Language Borrowing and the Indices of Adaptability and Receptivity

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Introduction

One of the most easily observable results of intercultural contact and communication is the set of loanwords that is imported into the vocabulary of each language involved. The field of cultures and languages in contact (Weinreich 1953) has grown a great deal over the past fifty years. From the early studies, a 'Scale' or 'Index of Receptivity' has been posited for languages which more readily accept borrowings. Alongside that scale, a 'Scale of Adaptability' has been posited. The study of a language's adaptability and receptivity of borrowed words, especially those from International English, provides some interesting case studies. Major languages such as English, Spanish, Japanese and Chinese make good case studies for the discussion of the indices of adaptability and receptivity.

Language Borrowing Processes

Language borrowing has been an interest to various fields of linguistics for some time. (Whitney 1875, deSaussure 1915, Sapir 1921, Pedersen 1931, Haugen 1950, Lehmann 1962, Hockett 1979, Anttila 1989) In the study language borrowing, loanwords are only one of the types of borrowings that occur across language boundaries. The speakers of a language have various options when confronted with new items and ideas in another language. Hockett (1958) has organized the options as follows.

(1) **Loanword**

Speakers may adopt the item or idea and the source language word for each. The borrowed form is a **Loanword**. These forms now function in the usual grammatical processes, with nouns taking plural and/or possessive forms of the new language and with verbs and adjectives receiving native morphemes as well.

(2) **Loanshift**

Another process that occurs is that of adapting native words to the new meanings. A good example from the early Christian era in England is *Easter*, which had earlier been used for a pagan dawn goddess festival. Other **Loanshifts** in English include *God, heaven,* and *hell*.

(3) **Loan-translation**

A **Loan-translation** or **Calque** occurs when the native language uses an item-for-item native version of the original. "Loanword" itself is a loan-translation of the German *lehnwort, marriage of convenience* is from the French, and *long time no see* is a somewhat altered version from the Chinese. An example from the earliest Christian era is *gospel*, from *good* (good) and *spella* (story; book). The Latin source was related to *evangelist* (from *good* plus *message* plus the ending *-ist* for person). *Good Book* and *Holy Writ* and so on can be seen as loan-translations of the native form *godspella* or "gospel".

(4) **Loan-blend**

A **Loan-blend** is a form in which one element is a loanword and the other is a native element, as in the borrowed *preost* (priest) plus the native *-had* (hood) in Old English to produce *preosthad* (priesthood).

Each of these four categories is relevant to the overall study of the scale of receptivity, but for the purposes below only the loanword category is relevant.

Loanwords in Language Histories

This major section provides an introduction to the study of language borrowings, beginning with a first section giving a brief history of borrowings into the English language. (Whitney 1875, Jespersen 1946, Anttila 1989, Crystal 1995). The following subsections present brief histories of the borrowing history of Spanish, Japanese, and Chinese.

The History of English and American English

English is one of the world's most prominent languages. Its history is interesting for many reasons, including its flexibility in borrowing from other languages, a flexibility that has enriched its vocabulary over the centuries. Many studies have been done of these foreign elements in English. Jespersen's book (Jespersen 1946) on the history and development of English provided a foundation upon which many others based their own studies of loanwords in English.

The history starts Celtic speakers who were conquered by the Romans about a half century BC. Latin was the language of England for centuries until various Germanic tribes – the Angles, Saxons, and Jutes – began to enter England in some numbers in the 5th century. These Germanic speakers borrowed few of the Celtic words; other Celtic lexical borrowings (also called **loanwords** or **loans**) came later, such as: *clan, colleen, leprechaun, shillelagh,* and *slogan*. In the earliest centuries "English" was the Germanic language brought over, one which already had identifiable loanwords when it arrived in England. Many Latin words were in the vocabulary, such as wine (L. *vinum*) and *calic* (L. *calicem*, now *chalice*). The adoption of many words relating to cooking suggests the wholesale adoption of Roman food preparation: *cook* (L. *coquus*), *kitchen* (L. *coquina*), and foods such as *pear, peach, plum, beet, mint, pepper*, and so on.

The next major influence on English occurred after St. Augustine journeyed to England in 597 AD and Christianized the country. Many Church-related words from the Latin entered the language, some before Augustine but the majority later. Early borrowings included *church, minister, devil,* and *angel*. The terminology of the Church system was adopted along with the religion: *pope, bishop, priest, monk, nun, Mass*, and many more.

At the end of the 8th century, Scandinavians ("Vikings") began small raids on England, followed later by colonization. Many place names, personal names, and general vocabulary from Scandinavian languages (Danish, Norwegian) were established during the next centuries. The language borrowings from these speakers are interesting because they are at times borrowings of the "same" word centuries later. [In technical terms these re-borrowings are **doublets**.] For example, Old English *scyrte* ("shirt") was borrowed as Scandinavian *skyrta* ("skirt"). The two forms came to mean different types of wearing apparel.

The next set of invaders was the Normans (French), who represented a more refined culture. From 1066 AD for a few centuries, French became the language of government and of the upper classes in English society. Other than OE *king* and *queen*, essentially all current English words related to government are from the French,, including *govern(ment), reign,*

country, and *state*. In terms of social ranking, court titles, and the like, English borrowed most titles: *duke, marquis, baron, countess, court,* and *noble*. The advanced military superiority of the French is reflected in the wholesale borrowing of military terms, such as: *war, peace, officer, lieutenant, sergeant, soldier,* and *admiral*.

Even as Danish law provided some English vocabulary earlier, French control provided several basic legal terms, including *court, jury, judge, defendant,* and *attorney*. French, a descendant of Latin, provided another stratum of Latin-derived borrowings in the area of the vocabulary of religion: *religion, savior, trinity, angel, saint,* and many other related words. A somewhat different and sometimes amusing result is found in the area of food. The lower classes tended the animals, which have their English names: *cow, sheep, swine,* and *deer*. As food, the meat appeared on the table of the owner with French names: *beef/veal, mutton, pork/bacon,* and *venison*. The upper class English, however, did not use many French words in their written English in the early part of the French occupation. (Jespersen 1946). By Chaucer's time, however, several hundred frequently used words had entered English vocabulary permanently.

