Shift to Chinese vs. maintenance of Mongolian over time. Given a bilingual (B) household, a child might shift to Chinese, maintain both Chinese and Mongolian, or even shift to Mongolian only. Figure 3 shows the proportion of each possible transition among children who grew up in bilingual households. The red line indicates shift (B to C), the dark blue line indicates maintenance (B to B), and the gray line indicates shift in the other direction (B to M), which is rare. The gray bars around each point indicate standard error.

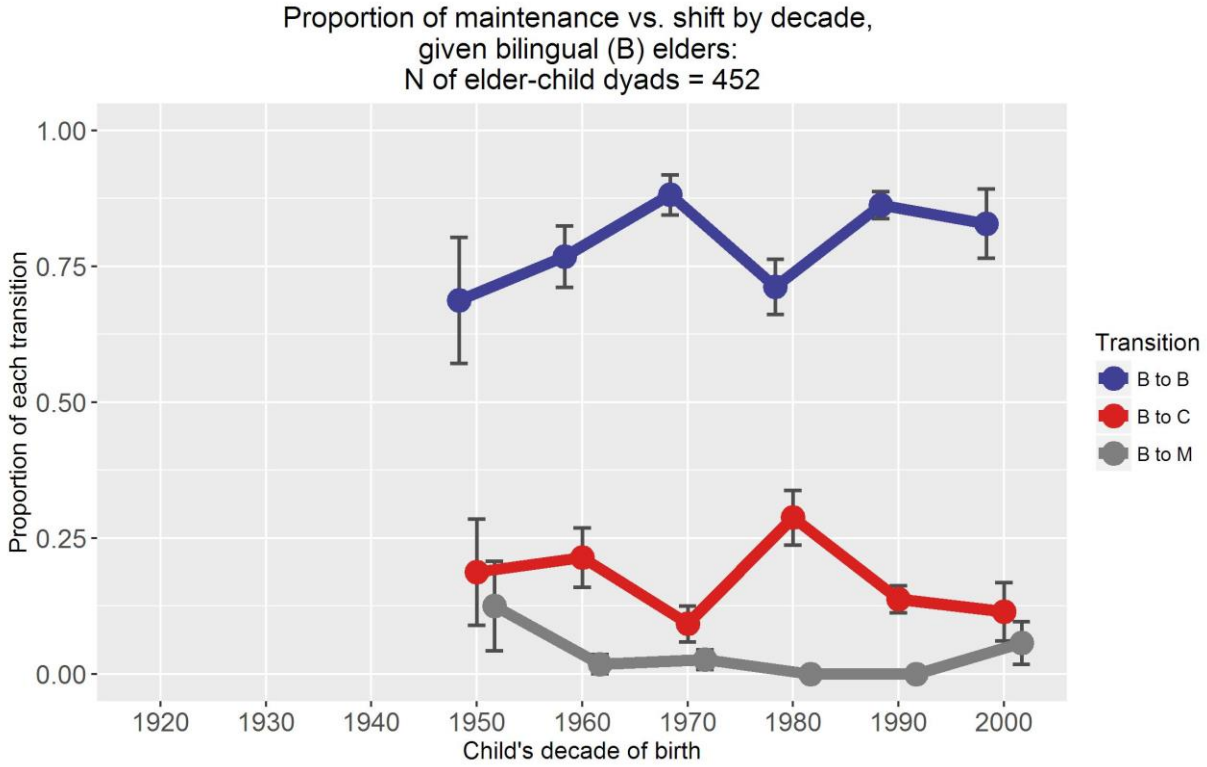

Figure 3: Maintenance of Mongolian among children of bilinguals

Maintenance (B to B) is much more common than shift (B to C) for every age cohort in the sample. Loss of Chinese (B to M) is rare but not always zero. The rate of maintenance vs. shift shows no strong trend over time, but instead seems to fluctuate continually. For example, maintenance (B to B) goes up in the 1960s, down in the 1970s, up higher in the 1980s, and back down again for the 1990s. (There are social changes that might explain the fluctuations; see Section 5). Furthermore, a logistic regression analysis finds no significant effect for decade of birth. When we model the conditional probability of language shift based on decade of birth, using the 1950s as the reference level because that is the earliest decade for which we have data for this subgroup, we find that none of the subsequent birth decade cohorts have rates of shift significantly different from the 1950s cohort (all p-values > 0.2). While Mongolian is indeed losing some speakers in every generation, there is no particular age cohort in this 57-year span that we can pinpoint as especially prone to shift.

