ETHNOPOLITICAL DEMOGRAPHICS, IDENTITIES AND THE UTILITY OF

LINGUSTIC DISTANCE IN MEASURING DIMENSIONS OF COLLECTIVE

GROUP CHANGE

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ABSTRACT

Ethnic distance is a theoretical concept that is prevalent within political science and political economy as a metric in calculating group heterogeneity but has been difficult to apply in terms of making actual empirical measurements. Ethnic distance can be considered in two related ways. The first can be conceived as the relative variation within and between specific ethnic populations in social or geographic space and supervenes on the individual in the costs of identifying ethnic in-group members from out-group members. The most widely used metric in the literature is language which is made more complex in that there are multiple level differentiating linguistic forms and criteria for measurement. I suggest the development of a measure of linguistic distance that uses the Levenshtein algorithm to produce a numeric value of pronunciation distance by calculating the number of changes that is needed to transform one linguistic string into another. As this value is numeric it can be applied to statistical measures measuring linguistic heterogeneity at the population level and is sensitive enough to detect dialectical differences and can be applied to experimental work on the ethnic identification or location of individuals within a particular language community.

BIOGRAPHICAL SKETCH

Eric Foley received an undergraduate degree from the State University of New York at Potsdam where he majored in Cultural Anthropology in 1994. Soon after graduation and following his interests in ethnology he moved to South Korea and was hired at Ansan College where he taught, co-designed and coordinated the foreign language program for a number of years. During his time in Korea he studied Korean at both Yonsei University as well as Seoul National University before returning to the United States for graduate work at Cornell.

Dedicated to Verna and Jack Foley

ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

The effects of ethnic heterogeneity on a wide range of political and economic outcomes, such as civil and ethnopolitical conflict and economic growth have been a central aspect of many studies in political science and political economy[1]. The findings and results of many of these studies as linked to a particular causal outcome often contradict each other due to a number of conceptual problems related to theory interlinked with a number of practical problems related to empirical measurement. These theoretical problems and problems of measurement will be addressed using a methodology developed within field of comparative politics and includes sections on *theory*, *statistical models*, *tests* and *experiments* as well as an historical *narrative* set within a *geographic area* here encompassing northeast China, the Korean peninsula and Japan.[2]

The first section deals with a basic coding schema for ethnic groups and relies on the concept of an ethnic group prototype with radial categories, a related description of ethnic identities, the spatial distribution and the sizes of the major ethnic groups with the region. The last aspect is made more complex in that there are multiple ethnic dimensions, such as including racial, linguistic or cultural traits and that any one particular category has multiple levels. As such any one individual can be disaggregated along multiple ethnic dimensions and along different levels of any one

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[1] For ethnic heterogeneity and civil conflict see Horowitz (1985), Huntington (1996), VanHanen (1999) Fearon and Laitin (2003), Collier and Hoeffler (2001), Elbadawi and Sambanis (2002), Renya-Querol (2002); for ethnic fractionalization and cross-country growth regressions see Easterly and Levine (1997), Alesina et al (2003), Collier and Gunning (1999) and for the determinants of ethnic group rebellion and protest see Gurr (1993), Gurr and Moore (1997) and Fearon and Laitin (1999)
[2] Laitin (2000)

dimension. This section ends with a brief discussion of ethnic distance at both the population and individual levels of analysis.

As these groups and distributions are social constructions and products of political, economic, cultural and historic forces they can materialize or disappear, expand or contract in size and can also grow more culturally or linguistically similar or distant as individuals enact processes such as assimilation, differentiation or through political amalgamation or disintegration. This means the collectives these aggregations define are also fluid. These processes are examined through a historical narrative spanning the period from 1850 to 1953 within Northeast Asia. This period saw the transformation of both the ethnic demographies and identities of ethnic groups in the region into major ethno-national groups as well as the emergence of new political economies where ethnic rather than class distinctions became politically salient. Regularities within the narrative are juxtaposed to patterns of mobilization as well as inter-ethnic and intra-ethnic forms of conflict. This includes both violent conflict such as inter-state conflict or intra-state or transnational insurgencies as well as non-violent ethnic conflict such as systematic exploitation and discrimination based on ethnic perimeters.

These changes in ethnic group dimensions are dealt with theoretically in the third section in the exploration of two constructivist theories dealing within the relationship between ethnic group change and conflict. The first theory posited by Deutsch (1953) relies on macro-level processes such as assimilation, differentiation and physical mobilization to explain the construction of ethno-national identities. The emergence of national conflict occurs when a non-monotonic situation arises between two equally sized ethnically differentiated groups. The second theory developed by Fearon and Laitin (2000) view agency at the level of the individual rather than at the population and suggests a model of interdependent identity construction. Here ethnic

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identities are determined by individual interactions where the categorization and content of ethnic identities is contested by members of in-groups which can lead to the construction of new identities which can lead to changes in cultural borders of the group. Violence erupts as a result to these changes in cultural perimeters.

As these theories are meant to provide logical, coherent and non-contradictory explanations of political and economic outcomes and utilize similar processes these two explanations of their respective causal mechanisms are endogenized. This is followed by an explanation of a constructivist framework of the relationship of both common and collective cultural and ethnic boundaries and is followed by the explanation of a computational test that can link the micro-level processes of identity selection suggested by Fearon and Laitin (2000) to the particular macro-level processes suggested by Deutsch (1953).

The fourth section deals with conceptual and practical issues surrounding the measurement of ethnic or linguistic heterogeneity. This includes a non-weighted and weighted measure of fracture, a measure of community and a statistical measure of polarity. As both the weighted measure of fracture and polarity require a measure of ethnic or linguistic distance which is underdeveloped within the literature there is an introduction of a measure of linguistic distance that uses the Levenshtein algorithm to measure the pronunciation distance. This measure of distance can be applied to both macro-level statistical tests used for determining distances between ethnolinguistic demographies as well as micro-level experiments that are designed to determine ethnic identification within an interaction with a number of potential applications within the region suggested in the final section.

CHAPTER 2

CURRENT ETHNIC DEMOGRAPHIES OF NORTHEAST ASIA

The following is a brief description of the major ethnic and language communities within northeastern China, the Korean peninsula as well as Japan and is presented to give examples for both coding ethnic groups as well as providing a context for a number of concepts related to their structure.

A set of particularly useful concepts for this task are that of a prototypical ethnic group and radial ethnic categories. A prototypical ethnic group is where membership is determined by descent rule which is both normatively and psychologically important to members of the group. Individual members of these groups also share a number of physical, cultural or linguistic traits which are also considered valuable as well as a collective history. Members of prototypical groups are often associated with a particular indigenous territory. These ethnic categories are radial in that if one or more ethnic features are removed save the descent-rule the group can still be viewed as ethnic albeit less prototypical.[3] Similarly, ethnic group identities are determined by descent and sets of ethnic categories such as somatic or physiognomic features, skin color or cultural or linguistic traits as well as the content thought to be typical of any ethnic category by members of the group.[4] Identities change as a result of individual decisions to contest either the particular categories or content areas within group's boundaries because these rules, meanings and traits must be ultimately defined by the group. That is not to say that these changes do not occur

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[3] Fearon (2003)
[4] Fearon and Laitin (2000)

in a vacuum as other groups or political actors can influence their outcome.[5]
Prototypical ethnic distributions change as a result of changed ethnic identities.

The following is a brief description both ethnic and linguistic dimensions of major ethnic groups within northeast China, Korea and Japan and for the most part are prototypical. In northern China, the dominant ethnic group is the Han while the other major ethnic groups include the Manchu, Korean, Mongolian and the Hui.

The members of the Han, Hui and Manchu groups in northeast China speak Chinese mainly from the Northeastern and Jiaoliao Mandarin groups. In Liaoning, the ethnic Han originated mainly from Hebei and Shandong provinces and as a result the Chinese spoken in southern Liaoning is similar to the Shangdong dialect and western Liaoning is similar to that of Hebei province. The Chinese spoken by the Hui in this region resembles the respective Han locals save a number of lexical items while the Chinese spoken by the ethnic Manchu highly resembles the Beijing dialect less a number of Manchu loan words preserved in the speech community which has become virtually extinct. Mongolian is spoken in areas where there are high ethnic concentrations and while most Mongolians can speak Chinese a small number of ethnic Mongolians have been fully assimilated. Another major non-Sinitic speech community in this region is the Korean ethnic group who number over 1,900,000 and are concentrated mainly in the Yanbian Korean Autonomous Prefecture in Jilin Province. Korean is commonly spoken by members of this group with approximately 1,200,000 monolingual in their prototypical language.[6]

The Korean language community extends down the peninsula into North Korea where there are approximately 22,700,000 ethnic Koreans and 51,000 Chinese

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[5] Abdelal, Johnston, McDermott, R (2005)
[6] The Language Atlas of China accessed at http://www.rcl.cityu.edu.hk/atlas/china.html

with another 42,000,000 ethnic Koreans in South Korea. The dialectical boundaries in both North and South Korea generally correspond to the provincial boundaries.[7]

The Japanese archipelago is dominated by the Japanese ethnolinguistic community with approximately 121,050,000 speakers with dialectical divides between the Western and Eastern dialects and the minor Kagoshima dialect in Kyushu. There are also approximately 670,000 bilingual ethnic Koreans in Japan who are concentrated primarily around the Osaka area. The ethnic Ainu in Japan number at 15,000 and have been generally assimilated by the dominant ethnic group and there also a number of Ryukyuan languages in and around Okinawa and that continue down the chain. Generally, the ethnic groups mentioned here are generally considered prototypical save the Ainu, Manchu and Hui who are less prototypical due to linguistic assimilation.[8]

As this simple spatial distribution illustrates there are multiple ethnic categories evident at the population level and while ethnic or linguistic factors are mentioned here other categories such as religion could be added seeing multiple categories. These ethnic demographies are made more complex when considering that any one ethnic category may have multiple dimensions of ethnic cleavage. In terms of languages these levels would correspond to individual languages, dialects or sub-dialects and as a result different sub-groups can be disaggregated from the same population. In Northeast Asia we see different aggregations within each language and within each dialect. For example, the Chinese languages include Mandarin, Gan, Hakka, Huizhou, Jinyu,, Min Bei, Min Dong, Min Nan, Min Zhong, Pu-Xian, Wu and Xiang. As a single Chinese language Mandarin can again be divided into the Northern, Northwestern, Southwestern, Lower Yangtze and Putonghua topolects. Any schema

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[7] Ethnolouge data accessed at http://www.ethnologue.com/show_country.asp?name=KR
[8] Ethnolouge data accessed http://www.ethnologue.com/show_country.asp?name=JP

that would link a particular outcome such as economic development to linguistic homogenization would have to account for what level of disaggregation one selects for analysis.