Latin, as the language of learning in Europe for many centuries, had an impact during the Renaissance. From the 14th century, Latin, and to a lesser degree, its sister classical language, Greek, have been a continuous source of loanwords. The most obvious places to see Latin borrowings used in English are the terminologies used in biology, botany, and chemistry. The taxonomy and the available compound words are from Latin. Most of the world's scientific community uses Latin as the universal language (or at least terminology) of science.

As English traders spread across the globe during the seafaring centuries, thousands of words from world languages were borrowed and became part of the English lexicon. Various dictionaries document the later state of borrowings into the English language. For information on the earlier centuries of English language use, the *Oxford English Dictionary* (OED) is an invaluable resource. The list below is only suggestive of the paths followed by much of English vocabulary. More examples are given in Appendix A.

Arabic:	*alcohol, alembic, algebra, algorithm, alkali*
Chinese:	*ginseng, japan* ("varnish"), *ketchup, kowtow*
German:	*carouse, cobalt, feldspar, frankfurter, gneiss*
Italian:	*artichoke, balcony, bandit, burlesque, casino*
Japanese:	*banzai, bushido, geisha, geta, haiku*
Russian/Slavic:	*czar, glasnost, intelligentsia, mammoth*
Spanish:	*albino, alfalfa, alligator, anchovy, armada*

English in North America

The growth of American English added words that enriched the lexicon from other sources. Various Native American ("Indian") languages have contributed words, as have the Black Americans.

Native American (various tribes): *bayou, caribou, hickory, hogan, hominy, igloo, lagniappe, moccasin, moose, muskrat, opossum, pecan, persimmon*

Black American: *banjo, goober, gorilla, gumbo, jazz, jigger, juke*

Mexico has contributed not only Spanish words in a variety of meaning areas such as the cattle industry and food, but also words from the native languages of Mexico as well. Mexico has reinforced the Spanish loans and has contributed vocabulary from the indigenous population. Of especial interest are those loans associated with the cattle industry and the Southwest U.S.A. The horsemanship of the early cattle industry was largely learned from the

Mexican experts and the cuisine of the Southwest borrowed most of the items and terminology of Mexican cooking.

Mexican: *adobe, bronco, burro, canyon, chile, chocolate, cinch, coyote, frijole, hacienda, pinto, pueblo, ocelot, poncho, rodeo, serape, stampede, taco, tamale, tomato, tortilla, vamoose*

The lexicon of American English contains words that can be traced back to over one hundred languages. Given that speakers from more and more countries are immigrating to the US, many more of the world's languages may contribute loanwords as well.

The History of Spanish

Spanish is also one of the world's most prominent languages. Its history is interesting as well in terms of language borrowing because of its flexibility in borrowing from other languages, a flexibility that has enriched its lexicon. Many scholars (such as Henríquez Ureña 1938, Santamaría 1942, Spaulding 1965, Lapesa 1968, del Rosario 1970, Lope Blanch 1972, 1979, Zamora Vicente, A. 1979, Cotton and Sharp 1988, Penny 1991) have contributed to the study of Spanish language history.

Spanish, like English, is classified as a descendant of Indo-European. An earlier language of Iberia was that of the Ligurians, who preceded the early Iberians and whose language may – as Tacitus suggested – have still been spoken in the first century AD. Some of the early vocabulary may include (Spaulding 1965) forms such as *arroyo* (stream) and *balsa* (pond). The Celts had entered Spain by 1000 BC and spread widely. Their presence left words such as *briga* (eminence) and various place names. Many of the Celtic words were probably carried across Spain by the Romans.

The Romans required almost two centuries (201-19 BC) to Romanize the country. The language spoken in Spain was, by the 18th century, mostly from Latin. The framework of Spanish, and a minimum of 60 percent of its vocabulary – if the eighteenth-century estimate of the Benedictine Sarmiento be correct – derives from Latin, not from the pruned and cultivated language of literature, but from the everyday talk of legionaries, traders, *coloni*, and the like. (Spaulding 1965, p. 28) In Spanish some Latin words are found that do not appear in the other Romance languages. When used, these words are often considered mere Latinisms. Possibly the situation occurred because the Romans were settling in the Iberian Peninsula approximately a century earlier than in the other countries.

Basque, one of the better-known languages at the periphery of Spain, provided a number of loanwords in Spanish, many of which were transmitted through Latin after the Roman conquest. Many of these words are frequently encountered (Penny 1991): names such as *García, Ínigo, Javier*, and *Sancho*, and other words such as *boina* (beret), *chapparo* (dwarf oak), *izquierdo* (left), and *zurdo* (left-handed).

The last major influence on Spanish history and language began in 711 AD when the first Moors (Muslims) landed at Gibraltar. Within seven years they had spread across the peninsula. Over the next seven centuries and more, Arabic was the language of officialdom and religion, but the everyday language remained Spanish. Even so, many Arabic words were introduced into Spanish. Several of the Arabic words (Spaulding 1965) were themselves loanwords into Arabic from Persian, German, and so on. Some examples are:

Guadalajara (Place name)
Zaragoza (Place name - from Latin *Caesaraugusta*)

alcalde	(mayor)	*aceite*	(oil)
barrio	(district of city)	*alfalfa*	(same)
adobe	(building material)	*limón*	(lemon)

bazar (bazaar - from the Persian) *naranja* (orange)

Although the Muslims were dominant, the French sent monks to set up monasteries and convents from the early 10th century. With the French came importation both of French words and other Latin words. Latin was placed as the language of learning and the French literary classics were translated into Spanish. French continued to contribute a few words each year for the next many centuries. During the period of Spanish ascendancy in the latter half of the 2nd millennium, the contacts of Spanish with other world languages also provided many loanwords.