4.3. Spread of Chinese among Mongolian speakers over time. The spread of one language and the loss of another are two separate processes. Indeed, despite finding little change in the rate of shift over time, the spread of Chinese does show some changes. Figure 4 shows the proportion of each possible transition among children who grew up in Mongolian-monolingual households. The yellow line indicates spread of Chinese, in which the child acquired Chinese presumably from people outside the family (M to B). The darker gray line indicates that the child acquired only Mongolian (M to M). The light gray line, which is always at zero, indicates the highly unlikely (M to C) transition. The gray bars around each point indicate standard error.

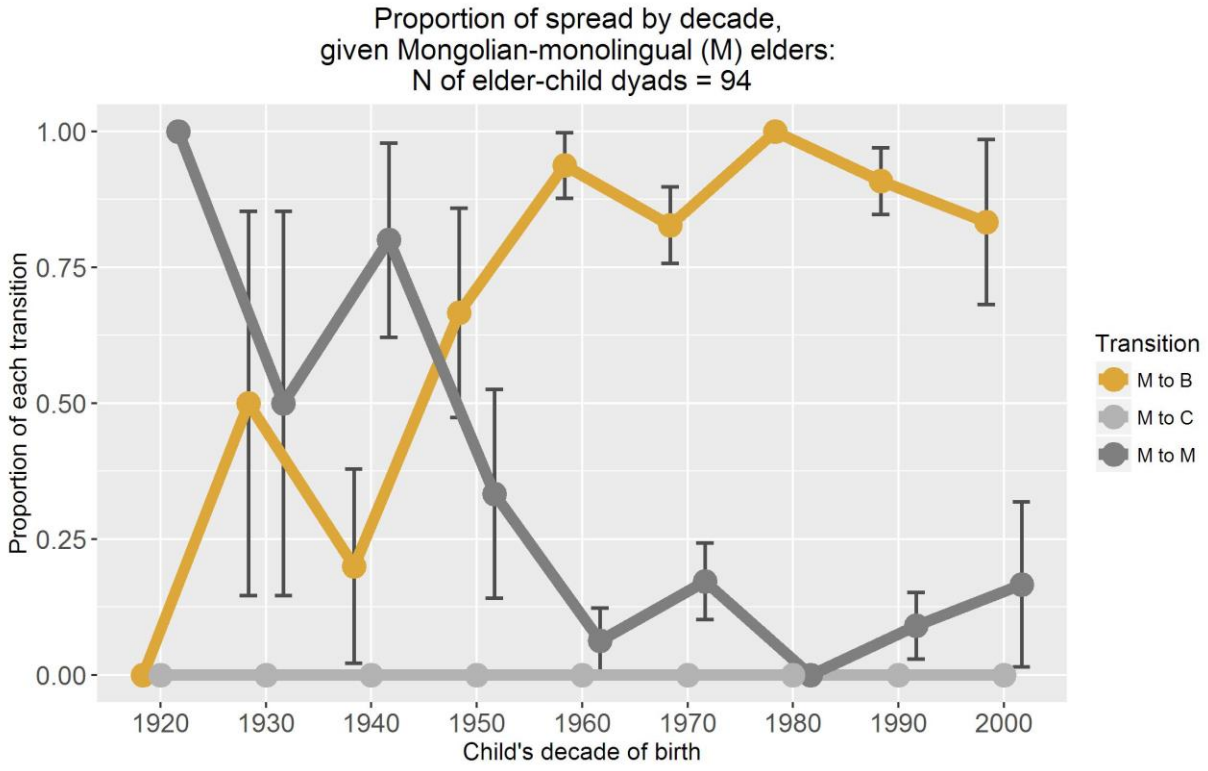

Figure 4: Increase in bilingualism over time among children of Mongolian-monolinguals

A notable change seems to have taken place in the mid-20th century, between the 1940s and 1960s age cohorts. Among those born in the 1960s and later, the (M to B) transition is by far the

most common, and there is little change over time. The vast majority of children growing up in (M)-monolingual households eventually become bilingual. But among interviewees born in the 1940s, the (M to M) transition was more common than the (M to B) transition. There is not enough data from the 1920s and 1930s to interpret, but if we suppose these decades were similar to the 1940s, then we can conclude that something happened after 1940 to rapidly advance the spread of Chinese.