A related concept is of ethnic or linguistic distance. This is a calculation of the diversity that exists within any one ethnic disaggregation as well as between disaggregated groups. A measure of linguistic distance could also be applied to the variation between the Cantonese and Mandarin groups mentioned above within a single country. It could also be used cross-nationally. For instance the a measure of linguistic distance could calculate the variation between the major Korean dialects such as the Hamgyong-do, P'yong'an-do and Hwanghae-do dialects in North Korea and the Seoul, Ch'ungchong-do, Kyongsang-do, Cholla-do and Cheju-do dialects in South Korea as well as any Korean speakers of these dialects in China and Japan. A measure of distance along lexical, semantic or syntactic perimeters of these forms would not necessarily reflect mutual intelligibility, however the more similar these languages or dialects are the less distant they are conceptually.

Ethnic demographics can change in their overall numbers and in their relative sizes and can have both endogenous and exogenous sources. For example when the Man or Manchu group and the Hui group were assimilated into a Chinese language communities their relative borders changed statistically if measured along a language dimension. The same could be said of the opposite process of differentiation occurred or when members of a common language community re-categorize their speech forms as different languages or and actively differentiate their language for the purpose of sub-group identification.

Ethnographic change also occurs when political boundaries change.[9] Expanding political borders often sees the amalgamation of smaller groups, linguistic

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[9] Horowitz (1985)

assimilation and the construction of a larger ethnic group while shrinking political

borders often has the opposite effect as differentiation is often coupled with ethnic

division along a particular cleavage dimension and the production of new ethnic

groups. Changes in ethnic demographies can also occur from exogenous sources such

as through the physical mobilization of an ethnic out-group into or out of another area

or region dominated by other ethnic community through migration.[10]

As there are multiple dimensions of ethnic cleavage at the population level,

individuals at the local level can have multiple ethnic identities and use them

strategically depending on the geographic or social context of an interaction.[11] This

multiplicity of ethnic identities or categories sees the potential for individuals to

switch ethnic identities or try to pass as an ethnic other by speaking different

languages or by other means to gain a comparative advantage within a particular

interaction or transaction. This is particularly so in areas where ethnicity is politically

salient or where either political coalitions are formed along ethnic perimeters or where

access to political or economic goods or resources depends on ones ethnicity.[12] Certain

ethnic categories however may make it harder for certain individuals to pass or switch

than others when considering certain physical traits. Skin color or racial features for

instance are visible to other interlocutors while detecting language differences requires

a speech act but in both cases any perceived differences or distances are relative and

are subject to categorization.[13]

At the individual level of interaction ethnic distance can be considered the

costs of distinguishing ethnic group members from ethnic others.[14] In situations where

ethnicity is politically salient passing can be expensive for all the individuals and

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[10] Posner (2004)
[11] Young (1976)
[12] Fearon (2003)
[13] Casselli and Coleman (2001)
[14] Ibid

groups involved. For example, access to human capital can be limited if there are ascriptive barriers to upward mobility based on ethnic or linguistic criteria. The dominant ethnic group or coalition must select lesser talented members of their own group for certain roles at the expense of highly talented ethnic others. Conversely, individuals who are trying or attempting to pass or switch may involve certain monetary and mental costs incurred in learning a new language, leaving dense social or economic networks as well as the potential psychic costs involved.[15] Linguistic distance at the population level supervenes on the individual level in that where two speech forms are less distant at the population level they are easier to acquire and cost less than those which are more distant.

As ethnic demographics change through processes such as assimilation or differentiation, amalgamation or division or through physical mobilization the next section is a narrative that focuses on the historical and social construction of the ethnic group identities and demographies within geographical context of Northeast Asia. As mentioned above it is done to try to detect any systemic regularities to discern how any particular values of the independent variables are transmitted onto the values of the dependant variables or interest, that is to how changes in ethnic identities or demographics produce situations of violence, exploitation or discrimination.[16]

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[15] Casselli and Coleman (2001)
[16] Laitin (2000)

CHAPTER 3

CHANGES IN ETHNIC IDENTITIES AND DEMOGRAPHIES

The ethnic demographics and identities of the major ethnic groups changed dynamically in Northeast Asia between the years 1850 and 1950. This period saw both the disintegration of the Sinocentric amalgamated and pluralistic political communities as well as the transition to modern political and economic systems first initiated Japan after the Meiji Restoration (1867-1868). The disintegration of the indigenous Chinese system saw a number of excessive military burdens on the government including internal ethnic and territorial fracture starting with the Taiping Rebellion (1851-1864) and external pressure first from the West including the First and Second Opium Wars (1839-1842) and (1856-1860) respectively and later from the Japanese with the First Sino-Japanese War (1894-1895). These military defeats changed the political boundaries and the establishment of foreign spheres of influnce within China and were associated with a complex of factors which included the failure of a dominant Chinese state to adjust politically and psychologically to a changing environment which resulted in delayed social, economic and political reforms which had already become adopted in a modernizing Japan.[17]

With intense Western attention on a dominant China, Japan had time and space to organize, homogenize and mobilize its human and material resources and until its victories in the first Sino-Japanese War and the Russo-Japanese War (1904-1905) faced the possibility of becoming a Western colony itself.[18]

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[17] Deutsch (1954)
[18] Cumings (1997)

The closure of the political elite in China and Korea promoted the rise of counter-elites among social strata and cultural out-groups producing ethno-nationalistic leaders who stressed in-group values, interests as well as increases in ethnic and linguistic differentiation. This included a systemic change in the ethnic identities of major populations. The ethnic vernaculars as a radial category of Japan, China, Vietnam and Korea were re-categorized as ethno-national languages. This was a shift from Literary Sinitic which had been the state languages of each of these countries previous to the modern era in the region. This shift in ethnic categorization reflected new patterns of political saliency by ethnic rather than by class criteria and a change in terms of both identities in terms of categorization and content as these vernaculars were homogenized at the national level.[19]

Previous to the modern period in the region the language regime of the states within the indigenous Sinitic political system was a multilingual configuration where there was political pillarization. Each region or speech community within China as well as the peripheral countries of Korea, Japan and Vietnam spoke their ethnic vernaculars and it was not necessary for any one ethnic individual in one pillar to learn the spoken languages of other pillars save the elite class who specialized in cross-pillar political communication and governance.[20] The elite in each country was generated by the same political institutions or the Confucian examination system for which expertise in Literary or International Sinitic which was necessary for political, economic and social mobility. This Confucian institutional structure was first developed during the Han Dynasty (206 BCE- 220 AD) and lasted in China until the formation of the Republic in 1911. This system lasted in Korea until the Japanese annexation in 1910 who had abandoned the system after the Meiji Restoration and the

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[19] Deutsch (1957)
[20] Laitin (2000)

transition to a modern state system and political economy which was subsequently expanded to Korea and Taiwan.[21]

Literary Sinitic did not reflect a living Chinese speech form and was further divorced from speech as all auxiliaries, prepositions, endings and non-essential morphemes were intentionally omitted. This economy saw a terse, complicated and inefficient form that was extremely difficult to master taking generally taking between 10-15 years to gain modicum of proficiency.[22] This language provided a medium of elite political communication horizontally across geographic space but delineated the strata within each ethnic community producing a situation of diglossia or where status differentials between those competent in Literary Sinitic excluded speakers of any ethnic vernaculars.

This contrasted with the spoken Sinitic languages that could be acquired much easier through emersion or assimilation.[23] A vernacular had never been considered as a natural base for a national language for the Sinitic political community due to the elite cultural prejudice of writing vernaculars.[24] The situation in medieval China differed from medieval Europe where Laitin was available as both a speech form and writing system for the educated elite and subsequently served as the base of the written European vernaculars. It was facilitated by an alphabet that be used to encode any variety of speech forms and as there were no conventions in medieval China for the alphabetic or syllabic spelling of Sinitic speech forms the other Sinitic languages remained unwritten and un-writable because set of sinographs although large was inadequate to record all the morphemes in spoken Sinitic vernaculars. This differed from both the European situation where French, German, Italian or English all

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[21] Fogel (1996)
[22] Mair (1994)
[23] Mair (1994)
[24] Mair (1994)

developed into national languages and also differs from the Indian tradition where major Indo-Aryan languages such as Hinidi, Marathi, Gujarti, and Oriya as well as the Dravidian languages such as Telugu, Tamil, or Malaysian developed as both spoken languages and writing systems.[25]

In China only two writing forms had developed. These were Literary and Vernacular Sinitic. These systems reflected two distinct and competing forms of linguistic media from at least the Warring States period (475-249 BCE) and perhaps even earlier (1200 BCE) but when employed these two forms were seldom unalloyed.[26] Both the Sinitic languages were decentralized and while the literary form did not reflect any living language the vernacular developed as a *koine* or a lingua franca developing out of a mixture of other languages. Vernacular Sinitic developed as a supra-dialectical speech form based on the topolects of Ch'ang, Loyang or K'aifeng, all capitals located along central section of Yellow River valley as early as the Tang Dynasty.[27] The early Chinese equivalent for the koine is t'ung-yu or common language (the current name for Modern Standard Mandarin in People's Republic of China or p'u-tung-hua,) and by the Song Dynasty (960-1279) it developed into a written vernacular used in popular literature and for limited bureaucratic functions. By the Yuan Dynasty (1271-1368) Vernacular Sinitic was referred to an official spoken language of the amalgamated Chinese political community and functioned as a prestige supra-dialect that was required for government officials to communicate due to the unintelligibility of the Sinitic topolects from around China. This meant for the majority of officials learning a second spoken language rather than adjusting their first language and when spoken by individuals from various areas of China outside urban

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[25] IMair (1994)
[26] Ibid
[27] Ibid

areas where it was based it was heavily affected by local pronunciations, lexical differences and to a lesser extent grammar as Modern Standard Mandarin is today.[28]

The processes of modernization in Japan saw the formation of a strong state apparatus which engaged in national homogenization projects such as implementing a modern educational system, a modern communication and transportation infrastructure and modern military during the Meiji Restoration (1867-1868). The later was exercised in victories in the First Sino-Japanese War (1894-1895) and the Russo-Japanese War (1904-1905). The architects of the Meiji Restoration had eliminated its aristocratic class as an institution and the ethnic vernacular was standardized on the dialect of the capital and re-categorized as an ethnonational language. This had the systemic effect of shifting the potential for increased upward mobility and access to institutions within the new system based on ethnic rather than class criteria as it shifted ascriptive categories generally acquired at birth.[29]

These changes and re-categorizations of ethnic categories allowed substantial increases in mass political participation based on ethnic perimeters and a shift of political salience to ethnic identities, their radial categories and their content. This was a systemic change in that it was resisted but eventually followed by China in 1919 by adopting Vernacualr Sinitic or Mandarin as a standard language and this process was complicated in Korea and occurred only after 1945 with the end of Japanese occupation.

The rise of Japan power also saw a shift in ethnic content. This power can be understood in terms of military growth but also in terms of the nature and number of loan words imported to the speech communities on the Asian mainland. While some in Japan called for the discontinuation of the wide spread use of Chinese characters all

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[28] Ibid
[29] Fogel (1996)

together for educational purposes, others felt that their abolition would assist a rising Japan to develop it own separate identity from Sinitic culture.[30] These calls however were abandoned relative to the utility of Literary Sinitic within the region with more than 1000 two-character neologisms that were imported from Japan to China, Korea and Vietnam as loans.[31] Many of these concepts were utilized to categorize new aspects of ethnonational identity and were used to mobilize large populations based on these content perimeters and definitions.