From Spain to Mexico

A focus on Mexico illustrates the process of adding loanwords wherever Spanish is in contact with other cultures over a period of years. At the end of the 15th century, Spanish and other major languages began to be transplanted to overseas colonies. Often these languages supplanted the native languages, but many of the latter survive side by side with the European language. Spanish and its sister language Portuguese, in contrast to other European languages, borrowed extensively from the non-Indo-European vocabulary used by the cultures around its speakers. "…Beginning in October, 1492, the indigenous tongues of America began to enrich the Hispanic word-stock with a veritable flood of new vocabulary." (Cotton and Sharp 1988, p. 89) Many of these native words in Spanish were later borrowed into other European languages, such as English as described above.

The native languages of the Americas were richly diverse and fell into several language families with far different phonological and grammatical systems. This complexity did not seem to slow down the importation of large numbers of loanwords. The first major Native American tongue to contribute significantly to the Spanish of the New World was the Taino dialect of Arawak spoken in the Caribbean. The Spanish entered the West through the Caribbean and the new loanwords spread to Central and South American Spanish. Some examples of these borrowings are: *barbacoa* (barbecue), *hamaca* (hammock), and *iguana* (a large type of lizard).

When the Spanish moved into and took over Mexico, they found that Nahuatl, the language of the Aztecs, was a *lingua franca* across the country. Since Carlos I had decreed that the natives' morals were not to be corrupted by exposure to Spanish works and behaviors, the Spanish in Mexico chose Nahuatl as the language of education. By 1536 prominent Aztecs and their children were attending class in Nahuatl. In addition, the schools taught Latin and Greek. The earliest publications were in Nahuatl and later included Nahuatl grammars and dictionaries. This official use of Nahuatl alongside the Spanish helped the process of Nahuatl words moving into Spanish use. Some examples of the hundreds of loanwords are:

aguacate	(avocado)	*tequila*	(tequila)
cacao	(chocolate bean)	*tomate*	(tomato)
chicle	(chicle)	*coyote*	(coyote)
jicama	(vegetable tuber)	*mezquite*	(mesquite)
mole	(chocolate sauce)	*nopal*	(cactus)
tamal	(tamale)	*guarache*	(sandals)

Many of the Nahuatl loanwords in Spanish were later borrowed into English as the English and Spanish speakers intermingled along the long border between the two countries.

The centuries-long contact with English speakers along the border facilitated the borrowing of English into the Spanish of the borderlands. Some of that borrowing then spread across Mexico. Some of the English borrowings into Mexican Spanish are in

Appendix B. A few examples (Penny 1991) are*: aeroporto, analgesia, beisbol* (baseball*), bestseller, boutique, cartel, colesterol, cosmetico, detergente, disc-jockey, hockey, jockey, judo, karate, pijama, rugby, shorts, spray, sprint, tenis, trailer*. Note that several of these items were themselves loanwords in English. The lexicon of Spanish in Mexico is as rich and diverse in loanwords as the English of the New World.

The History of the Japanese Language

Japanese is classified as a member of the Ural-Altaic family of languages. Several scholars (Kanazawa 1910, Martin 1966 & 1987, Miller 1967 & 1986) have contributed to the research on this relationship, proposed as early as 1717 by the great Confucian scholar Arai Hakuseki. (Miller 1967, p. 62) The eastern branch of this family stretches across the north of the Himalayas through Mongolia, down through Korea, and into Japan. The language contains several words of Altaic origin and several layers of loanwords from Korean. After splitting from the Korean language, contact was still regular through the first centuries of Japanese recorded history.

When the ancestors of the current Japanese arrived in Japan, they encountered indigenous people who spoke much different languages. One of those groups, the Ainu, was eventually pushed to Hokkaido, the northernmost island of Japan where most of their descendants still live. Loanwords from Ainu (Miller 1967) can be identified, such as *atsushi* (a coarse fabric made from plant fibers), *kobu/konbu* (edible kelp), *ottosei* (the fur seal), and *sake* (salmon trout).

The first major set of loanwords, those from Chinese, began after 607 AD, a date that marked the first of a series of Japanese missions sent to the capital of China. They brought back ideas, the language, the customs and so on that provided the basis for a thorough Sinicization of Japan. Chinese became the language of the court and all written documents were in Chinese. Only later did the Japanese develop their own systems of writing based on the Chinese model. Although the Chinese language was both genetically and typologically much different from the Japanese language, Chinese was the language of the educated. Over the next several centuries, tens of thousands of Chinese words entered the Japanese lexicon. Some of those words were themselves borrowed into Chinese from other languages, such as the Sanskrit terms borrowed along with Buddhism.

In 1542 AD, European explorers reached Japan and a period of borrowing from European languages began. Portuguese merchants were followed by those from Holland. With the Portuguese came a flow of new words relating to Christianity and to daily life. The outlawing of Christianity and the closing of Japan to Europeans early in the 17th century all but extinguished the loanwords from Christianity. Loanwords from daily life have survived, such as: *botan* (button), *karuta* (playing cards), *jiban/juban* (undershirt), *pan* (bread), *kappa* (raincoat), and *tabako* (cigarette). *Biirido* (from Portuguese *vidro*) for "glass" was replaced later by *garasu* from Dutch *glas*. The most noticeable Portuguese loanword is one that has spread worldwide with Japanese cuisine: *tempura*, the term for deep-frying in a special batter.

Dutch words entered Japanese during the 16th century and continued somewhat during the two and one-half century period during which Japan was closed to other Europeans. Some of the Dutch words used in Japanese are: *biiru* (D *bier,* E beer), *buriki* (D *blik,* E tinplate), *garasu* (D *glas,* E glass), *gomu* (D *gom,* E rubber, gum), *koohii* (D *koffie,* E coffee), *koppu* (D *kop,* E glass, goblet), and *mesu* (D *mes,* E knife, scalpel).