To learn more about the pre-1960 age cohorts, fortunately we have birthyear data for the household elders as well as the direct interviewees. By counting each elder as an individual—in effect an apparent-time analysis—the timeline can be pushed farther back. Of course, this is no longer an analysis of intergenerational transmission, but simply of the rate of bilingualism versus monolingualism among Mongolian speakers. This analysis is shown in Figure 5, and the same trend as in the previous figure emerges more clearly. Notably, bilingualism is quite common even among people born before 1930. The first children of the PRC era, born in the 1940s and 1950s, show a rate of bilingualism similar to earlier generations. It is only among the 1960s cohort and later that bilingualism takes over and monolingualism really drops off, dwindling to almost nothing in the 1980s and 1990s cohorts.

Figure 5 does reveal an apparent exception to the trend towards bilingualism: there is a small uptick in Mongolian-monolingualism in the post-2000 age cohort. Looking more closely at the

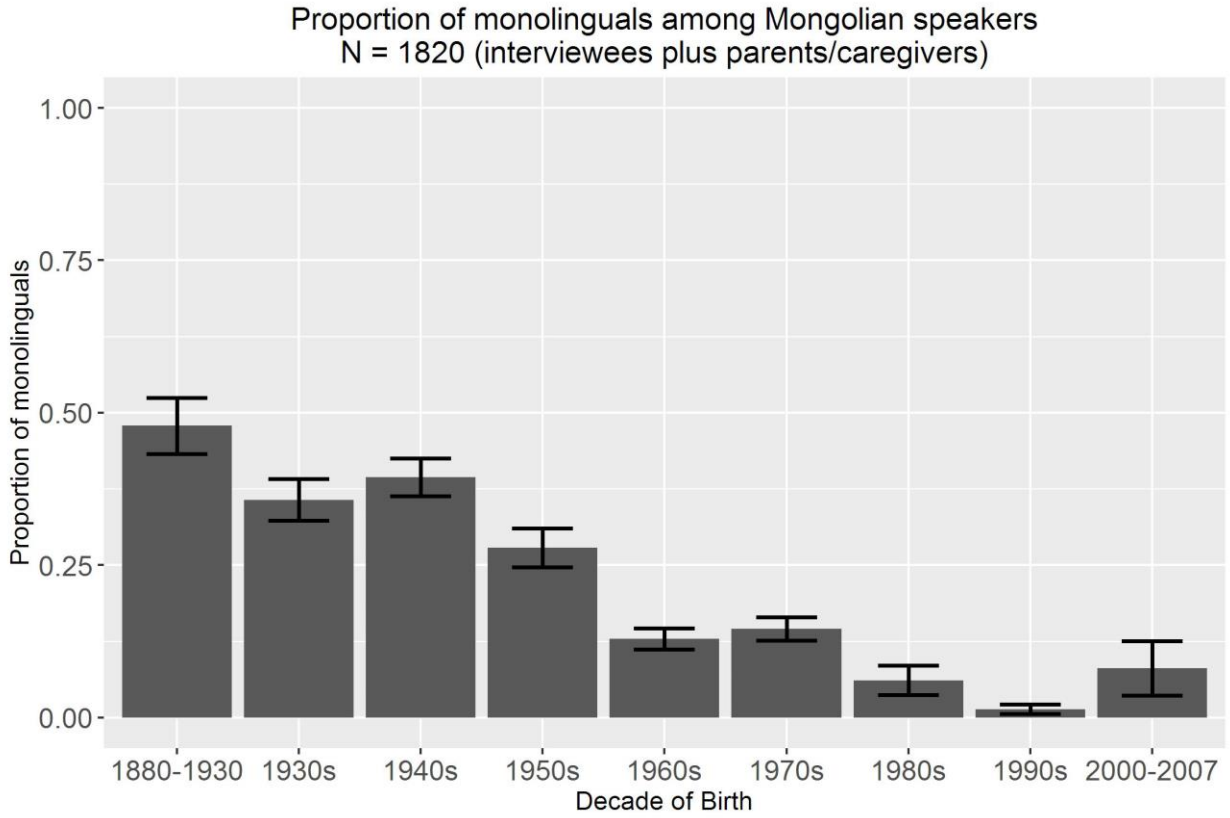

Figure 5: Decline in Mongolian-monolingualism over time

data, it turns out that among Mongolian speakers born 1990 and later, a grand total of four individuals out of 230 (1.7%) were monolingual. They were born in 1993, 2002, 2006 and 2007 respectively. None were purely monolingual; all four reported having “a little” competence in