The concept of ethno-national language or *kuo-yu* was one of these loans. It was originally used by the Chinese elite to categorize the languages of non-Sinitic ethnopolitical groups in both China and in its semi-periphery since the beginning of the common era and was applied to the Tabgatch (or T'o-pa in Modern Standard Mandarin), a proto-Mongol or Turkic people who established Northern Wei Dynasty (386-534) as well as the Saerbi (Shirvi) a proto-Mongol group in north central China who held considerable political and military power. It was also applied to the Altaic and Tungusics languages of the Khitan who established the Liao Dynasty (907-1125) and the Jurchen who had established the Jin Dynasty (1115-1234), the Mongolians during the Yuan Dynasty (1271-1368) and the Manchu who established the Ch'ing Dynasty (1644-1912) as well as to the Vietnamese, Koreans and Japanese groups. This semantic value of this term shifted to the meaning of a national language based on the ethnic vernacular of a dominant ethnic group in Japan in the 1850's and subsequently was re-introduced to China, Vietnam and Korea at the turn of the century.[32]

Another term can be exemplified in the transition of an ethnic to an ethnopolitical group. For example the term *Han ren* historically referred to an ethnic group that held power during the Han Dynasty however at the beginning of the

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[30] Fogel (1996)
[31] Ibid
[32] Mair (1994)

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modern period we see the emergence of *Han min* or Han *minzu* (*minju* in Korean)

derived from the Japanese *minzoka* which referred to an ethnopolitical or ethno-

national group.[33] Invoking an argument that membership in any Sino-linguistic speech

community was a constitutive feature of the Han ethno-national group saw the

creation of an overwhelming dominant majority which consists of over ninety percent

of the Chinese population.

These examples provide empirical evidence of changes in ethnic identities in

terms of re-categorization of an ethnic categories and shifts in ethnic identity content.

It also saw the transition of the political salience of language from a diglossia

determined by status differentials and a class dimension to one based on ethnic

perimeters as the vernaculars were now used for mobility options with the modern

political economy.[34]

Japan established itself as a colonial power relatively late compared to

European powers and its form of imperialism differed from Western models in that it

involved the colonization of contiguous territory in an attempt to maximize its

comparative advantage as it was late to expand unlike the West. An aspect of this

contiguous colonialism was the military residency of a strong land army acting as a

coercive force and accompanied with institutional political and economic exploitation

driven on ethnic lines. This was felt most strongly in Korea.[35] Whereas Western

colonial models relied on strong navies and small administrative bureaucracies the

Japanese implanted a very large colonial bureaucracy. By the last decade of Japanese

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[33] Gladney (1994); This term gained popularity in China under Sun Yat Sen who as leader of the Chinese revolution who needed to needed a way to mobilize an indigenous Sinitic group against the Manchu who held power during the Ch'ing Dynasty. Sun as a native Cantonese speaker was raised as Overseas Chinese in Hawaii spoke Mandarin with a Cantonese accent understandably saw the language dimension as an essential ethnic category linking large and culturally and linguistic diverse groups. This group could be mobilized against foreign threats as well as gloss over the regional discrepancies that had created north-south ethnocentrisms since the Southern Song (960-1279).
[34] Laitin (2000)
[35] Cumings (1997)

rule in Korea, there were approximately 246,000 Japanese civil servants ruling 21,000,000 ethnic Koreans while in 1937 the French had 2,900 colonial bureaucrats and a standing army of 11,000 ruling 17,000,000 Vietnamese.[36]

This form of imperialism also differed from Western models as it located transportation and communications infrastructure into the colonial periphery bringing industry to stores of cheap labor and raw materials. This worked to economically integrate the Japanese core to the Korean periphery in creating a rapid exchange time in market relations and was later extended to Manchuria.[37] The Japanese created an amalgamated transnational political economy in terms of its infrastructure but it lacked the key features necessary for political integration as it was a highly exploitative system with ascriptive barriers to upward mobility on ethnic perimeters. This produced patterns of dependence rather than interdependence and was furthered by the use of divisive tactics that created intra-ethnic fracture and polarization.

The Japanese experiment in Korea can be described by three periods. The first is the period of military rule or the Budan Seiji (1910-1919) was marked by the implementation of new patterns of political and economic organization, institutionalized ethnic discrimination, exploitation and the development of a modern transportaion and communications infrastructure. The second phase, the Bunka Seiji or the period of cultural rule lasted from 1919 to 1937 and was marked by a lessening of the draconian political and cultural restrictions of the military era by allowing Korean forms of political and economic association including the use of Hangul newspapers. This period was also marked by regional economic stagnation, depression and the expansion of political boundaries with the formation of the puppet state of Manchukuo in 1932. This period also saw a new generation of economic and political

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[36] Cumings (1997)
[37] Ibid

entrepreneurs unable to coordinate on an ethnic identity or agree on a means to achieve political autonomy. The last period lasting from 1937 to 1945 was the Naisne Ittai or the assimilation movement. This period was marked by the forced ethnic and linguistic assimilation and extensive mobilization of ethnic Koreans within the greater sphere due to preparations for Second Sino-Japanese War and later for World War II. This period also saw the development of an industrial base on the Korean peninsula which also had transformative effects on these ethnic populations within this political economy.

The first nine years of the Japanese occupation saw the manipulation of regimes, indigenous groups and classes who would under normal circumstance have accomplished economic and political development. An example of this manipulation is the cadastral survey and land reformation project occurring from 1910 to 1918 which saw the traditional landholding system changed to one based on a modern rational legal contract. This allowed the Japanese to obtain valuable properties but was also strategically divisive in that it firmly rooted the landlords to the land continuing the traditional patterns of economic exploitation as well as increasing tenancy. This had the effect of polarizing intra-Korean social strata as well as polarizing ethnic Koreans and ethnic Japanese. This exploitation was coupled with institutional discriminatory policies as the central judicial bodies' legalized the ethnic discrimination of Koreans within their own country, inhibited the formation of Korean firms and put limits on the amount of Korean supplied investment capital for new and emerging Japanese firms in Korea.[38]

The Japanese organizational and economic developmental model included a tripartite of state bureaucracy, state banking and state corporations which were used to link the Japanese political and economic core to the Korean and latter the Manchurian

[38] Cumings (1997)

peripheries. Key colonial banking institutions such as the Bank of Korea served the functions of a central bank such as regulating interest rates and providing credit to ethnic Japanese firms and entrepreneurs. These banks were integrated with major state companies such as the Oriental Development Company which owned 20% of arable land in Korea and who organized, funded and supervised industrial and agricultural projects.[39] These state firms were not the only firms in operation. A small number of conglomerates including the big four of Mitsubishi, Mitsui, Sumitomo and Yasuda were also tied to key banking and colonial state structures. These zaibatsu added the element of familial corporatism that is still so prevalent in the Korean chaebol and were involved in major aspects of colonial industrialization in Korea and Taiwan and later in Manchuria.[40]

The Japanese utilized this organization to implement a modern transportation and communications infrastructure.[41] The rails in Korea were laid on a skewed on a southeast to northwest axis which linked Japanese core to the colonies to the mainland. This had transformative effects on the Korean population. One major set linked the port of Pusan in the southeast to Taegu, Taejon, Seoul and Pyongyang on an axis that extended into Manchuria with another major line branched from Pyongyang to the eastern sea coast up to Chongjin and on into Siberia. Population growth and urbanization on these lines were tremendous. An obvious example on the central line is Taejon which grew from a small village to a major urban area within South Korea and its own dialectical area. On the second line the population in Nanjin near the Russian border in northeast grew from a population of 500 in 1927 to 26,000 by 1937 and the nearby port of Chongjin was a small fishing village of 100 in 1910 grew to major port with a population of 72, 353 in 1938 and by 1940 was the largest port on

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[39] Ibid
[40] Ibid
[41] Cumings (1997)

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the Sea of Japan or the East Sea.[42] In a comparative sense, China with a population of eight times that of Korea only carried two times the passengers on its rails during the 1940's and were mostly concentrated in the northeast while Vietnam had only a single line linking Hanoi to Saigon.[43]

The Japanese also built roads. Previous to the annexation Korea was virtually roadless but by 1945 it was estimated that Korea had approximately 53,000 kilometers of auto and country roads and when compared to China which at that time had approximately 100,000 kilometers of traversable roads.[44] By the end of the occupation Korea had the best transportation and infrastructure system in East Asia save Japan.

The implementation of these transportation infrastructures fundamentally changed the social, cultural and economic dynamic of the Korean peninsula as they increased rates of the commercialization of agriculture, movement of commodities, labor and produced and increased new patterns of interactions and exchanges in regional and global markets. This period saw frequent peasant protests, rebellions and guerilla movements and produced strong currents of ethno-nationalism which the Japanese dealt with by coercion and direct action with a centrally controlled and highly mobile national military police force which was used to extract commodities such as rice as well as controling dissident within the mass population.

This period ended violently with the Samil or March 1st Movement in 1919 where approximately 2 million ethnic Koreans were mobilized along ethno-national lines echoing calls for Wilsonian self-determination after Versallies. The perversity of the Japanese repression, which included torture, rape, terrorism and utter brutality differs by the reports of the outcome. According to Korean records over 45,000 were arrested, over 7000 killed and nearly 16,000 wounded. This differs significantly with

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[42] Ibid
[43] Ibid
[44] Ibid

Japanese records stating that over 8,000 were arrested, over 550 killed and approximately 1400 were wounded but in anycase it led to a lessened political and economic restrictions and the second phase of Japanese rule in Korea.[45]

The 1919 March 1st movement in Korea and the May 5th movement in China were watershed moments relative to Korean and Chinese ethno-nationalism. While in Korea, self-determination was a major reason for ethnic mobilization in China large populations were mobilized due to the Japanese annexation of Shandong Province as an aspect of the 21 Demands which included attempts to diminish Chinese sovereignty in its foreign affairs, influencing its domestic governance, national policing and established a Japanese sphere of influence in southern Manchuria. While Beijing entered the Allied Triple Entente in 1917 with the understanding that German spheres of influence in China be returned to domestic control, this decesion was reversed with the late Japanese involvment in the war.[46]

While earlier concepts related to modernization had spread from Japan by the political elites who had studied or were in exile there by cultural diffusion, by 1919 the Chinese realized the path to modernization taken by Japan would be impeded for them as it had been in Korea beginning in 1910. These movements in both Korea and China saw substantial increases in political participation by the mass populations and strata that were disenfranchised with the Confucian system, viewed it as archaic and its institutions as no longer useful or applicable to the modern system. As such fundamentalism did not arise as a legitimate form in this new modern political system. This new generation looked to science and technology as well as new ideologies imported from the modern West such as different forms of socialism, communism and anarchism that offered radical alternatives to other ideas such as Christianity and