When Japan re-opened its borders to European travel and travelers just after the mid-19th century, the Japanese government sent many men to study in the West. Western

languages such as German, French and English began to contribute some loanwords to Japanese. German words that entered the Japanese lexicon include: *gaze* (G *gaze,* E gauze), *gerudo* (G *gelt,* E pocket money), *ideorogi* (G *ideologie,* E ideology), and *sukii* (G *ski,* E ski). Of the German words that entered Japanese, *arubeito* (from *arbeit* – work) has gained the most prominence in daily use by most levels of society.

French words that became part of the Japanese lexicon include *ankeeto* (F *enquête,* E questionnaire) *atorie* (F *atelier,* E workshop), *dekadon* (F *décadent,* E decadent), and *manto* (F *manteau,* E cape (Japanese style)). The most widely used French loanword is *abekku,* which means a date [or going "with" (from French *avec*)] between a boy and a girl.

Several English words entered Japanese along with the German and French. The starting point for a massive importation of English loanwords was 1945. The various loanword dictionaries (see references section) document the increase in loanwords from several thousands by 1965 to some 50,000 by the 1990's. One estimate is that 11% of the words spoken by an average Japanese are English loanwords. The number and degree of use of loanwords have few parallels in language history and the situation has been under study for four decades. (Martin 1966, Miller 1967, Miura 1979, Hoffer 1983, 1984, 1990a, 1990b, 1994, 1996a, 1996b, 1997, 2002, Hoffer and Honna 1988, Honna 1995, Oshima 2002, Takahara 2002)

English loanwords have been so integrated into Japanese that they have been subject to the same sorts of grammatical processes that native words have been. In many cases the resulting form is considered an English loanword, but its form might not be intelligible to a native English speaker. One such process is simple shortening. Such shortening occurs in English but not necessarily with the same words. Some long-standing short forms are:

Short form	Long form	English
apaato	*apaatomento*	apartment
biru	*birujingu*	building
depaato	*depaatomento*	department store

Another process that occurs in English – but to different words – is that of using the first part of each word in a two-word combination, as in "hazmat" for "hazardous material." Examples in Japanese are:

Shortened	Long form	Shortened	Long form
famikon	fami(ly) com(puter)	*puroresu*	pro(fessional) wres(tling)
hyuutekku	hu(man) tech(nology)	*waapuro*	wo(rd) pro(cessor)

These thousands of neologisms created from English loanwords can be counted in the total for English loanwords, yet none is actually borrowed from English. More examples of English loanwords and their use in Japanese are in Appendix C.

The History of the Chinese Language

Chinese is one of the world's major languages. Along its northern border lie various languages of the Altaic family. Along the southern border lie several different ethnic groups and their languages. The Miao-Yao (Norman 1988) are the northernmost, found primarily in western and southern Hunan, northern Guangxi and so on. The Tai languages form a closely-knit group of languages in the Guanxi and Yunnan areas as well as in Vietnam, Laos, Thailand and Burma. To the west and southwest lie dozens, if not perhaps hundreds of languages, many spoken by small tribal groups. Tibetan and Burmese, from which the label derives, have long written traditions, but almost all the rest have no written history. The major comparative linguistic work on the genetic relationship of Chinese has yet to be done

(Norman 1988, p. 6), but research on the subgroups has made good progress. Most of the Tibeto-Burmanists consider Chinese to be a rather distant cousin within this language family.

The written history of Chinese goes back several millennia, but of course the written system gives no precise information about the sounds associated with the written symbols. Thus the linguistic work on language genealogy and on loanwords is only accurate insofar as the current linguistic reconstruction work is accurate. This general field of research is an active one and much more research will be forthcoming over the next decades.

The research on the languages bordering China shows many Chinese loanwords. The usual conception was that Chinese did not import vocabulary. However, the long history of China and its interaction with its neighbors suggest that foreign elements may have been absorbed in prehistoric times and naturalized by the time that the writing system was established. Some loanwords from Sino-Tibetan have been established and other potential loanwords are under investigation. Similarly, some words from early Miao-Yao languages, from early Altaic languages, and from Tai languages have been identified as loanwords in Chinese.

During the historical period, other types of loanwords entered Chinese, usually the names of items of material culture. Many loanwords came from Sanskrit as Buddhism spread from west to east in Chinese. Another interesting loanword is one Chinese word for 'grape' that seems to derive from a Persian source.

From the fourth century, Altaic peoples would invade China and occasionally rule parts of China. Historical records show that many Altaic words were borrowed then, but they disappeared some time after the Altaic speakers left. For example, in the Yuan dynasty (1279-1368 AD) of the Mongol rules of China, many words of Mongolian origin appeared in the fine dramas written during that time. Very few of those words have survived to the present day. During the Qing dynasty (1644-1911 AD), several words from Manchu entered daily use in Chinese and a few survive, such as *sàqimã*, from Manchu *sacima* (pastry of fried noodles, honey, and butter).

Chinese has generally been resistant to loanwords as units. As will be mentioned in a later section, most modern terms have been native creations or loan-translations (also called *calques*). For examples, television becomes *diànshì* (electric vision) and laser becomes *jiguang* (intense light). Terms from Japanese, however, have been more readily accepted when the Japanese used their own borrowed Chinese characters when developing terminology for modern technology and for political and economic concepts. The Japanese pronounced the Chinese characters in their pronunciation of them, while the Chinese borrowed the written versions and pronounced them in the Chinese way. Some examples (Norman 1988) are:

Japanese	Chinese	Meaning
bunka	*wenhua*	culture
kakumei	*geming*	revolution
kagaku	*kexue*	science
keito	*xitong*	system
shakai	*shehui*	society

Some of these compounds had existed in Chinese, but the Japanese used them to translate modern concepts.