Chinese. All four lived in rural eastern Inner Mongolia. The oldest was a farmer with an elementary school education. The three younger ones were elementary or middle school students, and it is likely they will master Chinese in the next few years. In fact, for Mongolian-speaking (M or B) interviewees born 1990 and later, the mean age at which they reported first starting to learn to speak Chinese was 5.89 years[3], and in audio-recorded interviews, several bilinguals mentioned that they did not feel proficient in Chinese until their teens or twenties. Overall, the young monolinguals visible in Figure 5 do not constitute a reversal of the trend toward bilingualism. Instead, they show that, even very recently, some children spend their early years in a Mongolian-dominated environment and acquire Chinese later, in sequence.

4.4. Summary of results. Shift from Mongolian-Chinese bilingualism to Chinese-monolingualism has been happening slowly and continually throughout the second half of the 20th century. In every generation of children raised by bilingual parents or caregivers, a minority (averaging 16% in our data) grew up to speak only Chinese. It seems that throughout the period covered by our data (1950s-2000s), there has always been a certain amount of pressure or incentive to abandon Mongolian: though Mongolian-Chinese bilingualism often lasts several generations in a family, it is not completely stable. As for the spread of Chinese into the formerly Mongolian-monolingual portion of the population, it proceeded slowly among people born in the early 20th century, rapidly among people born in the mid-20th century, and reached a saturation point among people born after 1980.

5. Discussion and historical interpretation. Based on the above findings, I posit three stages in the spread/maintenance/shift dynamic between Mongolian and Chinese during the 20th century. Each stage corresponds to a cohort of people. The first cohort comprises those born before 1950. For this cohort, Chinese was spreading gradually and unevenly through the Mongol population, being concentrated in certain locations. Mongolian likewise was being lost by some people, but in a few locations only. Geographic data collected in the present study, but not analyzed here, confirms this (see Puthuval, 2017b). The second cohort comprises people born between 1950 and 1980. For this cohort, Chinese was spreading extremely rapidly through the Mongol population regardless of location, and Mongolian was still being lost by some people. The third cohort comprises people born between 1980 and 2000. For this cohort, knowledge of Chinese was already practically universal among Mongols, and Mongolian continued to be lost by some people. This is the point where mass language shift in the following generation becomes a real possibility. However, it is by no means a certainty, given that multi-generation bilingualism was observed in every cohort.

The three cohorts identified above show interesting parallels with major divisions in 20th-century Chinese history: the founding of the PRC in 1949 after years of civil war; the early Communist or Maoist period from 1949 til about 1977; and the market reform period from about 1978-present. However, the parallel is uncertain because my analysis is based on speakers' year of birth and, since Chinese is the second language for most of the bilingual speakers, they could have acquired it at any point in their life. The connection with specific historical events is worth further investigation. Even so, it is clear that acquiring Chinese had become essential and unavoidable by the end of the 20th century.

There is some question whether the sample over-represents speakers who have maintained Mongolian. During fieldwork, we found that non-Mongolian-speaking ethnic Mongols some-

[3] Technically 6.89 years, but the ages were given according to the vernacular reckoning of age in Inner Mongolia, which starts at 1 instead of 0.

times declined to participate, saying the research topic was embarrassing to discuss (Puthuval, 2015). The resulting bias does not affect my analysis of change over time (which is relative), but it does affect the validity of the mean rate of shift, 16%, that I observed. Also, the low total number of Chinese-only speakers in the sample limited the statistical power. Future survey studies in Inner Mongolia could improve on the current study by sampling in a way that is sensitive to this issue of language and ethnic identity.

6. Conclusion. In this paper, I have shown evidence that Mongolian-Chinese bilingualism in 20th-century Inner Mongolia was, if not completely stable, at least fairly persistent, since it often continued for multiple generations. These results, and the theoretical statements behind them, contribute to a better understanding of language shift as a gradual process, and of the stages a language may pass through before (eventually, maybe) becoming endangered. This is increasingly recognized as an important topic in language vitality research (see e.g. Bradley & Bradley, 2017; Ravindranath & Cohn, 2014). Methodologically, the entire project serves as a proof of concept for cheap but large-scale quantitative research on language shift, maintenance and spread. If a project directed by a single graduate student, with almost no funding besides tuition and living stipends, could take less than eighteen months to develop a questionnaire and conduct over six hundred interviews, then equally large or larger-scale projects must be well within the reach of most established linguistic researchers.

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