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[45] Ibid
[46] Cumings (1997)

liberalism which had been introduced since the 1850's. It seems that these new leaders and parties viewed new social and political institutions and opportunities for social mobility and not the status quo.[47]

The second period of Japanese rule in Korea or the Bunka Seiji began in 1919 and lasted until 1937 at the start of the Second Sino-Japanese War. The severity of the response to the March 1st Movement and the international response marked a period of limited political association and communication. This included a transistion to a civil rather than military police force. This space also allowed a new generation of economic and political entrepreneurs to emerge but were unable to coordinate on an ethnic identity and routes to political autonomy producing intra-ethnic ideological fracture and was furthered by the geographic dispersion of the Korean group dividing those who remained in exile such as the Korean Provisional Government from those in the semi-periphery including ethnic Koreans engaged in guerilla insurgency movements in Manchuria and those who remained on the peninsula.[48]

Those in exile saw the decline of party divisions which reinforced ethnic boundaries and the rise and replacement of transnational party divisions. This saw the transformation of Korean and Chinese nationalists and radical nationalists' movements. For instance, during this period we see the transformation of the Kuomintang party in China and the creation of the nationalist Korean Provisional Government (KPG) based in Shanghai as well as the formation of the Chinese Communist and the Korean Communist parties who were both nationalists and seeking revolution as a legitimate means to achieve their political ends. Although these parties were associated with a similar abstract ideology the lack of political integration saw the clashing perspectives and interests of the separate political elite of

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[47] Deutsch (1957)
[48] Cumings (1997)

each unit.[49] For example the Kuomintang often undercut the Korean Provisional Government by their instance of the Three People's Policy which undermined their political autonomy, the refusal of military training of Koreans in the Nationalist army and then only giving minimal support for the KPG army at the beginning of the Second Sino-Japanese War which then was rescinded in 1941. Only in 1944 did Chiang Kai-shek see it in his interest to recognize the KPG which was in disarray and eventually disbanded after the Chinese nationalists were unable to unify China by 1950.[50]

In the Korean semi-periphery major guerilla movements were active in Manchuria with as many as 200,000 Chinese and Korean guerrillas loosely connected in the form of irregulars, bandits and secret societies emerging in opposition to Japanese expansion and its creation of Manchukuo officially legislated on March 1st 1932 as a provocative reference to the Korean independence movement on March 1st 1919. These Korean and Chinese guerillas retained a large amount of autonomy and were not under the direct effective command of any military group and fought in highly mobile units of between 50-100 non-regulars. They did not establish permanent positions but attacked the Japanese through ambush then retreated through rough terrain or into Russia. This combination was viewed as optimal to avoid attacks or capture.[51] These guerilla tactics were highly effective and dominated the police force destroying convoys and companies of the Kwantung Army even after the establishment of counter-insurgency units who eventually reduced these guerillas to a couple of thousand by the end of the occupation.[52]

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[49] Deutsch (1957)
[50] Cumings (1997)
[51] Ibid
[52] Ibid

Kim Il Sung (1912-1994) emerged from this group as a significant guerilla leader and even had a special counter-insurgency unit (which included Koreans as a divisive tactic) assigned to his capture. This resistance was the main legitimizing force in the formation of the North Korean state and acts as an identity base of both the army and its leadership. On an ethnic dimension Korean participation in the insurgency was higher than any other ethnic group, even the Han Chinese when measured as a proportion of the population.[53] This was due in part to the material and other aid provided by the ethnic Korean population in areas such as in Chentiao where the ethnic Korean population measured in the hundreds of thousands and where the members the insurgency could anonymously disappear in large ethnically Korean communities.

On the Korean peninsula, ethnonational movements were ideologically fractured between liberal, socialist or communist camps and again were divided between those who sought a radical approach to political autonomy and those who favored a gradual approach. Each ethno-national ideology had its relative benefits and drawbacks.[54] While liberalism was associated with self-determination and autonomy it lacked material and political support from the international community whereas the socialist and communists had the potential to mobilize large exploited peasant populations they had the disadvantage of severe repression by a highly mobile and effective national police force. This repression saw many radical leaders imprisoned by the late 1920's and early 1930's only to emerge as cultural and political entrepreneurs after 1945. One example is Pak Hyon-yong who founded the Korean Communist Party in 1925 and reassumed its leadership after liberation.[55]

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[53] Cumings (1997)
[54] Ibid
[55] Cumings (1997)

Others who favored a gradual approach included the first group of Korean economic entrepreneurs but as result of their participation with the Japanese severely stunted the development the liberal democratic elite after liberation. One group of these economic entrepreneurs included a number of Honam land owners who particularly benefited from the relaxed policies of the period of cultural rule. Members of this group included Kim Song-Su who founded the Kyongbang Textile Company after the Japanese zaibatsu model. This firm had the vertical ability to grow and harvest cotton, weave raw fabric and transform it into completed garments as an entire process. It later extended horizontally into heavy industries building machineries and aircraft production, extraction commodities such as metals, gold, oil and real estate. Kim also founded the Korean language newspaper the Tonga Ilbo and had a major role in founding Koryo University. Other members included Chong Yong-chol who invested in rubber and Kim Song-gyu, one of largest landholders in the Cholla provinces who founded the Kwangju Agricultural and Industrial Bank.

In terms of politics, this group found and led Korean Democratic Party and after 1945, supplied many officials during the American occupation from 1945-1948 and provided political opposition to the autocratic regimes of Syngman Rhee (1948-1960) and Park Chung Hee (1961-1979).[56] Not all economic entrepreneurs emerged from the landowning class but also from the commoner and outcaste classes. One example is Park Hung-sik who built a commercial and an industrial empire which included the Chosen Aircraft Company. While these men from different class backgrounds profited during the Japanese occupation and its military expansion this profit was viewed as made at the expense of the national group after liberation.

While this period was marked by a less severe period of cultural rule and the formation of fractured nationalistic parties and elites it was also a period of economic

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[56] Ibid

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stagnation. The case in Korea was a classic example of a core and peripheral relationship which can be understood as food security in terms of per capita rice consumption. In 1929 only 77 liters of rice per person was consumed Korea (down from in 124 liters in 1914) compared with 198 liters in Japan as millet from Manchuria was sent to feed Korean peasants while Korean rice was exported to Japan.[57]

By the 1930's Japan largely withdrew world economic system and focused on economic development in their contiguous territories. This marked the beginning of industrial growth within the extended political economy as the Japanese located heavy industry and infrastructure in its colonies bringing factories and plants to stores of cheap labor and natural resources. This was combined with massive state investment in an effort to bring the colonies out economic depression. Early in this 1930's textiles were still the main exports but heavy industries also saw growth particularly in iron and steel, aluminum, chemicals and hydroelectric power which were generally located in Korea and Manchuria. By 1936, heavy industry accounted for 28%of total industrial production which again tripled by 1945.[58]

The Japanese expansion into Manchuria and later into China and Southeast Asia caused labor shortages throughout the empire. This was combined with divide and rule tactics offered opportunities for upward social mobility for a minority of ethnic Korean bureaucrats, police, soldiers and entrepreneurs who would act in intermediate positions between a Japanese upper-class and a Chinese under-class in Manchuria while the majority of ethnic Koreans were mobilized as labor or in agricultural and moved to Japan and Manchukuo.

The combination of industrialization and labor movements created an amalgamated political economy where the relationship between markets and

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[57] Ibid
[58] Ibid

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production saw national boundaries become less important than the transnational boundaries where these goods and people circulate.[59] It did not produce a security community however as it lacked key features for integration as it based on highly exploitative practices based on ethnic perimeters. For example in 1937, Japanese workers in Korea received 2 yen a day while Korean workers received .66 yen for the same skill sets and work responsibilities.[60] It should not be surprising that this Korean and Manchurian sphere was the setting for revolt, violence and insurgency and it was the inability of the Kwangtung army to fully secure Manchuria and North China by 1941 that influenced the decision to change tactics and move south. The attack at Pearl Harbor occurred only four months later.[61]

The final period of rule included the Naisne Ittai or the assimilation movement which began in 1937 at the start of the Second Sino-Japanese War. This period was was marked by forced assimilation and forced mobilization and was the most politically severe. It included the state directed requirements for ethnic Koreans to speak Japanese, take Japanese names, forced Emperor worship and religious conversion to Shinto beliefs in an attempt to forcefully assimilate ethnic Koreans and to eradicate Korean language and cultural forms. Japanese propaganda also linked Neo-Confucian and authoritarian politics in creating the *Kokutai* which combined the characters of *Koku* or country and *tai* (*ch'e* in Korean) or a philosophical basis. This legislated national identity drew contrasts between Western individualism and selfish material desire and the Japanese concept of *musubi* or a collective nationalism.[62]

It was also a period of intense forced mobilization of ethnic Koreans starting with the preparations for the Second Sino-Japanese War in 1937. By 1942 and the

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[59] Cumings (1997)
[60] Ibid
[61] Ibid
[62] Ibid

creation of the Greater East Asian Co-Prosperity Sphere massive Korean populations were either drafted or simply conscripted as labor. In 1940 there were 1.5 million ethnic Koreans in Manchuria which were either indigenous or were mobilized by the Japanese to farm rice. By 1941 there were 1.4 million Koreans in Japan with 770,000 working as labor, 220,000 in construction, 208,000 in manufacturing, and 94,000 in mining performing the most difficult and dangerous jobs.[63] These workers were subject to both ethnic and gender exploitation and discrimination and by the end of war ethnic Koreans made up a third of the industrial force in Japan. This mobilization severely disrupted the stability of provincial population distributions and saw many peasants lose their land who then moved to the cities to escape unemployment or to supplement family incomes only to be mobilized into industrial jobs or mining that was unsafe and unfamiliar. At this time four out of five peasants rented all or part of the land they worked and this tenancy was marked by insecurity, debt, usury, uncompensated labor and penury.[64]

The formation of the Korean League for the General Mobilization of the National Spirit in 1937 saw branches at the provincial, county, town and workplace levels and by 1938 a corps was formed to recruit youth for military service, while the Korean Anti-Communist Association also had established provincial offices with associated organizations at the village and workplace levels as well. Anti-Communist propaganda became compulsory in the schools and workplaces and perhaps spoke to the influence of the Communists within the mass population. Ethnic Korean nationalists or communists who resisted were interrogated by totalitarian methods until they politically confessed in writing. This form of political thought reform

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[63] Cumings (1997)
[64] Ibid

continued in both North and South Korean after the liberation and division within their respective police forces and intelligence agencies.[65]

The colonial authorities established provincial quotas based on population for mobilization details but the selection process was highly divisive and controlled by local officials or police who selected labor from poor and disadvantaged clans who became despised for it. At this time 40-50% of the national police force was Korean and was used extensively in Manchukuo and especially feared as the mobile units used in Korean and Chinese guerilla counter-insurgencies units who employedthe lowest class Japanese and Korean thugs. The use of divide and rule tactics by the Japanese often saw the mobilization of Koreans by Koreans including between 100,000-200,000 women who were mobilized into sexual slavery. Women also received much lower wages than men as labor and assumed roles in the now secondary textile industry as well as in mining details where they were required to work bear-breasted for up to 12 hour shifts.