As might be predicted, the Chinese language in Hong Kong (Cantonese) has the largest number of loanwords. The former colony was run by the British for such a long time that many English words, especially British English words, became part of the lexicon of the

Chinese there. A few examples are listed here, and many more are in Appendix D. The words are listed in English only, although the words are pronounced in the Chinese manner. Note that many of the words are themselves loanwords in English: bikini, doughnut, kebab, kiwi, llama, milkshake, paraffin, pizza, quinine, and sherbet/sorbet.

The spread of International English as the language of the Internet and the emphasis placed on English in Chinese schools suggest that more and more English loanwords will be imported in mainland Chinese over the next few decades.

Scales of Adaptability and Receptivity

The Scale of Adaptability provides an indication of the adaptability of a language's phonological system to the importation of loanwords from a variety of different types of languages. The Scale of Receptivity gives an indication of the level of acceptance or resistance to the imported loanwords. This Scale of Receptivity can be further divided into two complementary scales. One scale gives an indication of the amount of language borrowing across time. Some languages have imported vocabulary consistently across the centuries. The other scale gives an indication of the official resistance to the importation of loanwords. The speakers of some languages have officially rejected 'foreignisms' and have considered them to be corrupting influences on the native language. Other speakers have welcomed the new vocabulary as an enrichment of their own vocabulary.

Scale of Adaptability

One approach to the study of the adaptability of a language in terms of borrowing vocabulary from another language is one that investigates the phonological systems of the two languages. Language borrowing can be more difficult for a language that has few consonants and vowels in its phonological inventory and/or has a very simple syllable structure. Other difficulties may arise if the language has a much different intonational system in general. The range of possible variations in the components of a language's phonological system is given in Hockett. (Hockett 1955, 1958) This section gives a brief overview of these three characteristics for each of the languages covered above: English, Spanish, Japanese and Chinese.

Phonemic inventory of consonants and vowels

The range of phonemic consonants in a single language varies from eight in Hawaiian to a few dozen in many languages of the world. The consonantal phonemes (that is, the consonant sounds that can make a difference in the pronunciation and the meaning of a word) in Hawaiian can be represented by the letters /p, k, h, m, n, l, w/ plus one symbol for the glottal catch /'/ that occurs in Hawaiian but is not represented in the spelling. Several languages have more than two dozen phonemic consonants, including plain stopped consonants (voiceless and sometimes glottalized), aspirated stopped consonants, glottalized stopped consonants, voiced stopped consonants, voiceless spirants, and voiced spirants, nasals, resonants, laterals, semivowels and so on. The Hawaiian speaker trying to borrow a word from a language with many more as well as more complicated consonants has to simplify the pronunciation. The native speaker of the other language may not recognize the borrowed form in his own language. Hawaiian, then, stands at one end of the spectrum in terms of linguistic adaptability on the consonant scale.

Hawaiian may also be used for an example of a language on the lower end of the spectrum on the vowel scale. Although several languages have only two or three phonemic vowels, Hawaiian is one of the many languages with only five. In borrowing from a language

with, say, the eleven phonemic vowels of English, Hawaiian loses many of the contrasts in words.

Syllable structure

Hawaiian again provides an example at one end of the syllable structure spectrum. Syllables in Hawaiian may consist of a vowel or a consonant plus vowel. The possible syllable structures can be written as: [C] V. The brackets indicate that the "C" or consonant is optional. The Hawaiian learning English encounters syllables that may have three phonemic consonants before the vocalic element, as in "spray, strike, scratch." The Hawaiian speaker may try to simplify the consonant sequence to a single one of his consonants or may pronounce the nearest consonant to each of the three with a vowel inserted between them. Either way, Hawaiian has great difficulty adapting words from languages with complicated syllable structures.

Since the Hawaiian speaker has trouble with the phonemes and their organization in most languages of the world, it stands on the "least adaptable" end of the spectrum.

Intonation, Pitch, Stress

A fourth part of phonology that is involved in the scale of adaptability is the set of intonation features in general. Some languages, such as those in the Indo-European family in general, use pitch and stress in complicated ways. Tone languages such as Chinese use pitch levels and pitch changes/glides in a different complicated way. The descriptions below include material for this category.

English

English (Hawkins 1987) generally uses twenty-four phonemic consonants, including voiceless and voiced stops, voiceless and voiced fricatives and affricates, nasals, lateral resonant, and semivowels.

English generally uses eleven phonemic vowels. The vowels differ by tongue height in mouth, by frontness or backness in the mouth, by tenseness or laxness in articulation, by a glide or non-glide, and by rounding or nonrounding of the lips.

English stand-alone syllables may have the structure:

[C][C][C]V[C][C][C][C]

English may have as many as three phonemic consonants before the vocalic and as many as four phonemic consonants after it. Including single, double and triple consonants before the vocalic, English has several dozen potential syllables of consonant(s) plus vocalic. There are also several dozen potential syllables of vocalic plus consonant(s). The total number of possible syllables is very high.

English words may consist of many syllables, with polysyllabic words being the norm.

The complexities of the consonant inventory, vowel inventory and syllable structure place English high on the scale of adaptability. Many fewer difficulties occur in the borrowing process compared with, say, Hawaiian or any other language with few consonants, vowels, and syllable types.

Spanish

Spanish (Green 1987) generally uses 19 phonemic consonants, including voiceless and voiced stops, voiceless fricatives and affricates, nasals, lateral, resonants, and semivowels.

Spanish uses five vowels which vary by tongue height in mouth, by frontness or backness in the mouth, and by rounding or nonrounding of the lips.

Spanish stand-alone syllables may have the structure:

[C][C]V[C]

Spanish generally may have as many as two phonemic consonants before the vocalic and only one phonemic consonant after it. The single consonants that may close a word are quite limited in number. Including all possibilities, Spanish has several dozen potential stand-alone syllables.

Spanish words may consist of several syllables, with polysyllabic words being the norm.

The complexity of the consonant inventory in Spanish is somewhat lower than that in English, and the vowel inventory is much less complex. The syllable structure is not complex, especially when compared with that of English. The complexities of the consonant inventory, vowel inventory and syllable structure place Spanish near the middle on the scale of adaptability.

Japanese

Japanese (Shibatani 1987) generally uses 15 phonemic consonants, including voiceless and voiced stops, voiceless and voiced fricatives and affricates, nasals, resonants, and semivowels. One nasal in Japanese is a long /N/ that can occur in syllable final position.

Japanese uses five vowels which vary by tongue height in mouth and by frontness or backness in the mouth. Japanese does not ordinarily round the back vowels.

Japanese stand-alone syllables may have the structure:

[C][SV]V[N]

Here the "SV" indicates a semivowel may occur before the vowel. The final [N] is the long nasal that is considered by the Japanese to be equivalent to a syllable in length. However, the final nasal cannot stand alone, and is here treated as part of the preceding sequence. Japanese has several dozen potential syllables, but many fewer potential syllables than Spanish.

Japanese words may consist of several syllables, with polysyllabic words being the norm.

The complexity of the consonant inventory in Japanese is somewhat lower than that in Spanish. The vowel inventory is at the same level of complexity. The syllable structure is less complex than Spanish. The relatively low levels of complexity of the consonant inventory, vowel inventory and syllable structure place Japanese fairly low on the scale of adaptability.

Chinese

Chinese (Howie 1976, Li & Thompson 1987) generally uses 22 (DeFrancis 1996 lists 23) phonemic consonants, including voiceless and aspirated stops, voiceless and voiced fricatives and affricates (some of which are retroflex), nasals, laterals, resonants, and semivowels.

Chinese uses 6 basic vowels which vary by tongue height in mouth, by frontness or backness in the mouth and by rounding. The vowels may glide into high front or high back vowel.

Chinese stand-alone syllables may have the structure:

[C][SV]V[V][N]

The second vowel in the formula is sometimes analyzed as part of a glide. The final [N] indicates a possible final alveolar or velar nasal. In the Beijing area, the final consonant may also be an /r/. Chinese has several dozen potential syllables, but fewer possibilities than

Spanish.

Chinese words are usually one syllable or two syllables long.

The complexity of the consonant inventory in Chinese is somewhat higher than that in Spanish. The basic vowel inventory is at the same level of complexity. The syllable structure is less complex than Spanish. The relatively low levels of complexity of the consonant inventory, vowel inventory and syllable structure place Chinese fairly low on the scale of adaptability.

Intonation and Adaptability

English is a pitch/stress language. Pitch variations signal statement or question, as in "He went home?" with a final higher pitch than the same sequence of words with a low final pitch. Stress may also change the meaning of a sentence. For example, a speaker may stress any of the words in "John married Margaret" to emphasize that word. English is usually analyzed as having four significant pitch levels and four significant stress levels.

The complexity of the English system means that it is adaptable to most pitch/stress language borrowings and to terrace-tone borrowings (see Japanese below). The pitch variations can be used to some extent when borrowing from tone languages (see Chinese below).

Spanish is also a pitch/stress language, although it is usually analyzed as having one fewer pitch level and one fewer stress level. Spanish is essentially as adaptable as English in this category.

Japanese may be analyzed as a terrace-tone language. In general terms, a terrace tone language uses two or three significant tone levels in its words and sentences. Japanese uses two significant tone levels. For example, the sequence /hashi/ in Japanese can have three different meanings which are clear when each is followed by the topic marker /wa/. If the first syllable of a Japanese word is low tone, the second syllable is raised to the second level automatically. If the first syllable (or any syllable in the word) is marked as high in the dictionary, the following syllable automatically goes down a tone. [The stress mark indicates higher tone.]

Basic word	Word + topic marker	Meaning
hashi	hashíwá…	[The] edge…
háshi	háshiwa…	[The] chopsticks…
hashí	hashíwa…	[The] bridge…

Japanese, as a terrace-tone language, is not very flexible in terms of handling pitch and stress or in terms of handling tone languages (see Chinese below). In this category, Japanese ranks very low on the scale of adaptability.

Chinese is a tone language. The different varieties of Chinese have different numbers of phonemic tones; the Beijing variety has four tones. In a tone language the same sequence of consonants and vowels can differ completely in meaning if the phonemic tone is different. The Chinese tones (Norman 1988) for this variety are high level, high rising, low-falling rising, and high falling. These four tones can be indicated by superscripts 1 through 4, as in:

Tone 1	Tone 2	Tone 3	Tone 4
ba^1 'eight'	ba^2 'pullout'	ba^3 'grasp'	ba^4 'dam'
liu^1 'slide'	liu^2 'flow'	liu^3 willow'	liu^4 'six'

Since this type of tone language is not very flexible in handling pitch/stress language form or terrace tone language forms, in this category Chinese ranks very low on the scale of

adaptability.

Scales of Receptivity

Scale 1

The first scale of receptivity of loanwords analyzes the history of the vocabulary as a product of time. Where the vocabulary shows evidence of a wide range of borrowing during most historical periods, the language is high on the scale of receptivity.

English and Spanish have thousands of loanwords from languages across the centuries and around the globe. English and Spanish rank near the top on the scale of receptivity.

Japanese has a high percentage of its vocabulary from other languages – primarily Chinese and English – but those borrowings entered Japanese during two fairly definite periods of Japanese history. During the other centuries almost no vocabulary was imported. On historical grounds alone, then, Japanese would rank near the middle of a scale of receptivity. On the other hand, in the half-century since 1945 Japanese has borrowed tens of thousands of English words, many of which are replacing native Japanese words. In terms of loanword borrowing over the last century, Japanese ought to rank high on the scale of receptivity.

An additional note is in order. Japan remained an isolated country for some centuries until the second half of the 19th century. Even then, most of the contacts were regional. As with many languages, because of the advent of jet travel, of worldwide communications, and of international cooperation, language borrowing has grown over the last few decades.