By 1944, 11.6 percent of all ethnic Koreans were residing outside of the peninsula and about 20 percent were either abroad or in provinces that they were not born in. This group generally consisted of 15-45 year olds meaning that as much as 40 percent of the adult Korean population was mobilized for labor and as Japan had established a repressive and militaristic discipline within the factories it had a lasting impression on labor in both Korean states marked by militarization, the repression of labor and the reappearance of class and gender exploitation.[66]

The colonial period ended abruptly in 1945 which created a vacuum as there was a massive withdraw of Japanese bureaucrats from Korea as well as a rapid withdraw of the Kwantung Army from Manchuria. This had the effect of leaving a

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[65] Ibid
[66] Cumings (1997)

liberated Korea that could not function as a bureaucracy as well as allowing geopolitical foot holds for the Soviet Union and the United States who would soon to divide the peninsula. Many Koreans sought to return to their home villages from these forced mobilization details only to mix with those who selected them for mobilization including those in the police force producing highly fractured localities. Large numbers of ethnic Koreans also remained in Northern China and Japan seeing a group fractured along geographic, social and political criteria. This group was also economically polarized along class dimensions. These combinations of variables would soon lead to an ethnic civil war that had both regional and international dimensions that had devastating consequences for human lives and a tremendous impact on their political economy and leading to the continued political and intra-ethnic division of the Korean peninsula.

CHAPTER 4

EXPLANATIONS FOR GROUP CHANGE

Until recently, standard political economy models generally associated ethnic groups as being relatively static entities with unchanging identities and their calculations of ethnic heterogeneity were favored as an econometric because these groups were viewed as similar to a country's geographic location, topography or climate and exogenous to historical forces.[67] This view is discounts constructivist theories that argue ethnic groups are dynamic entities as people assimilate, amalgamate or disintegrate into different cultural or language communities or immigrate or emigrate to different political economies.[68] These processes are said not only to transform the respective ethnic demographies of a territory or country but also produce changes that can transform group identities.[69]

Early constructivist work along these lines includes that of Deutsch (1954) who relied on macro-level or population level processes such as mobilization and assimilation for explaining the transformative effects on ethnic identities as the localized products of macro-historical forces. Changes in social, political and economic interactions during periods of modernization transformed relatively stable ethnic group identities into ethno-national identities by collective learning at the group level. By emphasizing the degree of to which the people communicate as a proxy for political community he theorized that changes in the rates and degree of mobilization and assimilation can change the distribution of the content associated with the ethnic group. The logic follows that when a wide range of different experiences are fed into a

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[67] Mauro (1995)
[68] Laitin and Posner (2001)
[69] Deutsch (1957)

similar system of social learning and communication it can change patterns interaction and information which produces ethnic differentiation. The dissimilar perceptions and experiences brought on by the pressures of assimilation and mobilization change patterns of group learning which in turn will differentiate a once similar community. National conflict results when a non-monotonic situation arises in terms of the relative sizes of these differentiated ethnic groups.

While Deutsch relies on macro-level forces such as assimilation and mobilization to explain how changes in ethnic demographics can produce civil or ethno-national conflict Fearon and Laitin (2000) developed a model that suggests that the mechanisms involved with the construction of ethnic identities exist at the level of individual interaction and can be better used to explain differentiation and conflict. They posit a process of ethnic identity choice where the outcome of interaction depends on the choices of the other within an interaction. Where ethnic identities or categories are confirmed, reinforced or propagated within interactions they remain relatively stable but where common assumptions about the content of an identity are questioned or where changes in ethnic categories such as language or religion can lead to the construction of new or altered ethnic identities which in turn change cultural boundaries. Direct action occurs when those who have an interest in maintaining the previously accepted cultural boundaries conflict with those who wish to change or alter their ethnic identities.

They suggest that cultural borders are far more permeable than territorial boundaries such as those constructed, maintained and policed by modern states as cultural borders can be altered by everyday acts and choices of individuals. If ether type of border is to be maintained there must be coordination and where there is little or no coordination violence can result in a number of ways but generally along two categories; in limiting defection or in the consolidation of power. In this schema those

wish to stop the defection of co-ethnics to another group may attack the members of their own group who have been assimilated to another ethnic group. They may also injure or kill members of the other ethnic group in an attempt to elicit punitive retributions which would act to re-polarize the groups. Another way violence is exercised within this model is through the consolidation of power. Those who systematically emphasize the historically constructed prototypical group boundaries over the real and altered cultural boundaries of the group can enlist thugs or non-regulars to threaten or attack ethnic moderates who then must return to the leader who ordered the attacks for protection and works to consolidate their ethnic power base.

These explanations seem to reflect elite reactions to efforts of non-elites to change re-define or cross ethnic boundaries. If these explanations of ethnic violence lie in the strategic behavior of ethnic elites they explain why non-elites follow at such a high cost to their personal security and damage to their political economy. A potential answer is that the mass public is not duped by the elites but rather acts on interests and motivations at the local level such as personal revenge or the economic gains from looting or land grabs. In these cases, ethnic elites utilize these localized motives for their own political ends.

There seems to be evidence for both macro and micro-level explanations above from the narrative but seem diametrically opposed in terms of causality. While Deutsch suggests that the agency involved in the construction of ethnic identities lies at the population level. Population and cultural dynamics produce changes in experiences which then lead individuals to psychologically construct their ethnic identities locally. In short the causal mechanism relates how demographic or cultural change results in identity change. Fearon and Laitin contend that agency lies at the individual level where people interdependently determine their ethnic identities and

their associated categories and when contested can lead to changed identities and shifting cultural borders and changing ethnic demographies.

The examination of the Korean case is interesting in terms of the rapid changes in ethnic demographics brought on by changes in the political boundaries of Korea starting in 1910 with its annexation and the attempt of the Japanese to amalgamate, assimilate and homogenize the Korean population. These boundaries again were changed with Korean liberation and changed again shortly these after a new political boundary divided the peninsula territorially and the resulting ethnic cleavage. Likewise the Korean case saw forced assimilation and mobilization and argued along Deutsch's lines changed the individual perceptions and experiences which then led to local antipathies. This could be argued to result in civil conflict as it polarized many localities along the same dimensions throughout the peninsula leading to differentiated ethnic identities.

An argument along Fearon and Laitin's lines follows that the individuals on the ground in each of the localities through a process of identity selection determined whether or not to defect. These individual decisions to cooperate with the Japanese to ethnically defect or switch would be countered by those who wished the ethnic borders to remain along the prototypical dimensions and particular content associated within these ethnic identity borders. In this way the selection of ethnic identities as the aggregate choices at the local level in turn changed ethnic demographics and cultural borders.

Identity change and cultural change however are not equivalent concepts as identity change happens at the individual level and cultural change happens at the level of the population. However, it does suggest there is a theoretical need to examine the structure of ethnic identity and cultural boundaries to better conceive of their relationship. The same set of distinctions between the micro and macro-levels in terms

cultural structure can be typed as *common* and *collective* boundaries and both have both causal and constitutive roles on individual and group behavior, interests and identities.[70]

The common set of boundaries is constructed from shared beliefs and knowledge within the group perimeters. These shared beliefs do not need to be true but only believed to be true and changes in these beliefs or action by actors through contestation is reducible to changes the structure and distribution of *one set* of cultural borders along the lines that Fearon and Laitin suggest in their model, that is at the *common* set. There is a second set of cultural borders at the macro or the *collective* level that supervenes on, but is not reducible to changes in individual belief.[71] That is that the common set of borders is foundational to a collective set but they are not reducible to changes in belief because many different combinations of changes at the micro-level can reach the same macro-level state. This suggests a different of causal mechanisms apart from those at the individual level of identity selection.

While collective patterns can be realized in a number of ways, as an ideational structure it can not have effects apart from at least substratum of group belief. This permits the potential for a group belief to exist that no individual of the group may hold personally and as such collective structures can help explain patterns in aggregate behavior.[72] We can think of the mechanisms at the individual level of interaction generating *auto-dynamic* processes at the level of the population. These processes result in positive or negative feedback effects that can lead to upward or downward spirals or cyclical fluctuations of certain phenomena such as conflict or economic growth or another dynamic characterized as having *threshold effects* where numbers of

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[70] Wendt (1999)
[71] Wendt (1999); Supervenience relates a non-causal and non-reductive relationship of the ontology of one class of acts on another class of facts.
[72] Ibid

mobilized individuals must reach a certain minimum before others more resistant to mobilization will also act. The aggregate results in these cases are the results of individual choices, driven at the individual level but themselves are not necessarily the object of any individual purposive choice and again have effects that are only discernable at the level of the population.[73]

As the casual mechanism at the individual level is interdependent these identities are stabilized by cultural equilibriums where their pattern of speech and behavior are both optimal and not disconfirmed and as mentioned above requires coordination. Where identity coordination is absent individuals lose commitment to their identities and contest core group assumptions. This leads to the formation of new or altered identities and a potential change in the common set of borders and can be observed in changes of patterns of speech and behavior.[74]

The causal mechanism at the population level is evolutionary and contains three constitutive criteria. It explains the movement of a variable over time and in this case it is a *trait* which is *ethnic identity* and as discussed earlier includes rules of membership and sets of ethnic categories and their content or meanings for the group.

It must also specify a means of generating variation in the dependent variable which are interaction differentials for *winnowing* the effects of that variation, in this case *cultural selection.* Finally, it must explain the inertial tendencies that stabilize these changes in a population. This is the group's *commitment* to their *learned identities* reinforced by *institutional* structures.[75] These institutional structures are so evident in the contingent cultural traits of prototypical ethnic groups their homeostatic stability causes ethnic groups to be understood through their prototypical institutions. Changes in these institutional structures such as enforcing ethnic discrimination and

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[73] Ibid
[74] Fearon and Laitin (2000)
[75] Wendt (1999) and Adler (1996)

exploitation such as in the Korean case, may give certain individuals in certain situations reason to try to pass as an ethnic other.

The mechanism at work at the collective level is cultural selection rather than interdependent identity selection. Cultural selection is an active and intentional process that involves diffusion of behavior and speech between individuals through successive generations and involves both imitation as well as learning. While imitation may lack internalization learning does not and can be categorized as either simple or complex learning. Whereas simple learning is used by groups to adapt their behavior within a particular environment complex learning allows the group to modify its inner structure on basis on new casual knowledge which is not reducible to changes in belief at the individual level.[76]

As this learning is collective it refers to group rather than individual learning processes. Important distinctions can be made between the two in terms of the processing speeds of information, the ability to recall memories, and recombine these elements into new forms and interpretations. An individual as a member of a group has a tremendous capacity in terms speed processing and recombination of patterns of information while groups process information very slowly within very limited ranges but can gather and store large amounts of information and data. Groups also have longer memories which are coded by language and is stored both cognitively and physically allowing its memory to surpass generations of individuals.[77]

Complex learning is an explanation of how collective representations can form in groups including collective identities. It is from these stores of group knowledge as well as patterning perceived from the wider environment that individuals as members of ethnic or other collective groups select from and ascribe to themselves and others

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[76] Adler and Barnett (1996)
[77] Deutsch (1953)

and as such exists at both the individual and group levels. The common set of borders constructing a group's identity and the collective set of cultural borders are mutually constitutive and a change in one will imply a change in the other but this relationship is not reductive.