Chinese has a very small percentage of its vocabulary from other languages. Apparently there has been no time in Chinese history when loanwords entered Chinese and then remained to become part of the basic lexicon. When Chinese did borrow more than a few foreign language items, they did so primarily as loanshifts (adaptation of native words) or as loan-translations rather than as loanwords. Chinese, then, ranks quite low on the scale of receptivity of loanwords.

Scale 2

The second way in which scholars have studied a scale of receptivity to loanwords involves the official stance of the country on the subject. English had already borrowed many thousands of words by the 18th century when an attempt was made to "fix" the language in time by producing a dictionary. The idea behind the dictionary seemed to be that it would contain all and only the words of the language and that the dictionary would be the final word on the English lexicon. Clearly that effort failed, since many more thousands of loanwords have entered English since then. These days the popular press, conversation, and the visual media are filled with loanwords, including recent ones. In English the only serious attempts to avoid recent loanwords are in the highly edited prose of the professions, especially academia. In those areas, the motivation seems less an avoidance of 'language deterioration' than a desire to make sure all readers can understand the material. In most publications, neologisms, slang and loanwords are used frequently and widely. On this scale of receptivity, then, English ranks high.

Spanish is in some ways similar to English. Loanwords can be used in many environments, but some official policies reject them. A computer search for loanwords or new words in Spanish turns up several articles that include 'corrupción' or 'corruption' of the language. The pressure to avoid loanwords is a bit strong in Spanish, so the language ranks

fairly low on this scale of receptivity. In terms of the everyday speaker of Spanish, of course, the language ranks higher on this scale of receptivity.

Japanese has avidly borrowed vocabulary whenever contact was made with another language. Yet, the National Language Board in Japan and many of the intellectuals in Japan have seemed to reject loanwords as a corruption of some kind to the Japanese language. As Miller (1967) has noted, most of the written language that is used in these articles or letters to the editor contains many loanwords. In addition, the letters or columns are usually written primarily in *kanji*, the Chinese characters that the Japanese borrowed and adapted to their own language. The occasional pressure to slow down the avid borrowing of foreign elements into Japanese suggests that Japanese ranks below the middle in this scale of receptivity.

Chinese has been characterized as very resistant to loanwords. (Norman 1988) Some scholars even use the word 'hostile' to characterize the language attitude toward borrowing. At present, Chinese is classified toward the bottom of the scale of receptivity. The situation may change in mainland China as it has in Hong Kong. After decades of presence of English speakers in Hong Kong, hundreds of English words have been borrowed. Now that mainland China is receiving large numbers of English speakers and has begun a push for more English language education, mainland Chinese may also begin to import more loanwords. Already the vocabulary of the computer and Internet seem to have spread quickly. Historically, then, Chinese has been on the lowest part of the scale of receptivity. The rapidly changing situation suggests that it may move up the scale over the next several decades.

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Appendix A
Sources of English Vocabulary, continued

Australian/Malayo-Polynesian:	*amok, bamboo, boomerang*
Dutch:	*boy, booze, brandy, buoy, caboose, cookie, decoy*
Hawaiian:	*aloha, hula lei, luau, poi, ukulele, wahini*
Hebrew:	*amen, babel, behemoth, cabal, cherubim,*
Hungarian:	*coach, goulash, hussar, paprika, shako.*
India:	*atoll, avatar, bandanna, calico, chintz,* [Several languages are represented under the heading "India": some of the Indo-European family and some the Dravidian language family.]
Korean:	*kim-chee.*
Persian:	*arsenic, azure, bazaar, caravan, checkmate*
Turkish:	*bey, caftan, coffee, fez, horde, jackal, kismet*
Yiddish:	*chutzpa, klutz, schlemiel, schlepp, schmo* [The original words are usually from German or Hebrew.]

Appendix B
Some categories of Mexican American lexical items with English bases

1.Behavior

A. Personal behavior, general

1) bloquear	'block'	4) guachar	'watch'
2) bonquear	'sleep'	5) shoflear	'shuffle'
3) chusear	'choose'	6) stepear	'step'

B. Personal behavior, Domestic Setting

1. Eating and drinking

1) bironguear'	'drink beer or other alcohol'
2) liquear	'lick'
3) lonchar	'eat lunch'

2. Grooming and dressing

1) combiar	comb'
2) mechar	'match'
3) permanentear	'give a permanent'
4) setear	'set'

C. Interpersonal behavior, general

1) chatapear	'shut up'
2) espatear	'spot /recognize'
3) flipear	'flip'/'go crazy'
4) flirtear	'flirt'
5) fulear	'fool'

D. Interpersonal behavior, social formulas

1) pronuncear	'declare that something is so'

E. Socially disapproved behavior

1. Socially disapproved behavior, general

2. Socially disapproved behavior, criminal

1) canquear	'beat somebody up'
2) mocharlmuchar	'mooch'
3) monquear	'monkey around'
4) parquear	'overstay one's welcome'
5) pinchar	'pinch'
6) pompear	'fornicate'
7) ponchar	'punch'
8) swinguear	'swing'

II. Sports and play

A. Sports, general

1) escrachar	'scratch'/' eliminate'
2) jonchar	'move marble shooter closer to target'
3) trapear	'go hunting'

III. Work

A. Work, general

1) güerquear	'work'
2) puchar	'push'
3) pulear	'pull'

2. Secretarial

1) chequear	'check'
2) dailear	'dial'
3) esteiplear	'staple'
4) sainear	'sign'

a. Crime, general

1) estulear	'stool on someone'
2) freimear	'frame'
3) joslear	'hustle'

b. Crime, stealing

1) requetear	'steal'
2) rolear	'roll'/'steal'

c. Crime, with dope

1) capear	'put heroin in capsules'
2) estufear	'sniff residue of'

B. Team sports

1) batear	'bat'
2) cachar/quechar	'catch'
3) cañonear	'throw a cannonball pass'
4) chutear	'shoot'
5) driblear	'dribble'