Any one individual may change their identity by a change in belief but this will not necessarily produce a change at the macro or collective level. There must also be a threshold effect relative to the frequency and distribution of other individuals in the group to produce a change in the collective distribution and a change in that particular sub-stratum of belief.[78] Changes in these collective borders are dependant on the frequency of changes within the aggregate population and not just changes in belief or practices of any one ethnic individual. Collective structures can be used as resource for mobilizing collective or group action even if forgotten at any one moment and once created has long term effects.[79]

It follows that if the interaction behavior is known at the micro-level the question becomes what patterns, distribution of outcomes or statistical regularizes at the macro-level are more probable to emerge given the variables.[80] This is somewhat different from modeling from the macro-level to the micro-level where it is assumed the laws governing key macro-relationships such as assimilation or mobilization are known and from these assumptions researchers hypothesize about what changes of specific events at the micro-level can occur and are generally based on linear algebra, assumptions about equilibriums, and the conversion of aggregated values for interacting variables into system end-states.[81] Top-down approaches are generally not sensitive to the complexity of agent-level interactions whereas bottom-up approaches

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[78] Wendt (1999)
[79] Laitin (2000)
[80] Lustick (2000)
[81] Ibid

can expose agent level complexity and the related effects if simulated in producing

patterns, behaviors, processes and higher order mechanisms as developing from

individual level interactions.[82] It is the interaction between these two levels or between

these two sets of borders that perhaps links the opposing arrows within both Deutsch's

and Fearon and Laitin's explanations above explaining ethnic identity change and its

effects on political outcomes such conflict or economic growth.

Perhaps a useful technology to deal with this complexity between the micro

and macro-levels is the Agent-Based-Identity-Repertoire developed by Lustick (2002).

Consider a three by three grid consisting of 9 squares altogether and within each

square is an individual with a particular identity and language repertoire. In the center

square is a central agent who has a neighbor on each side and on each corner for a

total of eight neighbors' altogether. The components of the identity or language

repertoire of any agent at any one time (t) is considered either latent or active and each

actor is assigned a particular weight (1) that reflects the actors localized influence on

others. Particular agents are marked as political or cultural entrepreneurs and have a

higher weight (2) than a regular agent. All the potential identities of the agents are

scaled for identity or language bias by the level of attractiveness (or unattractiveness)

of any one identity due to exogenous pressures from the environment of the agents and

are determined and applied before computation.

Within a time frame of t, within the localized parameters or neighborhood each

identity within that area is calculated by combining the number of agents activated per

identity, the positive or negative external bias values as well as changes brought on by

the number and distribution of political entrepreneurs at the local level. The resulting

identity weights give the central actor a perception of its localized environment and

the agent will select from its repertoire the highest weighted language or identity

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[82] Ibid

available at that time which would be his or her optimal choice. These patterns can be mapped statistically with the use of a measure of ethnic or linguistic fractionalization or polarization. This model is particularly useful to see the intended and unintended effects of actor interaction on the level of the population. As these identity or language repertoires are assigned by the researcher to correlate with specific regions or areas one would not necessarily be limited by the wide-spread lack of large n-data sets for language repertoires or subject to the large cost it would incur to collect this data.

Any problems with coding schema could be built into the data set depending on the researchers' needs or particular theory as individuals have complex language and identity repertories and can be disaggregated along different dimensions and can be applied according to the situation. Consider an ethnic Korean identity with codable sub-groups in China, North Korea, South Korea and Japan. At any time an individual could identify as an ethnic Korean, as a regional variant such as a South or North Korean for example and in cases of inter-marriage or through assimilation any individual could have the potential to adopt other ethnic identities as well. These disaggregated ethnic sub-groups can be assumed to differ in their content areas and along particular ethnic categories as well.

For experimental purposes these repertoires and distributions of entrepreneurs as well as external levels of bias can be configured in a number of ways within the model described above to see what outcomes emerge at the macro-level. Applications such as these would be helpful in determining how micro-level interactions and identity selection may produce particular effects at the macro-level however it is not meant to discredit population explanations which from the earlier discussion of theory is an open question. This is suggested to aid macro-level theories rather than dismiss these approaches particularly in determining external positive or negative bias. Tests such as the one suggested above requires a measure of either ethnic or linguistic

fractionalization or polarization or other measures of ethnic, linguistic or religious heterogeneity which will be discussed in the next section.

CHAPTER 5

MEASURES OF ETHNIC HETEROGENEITY AND DISTANCE

Two concepts are important relative to statistical measures of ethnic demographies when considering the homogeneity or heterogeneity of population structures; the degree of fracture and the degree of polarity. The degree of fracture would measure the number of ethnic groups or groups along a particular ethnic category within a particular population or geographic area. Polarity would see the formation of two opposing groups that are becoming more distant over ethnic categories and hence polarized along one or multiple dimensions.

The degree of ethnic fracture or fractionalization have been used widely in econometrics (Easterly and Levine 1997; Alesina et al 2003) which uses an inverse of the Herfindahl index number of ethnic groups or groups along an ethnic category within a particular country.[83] The measure reflects the probability that two members of a population are chosen at random are from different ethnic groups, speak different languages or are from different religious groups. A basic problem with this measure of fracture is the problem of endogeneity. This would occur where a group where individuals who once categorized themselves speakers of two dialects of the same language later re-categorize their speech forms as separate languages without making any changes in actual speech patterns.

Until recently researchers developed cross-national estimates of ethnic heterogeneity using the Ethnolinguistic Fractionalization Indices (ELF indices) data set developed by Soviet ethnographers in the 1960's. The theoretical assumption was that ethnic groups were static and were naturally antipathetic and while the

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[83] Formally the Herfindahl index is $A = 1 - \Sigma\, i,\, (i2)$

ethnographic data reflected linguistic groupings it did not reflect other ethnic categories such as skin pigmentation, somatic or other physical features or differences in religion which can emerge as politically salient cleavages. This is further complicated in that ethnic categories have multiple levels and relative to the ELF data would see the same groups disaggregated by dialectical or sub-dialectical boundaries. Finally, measures of fracture do not account for the spatial distributions of these groups in geographic space or relates any information of how different the speech forms are from each other.[84]

Relative to changes in changes in group sizes Roeder (2002) developed and compared measures of ethnolinguistic fracture in the years 1961 and 1985 based on ELF data. It benefits from the use the same coding criteria for each year to delineate groups and reflects changes in number and sizes of ethnolinguistic groups rather than groups defined along another ethnic category. The correlations between 2 years is very strong (r= 0.96) and this is reflected in comparisons with Japan (0.015/ 0.014), North Korea (0.004/ 0.004), South Korea (0.003/0.003) and China (0.118/ 0.131) all reflecting a similar degree of linguistic homogeneity in each of these countries in 1964 and in 1985. However if data was available in this region between the years 1850 to 1950 as discussed in the narrative one would see many differentials in the ethnic demographies in this region due to the processes described in the narrative particularly in Korea after 1936. An important consideration is the sources of the specific rates of change which are variable and their effects on political outcomes such as conflict or economic growth.

Relative to the multiplicity of ethnic categories Alesina et al (2003) produced lists of ethnic, linguistic and religious groups for 190 countries and used them to construct measures of fractionalization. Along ethnic, linguistic and religious

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[84] Posner (2004)

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dimensions Japan measured (0.012/ 0.018/ 0.541) with North Korea (0.039/ 0.003/ 0.489) South Korea (0.002/ 0.002/ 0.660) and China (0.154/ 0.133/ 0.664) respectively. Similarly Fearon (2003) constructed a list of 822 ethnic groups in 160 countries that make up at least one percent of a countries population and used it to construct a measure of ethnic fractionalization. He also developed an index of cultural fractionalization that uses the structural distance between languages as a proxy for the cultural distance between groups. Here Japan measured (0.012/ 0.012), North Korea (0.002/ 0.002), South Korea (0.002/ 0.002) and China (0.154/ 0.154) respectively relative to ethnic and cultural fractionalization.

The statistical measure of fractionalization above was the first of three statistical measures of the boundaries of a language community developed by Greenberg (1956) and later developed by Laitin (2000). Greenberg developed a second index of fractionalization that is weighted by a degree of linguistic distance between the speech patterns of different groups.[85] His original concept of included a measure of pronunciation distance by use of lexico-statistics and sought to calculate actual rather than the historic distance between speech forms. This technology however had never been developed. He mistakenly suggested the use of a glottochronology list which added a number of conceptual problems to its development. For instance a glottochronology list relied on written words which can be quite different from speech patterns and there are no general criteria to determine how far pronunciations needed to be to be coded as different words on a list. This measure of linguistic distance could also change relative to possible synonyms for any words on the list which would change their relative values while not reflecting differences in pronunciation.[86]

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[85] Greenberg's B index is B= 1-Σmn (mn) (r mn)
[86] Laitin (2000)

Fearon (2003) used this measure that relies on estimations of the chronological distance between the prototypical languages of the ethnic groups within each country to construct the measure of cultural fracture above. This data was developed by Fearon and Laitin (1999, 2000) and Laitin (2000) who used linguistic data from Ethnolouge that classifies languages by structure and the use of dendrograms. Linguists classify languages by counting branch points on these tree diagrams linking language families, language groups and languages down to sub-dialects. The higher the number of shared points on the tree means the greater amount of linguistic similarity between the languages compared. This measure however discounts periods of acculturation between groups measurable by diffusion of loanwords which are shared by members of different speech communities and usually can be traceable to a particular language and a point of origin as per the examples in the narrative however this measure has a naturally intuitive quality as the historical divergence of groups and the diachronic distance of the languages they speak, particularly where the name of the ethnic group is the same as the language the group speaks.

Greenberg's third index is a multilingual measure of language community where individuals are not considered by their first language or the proximity of first languages but their full language repertoires.[87] It reflects the probability that if two people were chosen at random would have at least one language in common. While this example sees the multiplicity of an ethnic category represented by complex language repertoires it could easily be adjust to reflect the multiplicity of identity repertoires as well.

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[87] Formally this index is H= A*A(1) +2*A*B(0) +2*A*C(0) +2*A*AB(1) +2*A*AC(1) +2*A*BC(0) +2*A*ABC(1) +B*B(1) + 2*B*AB(1) +2* B*AC(0) +2*B*BC(1) + 2*B*ABC(1) + C*C(1) +2*C*AB(0) +2*C*AC(1) +2*AB*AC(1) +2*AC*BC(1) +2*AB*ABC(1) +AC*AC(1) +2*AC*BC(1) +2*AC*ABC(1) +BC*BC(1) +2*BC*ABC(1) +ABC*ABC(1)

While particularly useful, there are a number of problems with the application of this measure as there is an absence of any reliable data sets or sources of cross-country measures of multilingualism and measuring language by the use of survey is problematic as it produces bias as respondents systematically misreport their language behavior to those who question them about it.[88] For instance, the criteria people use to determine whether they speak another language are quite different across populations and across languages within a population. Another problem is that the wordings of questions on cross-national surveys can give different signals to the respondents.[89] Terms such as mother tongue are variable across contexts as well as the criteria people use to denote their degree of fluency and this is compounded and as there is no way to calibrate the connotation of these terms in a survey instrument across languages.[90]

Laitin (2000a) suggests the development of a number of techniques to counter cross-national survey bias in the development of complementary ethnographic reports on sub-samples of the surveyed population. Here participant observation techniques could be used to assess the direction and magnitude of bias allowing for correction parameters. Another more intensive technique would be to develop stratified samples of country populations and use standard second or third language testing techniques that are designed to measure achievement and an even more intensive technique would entail the development of linguistic background scales where trained interviewers would be able to assess language skills, language relative to social functions as well as intergenerational patterns of maintenance. These tests could be combined with ethnographic data in the observation of random interactions in a variety of domains in a multilingual situation to see what patterns and speeds of adjustment multilingual speakers engage in regular discourse.

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[88] Laitin (2000a)
[89] Ibid
[90] Hymes (1964)

The development of surveys could also be developed in measuring the ethnic identity repertoires of various populations where individuals could be asked to list the ethnic groups in their country or region, ask them to self-report what groups they are members of and to list them by rank order as well as what ethnic groups most others in the region would label them as members. If taken over time it could changes in the situational saliency of a particular element of their identity repertoire as well as a degree to which ethnicity is subjectively applied and the degree that it is intersubjectively by others throughout the population.[91] These methods developed and applied systematically would be quite expensive and as information of this kind can be politically combustible and many governments or countries do not collect ethnographic data of this sort and thus the complexity of language or identity repertories cross-nationally are not currently expressed statistically.[92] While these surveys offer applications for potential empirical research, the conceptual basis of this multiplicity of language and identity repertoires could be applied to computational and virtual analysis along the lines of Agent-Based-Identity-Repertoire developed by Lustick (2002) mentioned above.

The measurement of ethnic polarization also requires a measure of ethnic distance as it reflects patterns of assimilation or dissimilation along a particular ethnic category in the creation of two differentiated groups. Polarity is expressed formally as;

$$P(s,y) = K \sum_{i=1}^{n} \sum_{j=1}^{n} s_i \; s_j \, | \, y_i - y_j \, |^{1+\alpha}$$

A measure of ethnic distance could also be applied to a measure of polarization and is reflected in the analog of $| \, y_i - y_j \, |$ in the equation above. While measures of ethnic, linguistic or religious fracture have been utilized in explanations of economic

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[91] Fearon (2003)
[92] Posner (2004)

growth or its absence newer measures of polarization have been applied to ethnic and civil conflict. For instance Montalvo and Reyna-Querol (2002) found that civil wars are better predicted by this measure of polarity than of ethnic fractionalization when using diachronic linguistic distance as proxy for cultural distance (i.e. Fearon 2003) and this was also supported by the findings of Alesina et.al. (2003). Overall, the measurement of ethnic distance is underdeveloped within the literature and is reflected in its limited application at the macro-level particularly when considering the amount of work on group size.[93]

While ethnic distance at the level of population would consider the cultural or linguistic range within a particular ethnic community or the cultural or linguistic variation between particular ethnic or language communities ethnic distance supervenes at the individual level as the cost of determining or locating ethnic members or determining non-ethnic members. Similarly, changing or switching identities can be difficult and expensive and in many cases depend on different criteria. In this light, in order to pass as an ethnic other this distance must be bridged. Many micro-level theories of political interaction including Fearon and Laitin's example above at least implicitly assume that ethnic individuals can readily distinguish in-group from out-group ethnic members. Others include the policing ethnic or cultural boundaries (Barth 1969; Laitin 1995; Fearon 1999; Caselli and Coleman 2002), in-group sanctioning (Greif 1989; Landa 1994; Fearon and Laitin 1996), theories of ethnic and racial discrimination (Akerlof 1970; Becker 1971) and experimental models of intergroup behavior within social psychology (Tajfel, Billig and Bundy 1971).

This assumption becomes problematic when considering recent experimental data from Habyarimana et.al (2004) which disconfirms this assumption. They tested

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[93] Caselli and Coleman (2002)

the ability of respondents to correctly identify ethnic backgrounds of others using three levels of information and found that 30% of respondents were unable to correctly identify ethnic backgrounds of other individuals. They also found variation across ethnic groups and across co-ethnic and non-ethnic parings. They also found that members of some groups were better able to pass than others when given economic incentives and also found that group specific criteria is much more important than individual level criteria such as personal experience and intelligence.

Caselli and Coleman (2002) suggest that not all ethnic categories are equal when it comes to ethnic identification as certain categories such as skin color, somatic or other physical features are more effective cues than non-physical traits. Differences in religion or languages can be discernable by cues or exchanges in information while categories that are marked only by identity or history less any other cues are the least effective in distinguishing ethnic and non-ethnic members. It would seem that measures of racial distance would have many conceptual problems particularly in the definition and measurement of the distinguishing physiological characteristics. While Guiso, Sapienza, Zingales (2004) and Spolaore and Waczairg (2005) explore the economic consequences of genetic distance within populations by measuring the frequency of alleles in various populations, genetic distance is not the same as ethnic distance as genetic distance does not usually lead to phenotypic or visible differences between groups.

By what criteria and to what degree to which ethnic members can distinguish both members and non-members is an empirical question. Perhaps where categories as somatic or physiognomic traits or skin color may be less reliable as ethnic identifiers, linguistic or cultural cues become very important in distinguishing ethnic group members.[94] The historical saliency of language as an ethnic category in this

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[94] Caselli and Coleman (2002)

geographical region in delineating ethnic populations as collectives and at the individual level as an identifier to a particular geographic and cultural location lends credence to the development of a technology to measure linguistic distance that can be applied to both levels of analysis.

Advances in computational linguistics, particularly in dialectometry use measures of pronunciation distance to classify and delineate speech forms. Spoken words or sentences are first recorded and transcribed into a phonetic alphabet, such as *International Phonetic Alphabet* and the algorithm then is used to produce a numerical value by counting the changes in transforming one string of morphemes into another by counting the cost of the least expensive set if insertions, deletions or substitutions in their sequential structure.[95] As the value is numeric it is additive it allows the sum of atomic difference to be aggregated over many pairs of similar concepts.[96] Aggregate characterizations are often elusive as large data sets invariably contain counter-indicating tendencies, which becomes analytically challenging without selecting for particular linguistic features.

The Levenshtein distance is a very sensitive measure used to measure dialectical distance and can be applied in two separate techniques. The simplest is the phone string comparison. In this approach, all operations have the same cost. When two phones are basically equal but have different diacritics (a) v. (ä), the pair is regarded as different phones, for example (a) v. (ä) costs 1 unit as (a) v. (p) costs one unit.[97] It is not possible with the phone string comparison to take into account the non-equal similarity, say in regarding the pair (b, p) with that of (a, p) as more similar.

This problem can be addressed by replacing each phone with by a bundle of features or a range of feature values. For each of the corresponding features, a value is

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[95] Nerbonne (2004)
[96] Ibid
[97] Ibid

given which indicates to what extent that property is instantiated. Since diacritics influence feature values, they also affect the mapping from transcriptions into feature distributions and automatically figure in calculations of phonetic distance.[98]

This metric is the feature string comparison. As longer forms tend to be separated by more distance than shorter words, each pair is normalized by dividing it to the mean lengths of any two pairs. The result is a half-matrix of distances which clustering is used to classify language forms.[99] This reflects a word as a linguistic unit based on pronunciation distance between two speech forms and the production of a numeric value which can be aggregated over many individual pairs.

In the example below, the Levenshtein distance in its most basic variant is used to calculate the cost of changing one form into another using insertions, deletions and substitutions. This distance (s^1, s^2) is calculated by adding the sums of the costs of the cheapest set in changing s^1 to s^2. In the example below the Levenshtein distance is used to transform the Standard American *saw a girl* to the Bostonian pronunciation. The Bostonian pronunciation inserts an (r) between *saw* and *a,* deletes the postvocalic (r) in *girl* and replaces the short vowel in *girl* with a front rounded vowel (ø).

The calculation of a single measure of pronunciation distance follows;

scɔgIrl   delete r-   1
scɔgIl   replace I/ø   2
scɔgøl   insert r   1
scrəɔgøl

This results in the sum distance of *4* and can be considered one calculation of distance and while this example relates the distance between two dialects of American

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[98] Nerbonne, Heeringa and Kleiweg (2003)
[99] Aldendefer and Blashfield (1984)

English, this distance could be calculated between any two forms produce a numeric distance based on differences in pronunciation.[100]

The traditional method of analyzing language variation is the construction of isoglosses, or lines dividing features on a map are problematic as they do not always overlap and so do not define dialectical areas. They can be parallel, bundle or cross describing binary divisions, however, in practice well-known isoglosses are selected for which form bundles which makes the method subjective.[101] The isogloss method is not additive as words are selected to develop satisfactory borders while the Levenshtein distance is additive allowing the relationship of entire varieties to be aggregated by the atomic differences between forms.[102] This recalculation speaks to a more sophisticated conception of language borders than do the production of isoglosses.

This measure is also very precise and while this shows a linguistic distance based on the distance between the pronunciation of morphemes, it may be possible to develop similar numeric distances applicable to syntactic or possibility semantic distances however until these methods are developed then the application is somewhat limited to a particular language and its related dialects. Previous measurements have relied on data where 100 to 150 sentences in a particular language or dialect are recorded and transcribed to into phonetic script. From these sentences words 100 to 150 words are approximately chosen to represent a wide range of sounds within the varieties and as this data can be aggregated multiple synonyms could be used relative to the construction of a particular list.

Other techniques include the reading aloud of a translation of the same text for different languages, dialects or topolects and transcribed into IPA form word for word.

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[100] Nerbonne (2004)
[101] Ibid
[102] Nerbonne, Heeringa and Kleiweg, (2003)

This would perhaps reflect less natural speech where there are differences in syntax but it guarantees a full range of words is used. This method does not use a word list but sentences and as such would appear in the same context from the original language used and as such ensures the influence of assimilation phenomena is as comparable as possible.[103]

At the macro-level this measure of distance can be applied to the Greenberg's second indicator of measuring linguistic diversity and could be used as a proxy to the degree which monolingual individuals within a polity can communicate across a speech form akin to Deutsch's hypothesis of national or ethnic community along this dimension mentioned above. At the individual level this distance would provide a comparative tool to help determine the distance between two dialects or other speech forms and would reflect the distance that an individual would need to traverse to pass as a speaker of another dialect or language. This measure could be applied in experimental work in ethnic identification along the lines of Habyarimana et.al. (2004) and could also be applied to formal modeling along the lines of Caselli and Coleman (2002) to map micro-level explanations of the transition from exploitation to violent conflict. These and other applications relative to testing will be examined relative to the current ethnic demographies and groups in northeast Asia in the following section.