B. Work, technological

I. Automotive

1) baquear	'back'
2) bompear	'bump'
3) brequear	'brake'
4) choquear	'choke'

3. Electrical

1) ploguear	'plug'

4. Military

1) machinganear	'shoot, with machine gun'

[Adapted from Cotton and Sharp 1988]

Appendix C
Samples of English Loanword Use in Japan

JAPANESE	ENGLISH	JAPANESE	ENGLISH	JAPANESE	ENGLISH
paa	par	*huirumu*	film	*ringu*	ring
baa	bar	*jeiN*	Jane	*seNtaa*	center
baajinia	Virginia	*kaa*	car	*tesuto*	test
buusu	booth	*maaketto*	market	*uiNdoo*	window
desuko	desk	*nyuu*	new	*yooroppa*	Europe
gorufu	golf	*reezaa*	leisure	*za*	the
hooru	hall	*rejii*	lady	*zero*	zero
SHORTENED FORMS					
biru	building	*kone*	connection	*katsu*	cutlet
defure	deflation	*gyara*	guarantee	*infure*	inflation
nega	negative	*poji*	positive	*sando*	sandwich

SHORTENED COMPOUNDS

JAPANESE	ENGLISH
afureko	af(ter) reco(rding)
bifukatsu	beef cut(let)
ensuto	en(gine) sto(p)
katsusando	cut(let) sand(wich)
moga/mobo	mo(dern) gi(rl)/bo(y)

ofureko	off [the] reco(rd)
pansuto	pan(ty) sto(ckiing)
rimokon	remo(te) con(troll)
sekuhara	sexu(al) harra(ssment)
supigura	spee(d) graph(ic) [camera]

Appendix D
Some English Loanwords in Hong Kong Chinese

[Adapted from Kwan 1989]

amoeba	causticsoda	fare	library
Asian	cent	fashion	license
Aspirin	certificate	fashionshow	life
auntie	change	fiber/fibre	lift
baby	change	fight	linen
bagel	charge	file	live
ball	check	film	llama
ballcock	cheese	floorshow	lysol
ballroom	cherry	fluke	madam
ballshirt	chiffoncake	foreman	major
band	chloroform	foul	mammy
banker	chocolate	Frenchtoast	margin
bar	chowder	fuse	mark
barking	cigar	gabardine	marketing
barret	class	georgette	massage
bearing	clutch	giga-	merchant
beat	coca cola	gin	merchant
Beatles	cocktail	golf	microphone
bikini	cocoa	grease	mignon
blast	Cognac/cognac	grip	mile
boss	Colognewater	Guinness	milkshake
bourgeois	colour	guitar	millimeter
bowtie	cookie/cooky	Gurkha	mince
boxing	coolie	guts	mini
boycott	court	happy	mink
brake	cracker	hardluck	miss
brandy	cream	hose	model
broker	Croquette	inch	money
bromide	cushion	influenza	monitor
brother	custard	insure	mortgage
buffet	cutlet	jack	mother
bumper	cyclamate	jacket	motor
bungeejumping	dacron	jam	mould/mold
bus	daddy	jeep	mousse
cake	darling	jelly	-mycin
camera	delicious	joke	notes
car	Derby	jumpball	number
carcoat	deuce	kebab	number one
card	disco	keepfit	offside
carnival	discotheque	ketchup	omelet/omelette
carpetbag	doughnut	kiwi fruit	oral
case	dynamo	label	order
case	encore	lace	ounce
cash	euro	lacquer	outside
cashmere	face	laser	pair
cassette	fail	last	pair
cast	fans	Leghorn	pan

pancake
paraffin
parfait
park
parkingmeter
partner
party
passport
pasteurized
pear
percent
phonein
pie
pizza
pizza
place
plum
port
porter
pose
postcard
potassiumcyanide
powder
press
pudding
puff
punch
punk
quarter
quinine
rally
ransom
rockandroll/rock'n'-roll
round
rum
salad
salmon
salsa
sardine
SARS
satin
sauna
saxophone
score
seal
sergeant
set
shake
shellac
sherbet/ sorbet
shoot
show
show qualification
shutter
sign
sink
sir
sirloin
size

Appendix E

Chart of Articulatory Features of Phonemic Inventory

	ENGLISH	SPANISH	JAPANESE	CHINESE
CONSONANTS				
Stops				
Number	6	6	6	6
Positions	3	3	3	3
Voiceless	+	+	+	+
Voiced	+	+	+	-
Aspirated	-	-	-	+
Affricates				
Number	2	1	0	4
Positions	1	1	-	2
Voiceless	+	+	-	+
Voiced	+	-	-	-
Aspirated	-	-	-	+
Fricatives				
Number	9	5	3	5
Positions	5	4	2	4
Voiceless	+	+	+	+
Voiced	+	+	+	+
Retroflex	-	-	-	+
Nasals				
Number	3	3	3	3
Positions	3	3	2	3
Length	-	-	+	-
Laterals				
Number	1	1	0	1
Positions	1	1	0	1
Resonants				
Number	1	1	1	1
Positions	1	1	1	1
Trilled	-	+	-	-
Rounded	+	-	-	-
Retroflex	+	-	-	+
Semivowels				
Number	2	2	2	2
Position	2	2	2	2
VOWELS				
Number	11	5	5	6
Tense/lax	+	-	-	-
Rounding	+	+	-	+
Glides	+	-	-	+

	Syllable structure (stand alone)	Intonation system
English	[C] [C] [C]V[C] [C] [C]	Pitch/Stress
Spanish	[C] [C]V[C]	Pitch/Stress
Japanese	[C][y]V[N]	Terrace Tone
Chinese	[C][SV]V[V][N/R]	Tone Language
Word length		
English	Polysyllabic	
Spanish	Polysyllabic	
Japanese	Polysyllabic	
Chinese	1 or 2 syllables	