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[103] Gooskens and Heeringa (2004)

CHAPTER 6

APPLICATIONS IN THE REGION

At the population level the use of linguistic distance could be applied to the statistical model measuring language diversity developed by Greenberg (1954). This would measure the degree of linguistic fracture of a particular group weighted by a measure of linguistic distance such as the one suggested above. While the standard measure of fractionalization changes when a speech form or ethnic cleavage is re-categorized this measure would be able to account for relative similarities and differences in the speech patterns and as such would weigh population level fracture by calculating the degree of distance between categories and is sensitive enough to detect linguistic differentiation.

For instance in the Korean case this measure could be used to test the pronunciation distances between the major Korean dialectical forms including the Hamgyong-do, P'yong'an-do and Hwanghae-do dialects in North Korea, the Seoul, Ch'ungchong-do, Kyongsang-do, Cholla-do and Cheju-do dialects in South Korea as well as the pronunciation distance of ethnic Koreans in China in the Yanbian Korean Autonomous Prefecture in Jilin Province in China as well as ethnic Koreans near the Osaka area in Japan. The index accounts for the relative population shares of these sub-groups and as such would provide an overall range of distance with the speech form and could provide the empirical data which could serve as the theoretical basis as a measure of ethnic complementarity.[104]

The Chinese case would prove more complex. As the Han ethno-national group the measurements of the number of speakers of each of the Chinese languages

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[104] Deutsch (1954)

could be compared that would include speakers of Mandarin, Gan, Hakka, Huizhou, Jinyu,, Min Bei, Min Dong, Min Nan, Min Zhong, Pu-Xian, Wu and Xiang as first languages. A measure of linguistic distance between these languages could be used to determine the range of communication of these languages if they were only speakers of their first language. As Mandarin also exists as the language regime of the Chinese state a measure of pronunciation distance across Mandarin including the Northern, Northwestern, Southwestern, Lower Yangtze and Putonghua topolects could be attempted and would reflect the range of communicative possibilities by those in the current Chinese language regime. Here the lack of accurate information and conceptual problems with measuring multilingualism in terms of numbers or of relative command of second or third languages hampers other developments such as measuring cross-ethnic numbers of Mandarin speakers throughout China as a proxy for national community. For the meantime these numbers and the degree of fluency must be estimated or assumed.

Ethnic distance at the level of individual interaction can be considered the criteria that individuals use to judge in-group from out-group members. While perhaps physical ethnic categories such as skin color, somatic or other physical features are more effective cues in distinguishing members of ethnic in-groups and out-groups in certain situations physical characteristics can not be used to readily distinguish different groups from each other and perhaps language or other cultural criteria may be more salient.

The salience of ethnic or ethno-national languages in Northeast Asia as reflected in the narrative offers an interesting application for the representation of micro-level models in terms of the identification of ethnic in-group and out-group members by language criteria. The constitutive aspect of membership of the Han ethno-national group included membership in any of the Chinese speech communities

and is such an amalgamation of speakers of different Sinitic languages. This offered individuals who wished to gain mobility options to enter a national language community by learning Mandarin without necessarily changing the individuals' membership and in extension the population numbers of each Sinitic speech community. Passing as Han Chinese, less any other physical characteristics (such as with the assimilated Hui group) or localized information would either require one to pass as a speaker of any one of the Chinese languages including Mandarin even as a second language.

The designation of a supra-dialect as a national language meant that a de-centralized language was implemented that members of these different Sinitic speech communities could employ relative to the social, political and economic institutions of the state. This de-centralization of a language form is structurally similar to the role of Literary Sinitic during the dynastic period. Passing in this sense, would be in entering the new national language community.

Other major groups such as the Manchu and Hui were assimilated into this national language group but remain as minority ethnic groups in China while other such as the Koreans and Mongolians to a certain extent have been able to maintain their prototypical language but to certain extents linguistic capital is generated which can act to supply upward mobility and opportunities. Other than the Hui group, which is marked by significant physical differences with the other groups in northeast China the ability to pass as Han Chinese would not only involve linguistically assimilating to the majority group but also potentially moving to a new area where there would be less local knowledge of an individual's descent and the costs affiliated with trying or attempting to pass or switch identities less any other cues.

The Korean case under the Japanese is also interesting relative to their attempt at forced assimilation but differs from the Chinese case along a number of dimensions.

While at the local level in China entrance into the national language community did not necessarily change the population distributions of each Chinese language group save the Mandarin group and the emergence of an ethno-national group. This is different from the Korean situation during Japanese rule as they were required to enter a foreign language regime while also being subjugated to economic exploitation and discrimination. This acted to create ascriptive barriers to upward mobility along ethnic lines while also giving any ethnic Japanese a comparative advantage within the domain which were compounded by state institutions.

The active physical mobilization of the Koreans also fractured localized communities and was again compounded by active discrimination and exploitation along ethnic boundaries particularly by the last period of rule starting in 1937 which also saw a growing minority eligible for intermediate positions within Korea and Manchuria and was coupled with ethnic Koreans requiring to speak only Japanese, take Japanese names and to religiously convert removing cues that were once used to recognize Korean ethnics. These forced assimilation tactics removed secondary features such language, names and religion and would make them discernable as ethnic others less any physical features used to distinguish one group from another. The effects of wide-spread mobilization worked to disrupt localized knowledge bases and could act to offer incentives for ethnic Koreans to in-effect more easily pass as Japanese and change identities by reducing costs to a defector. Those Koreans who differentiated themselves as ethnic Koreans this period were coercively dealt with by the authorities. The individual decision to decide to defect or not to defect was complicated by external forces after the Japanese defeat in 1945 when many returned to their local areas polarized and fractured with the associated psychic and economic costs. Exploitation is expensive for the dominant group as well and the assimilation strategy enacted to increase defection by reducing the costs in entering the Japanese

group as well as increasing access to ethnic Korean human capital and were used in intermediate positions as described in the narrative.

One important similarity in both of these cases is that the processes underlying ethnic identity construction inherently occur with the group's boundaries because these ethnic traits, rules and meanings are ultimately defined by individuals within the group but the Korean case particularly shows that these processes did not occur in a political void.

While these aspects and processes consider the importance of language data in recognizing ethnic in-group members from out-group members the sensitivity of the Levenshtein distance could also be applied to situations of intra-ethnic location by recognition of a certain regional variation. As far as speech forms are associated with populations within a particular area this measure of linguistic distance is also isomorphic to geographic distance. An interesting application is the current Korean situation where the ethnolinguistic perimeters of the group span four states but is divided by political borders with different densities, rates and directions of movements and interactions between these sub-groups and territories. This is coupled with the generalization that dialectical border generally align with provincial borders in North and South Korea or the areas within China and Japan and shows an isomorphic relationship between dialectical and geographical distance in terms of identification of an individual's region or ability to pass as being from another region. An example follows.

The economic incentive for ethnic Koreans in China to find employment in South Korea generally as labor have increased significantly in the last decade. While this work is often dangerous and dirty the wages they receive are much higher than those in China but again are very low in scale relative to the economy in South Korean. It is a mutually beneficial system particularly when considering these ethnic

Koreans can return to China with new technical and other skills and increases their human capital. It also benefits South Korean managers who can communicate with these workers in Korean and is much easier than with foreign workers from the developing world that are used as labor as many South Koreans refuse to do this work. This differs from the economic refugees from North Korea that have arrived in South Korea via China who also are at a disadvantage relative to their cultural and linguistic capital within the modern South Korean political economy but unlike the group from China can not return with new skills or innovations to North Korea and have had difficulties finding employment due to inadequacies in their relative cultural and linguistic capital.

In both of these cases, many times these ethnic Koreans from North Korea and China are recognized by dialectical differences or by other cultural criteria. Their ability to pass as a South Korean would depend on their ability to adapt their language within everyday interactions and try to generate cultural and linguistic capital that is to assimilate to a sub-regional but national group. A measurement of linguistic distance as suggested above could provide a numeric cost of changing dialects as a first step but would also require data on any institutional barriers placed on non-South Koreans relative to ascriptive barriers to upward mobility and potential economic exploitation. Situations such as these should be considered relative to any attempts to politically integrate the two Korean states on the peninsula as a new political economy develops.

These distances could also be applied along another dimension relative to the large ethnic Korean populations in both China and in Japan. The ability for individuals from these two groups to pass as Chinese or Japanese ethnics may very well depend their language abilities in a local Sinitic topolect, Mandarin or Japanese and other criteria such as taking Chinese or Japanese names. The pronunciation distance of their speech in Chinese or Japanese could be calculated and could represent a major cost

that these individuals must breech to either assimilate or to pass. This measure would determine to what costs a relative degree that pronunciation distances would incur relative to their respective fluency in Japanese and Chinese rather than Korean.

The measurement of these pronunciation distances could be combined with experimental methods along the lines of Habyarimana et.al (2004). Along the first dimension headshots of ethnic Koreans from each region, a video greeting and a video greeting with the respondent stating their name could be produced and could be viewed by ethnic Koreans from each dialectical and geographic region and from these greetings respondents from these same groups could be tested to see if they could recognize or locate individuals by their patterns of speech. This would include a number who are trying to pass as a member of another sub-group by making changes within their dialects. The measures of linguistic distance would supplement the degree to which subjects are able to determine locality or sub-group membership.

Along the second dimension, headshots of ethnic Koreans, Japanese and Chinese could be taken, a video greeting in either their prototypical language or in the case of bilinguals, the reciprocal prototypical languages of the other ethnic groups. Here again certain individuals are trying to pass by using their language skills in a second language and would supplement this with using a false name. By the use of a headshot alone, subjects would try to use physical characteristics to determine group ethnicity and this would be supplemented by the respondents' use of simple greetings and stating their real or a false name in trying to pass as an ethnic other. Again the Levenshtein distances could be used to compare situations where people are able to pass an ethnic other and where they can not as it provides a basic and numeric measure of linguistic distance that could be used to better understand the relationship of language relative to ethnic passing within any one region or area. These measures could provide a counterbalance to assumptions that the costs of gathering information

about the ethnic identities of other is variable across groups and contexts and perhaps that collective action may be more difficult in some contexts than in others as many theories suggest that groups can recognize and punish defectors.

These micro-level experiments and macro-level statistical indices focus on the measurement of linguistic distance and while applicable to both levels only measures one aspect of one ethnic category that is the pronunciation distance between languages. The suggestion that this technology be further developed to include similar numeric distances applicable to syntactic or possibility semantic distances as well as other methodologies that could be used to collect reliable linguistic or other ethnographic data and an eclectical approach.

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