

Towards a comprehensive compendium of factors impacting language dynamics in post-globalized scenarios: Presenting principles, paradigms and frameworks for use in the emerging science of language dynamics

Sujay Rao Mandavilli

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Abstract

The objective of this paper is to present comprehensive principles of language spread that are applicable in post-globalized scenarios, by expanding upon and consolidating our already-published works in which had we studied different aspects of diachronic and synchronic linguistics and language dynamics including language dynamics in India. Admittedly, these principles and theories cannot be comprehensive, inclusive or wide-ranging enough to account for all dimensions of language spread in all possible scenarios at this juncture. However, we recommend a repository-type and a nomothetic approach which will allow for principles drawn from new and varied case studies and fieldwork from different contexts around the world to be generalized and extended to other contexts, with suitable annotations and clarifications regarding their anticipated general or context-specific use. These approaches are particularly relevant in post-globalized scenarios which we expect to be the norm, barring exceptions, given that the factors working in favour of a global long term, political, economic and technological socio-cultural integration are expected to outweigh those working against it. Thus, non contact-based scenarios are expected to be over-arching in the twenty-first century, and are expected to take precedence over contact-based scenarios in many cases, even though the latter can both directly and indirectly impact the former. Therefore, this paper takes into account work already done in the field of sociolinguistics, applied sociolinguistics, linguistic anthropology and applied linguistics, and recasts them and reassesses them in such a way, that their relevance to post-globalized scenarios is brought out. It also merges them with our theories and approaches in the field of linguistics, and brings them in line with our philosophy of the 'Globalization of science'. Thus, the approach and emphasis of this paper is quite different from other vital publications in this field.

History of Linguistics

Linguistics may be defined as a scientific study of language, or the science of language, and is derived from the Latin word 'lingua' meaning language and 'istics' meaning knowledge or science, where language is an expression of human thought in a structured form through the use of vocal cords.¹ According to a definition given by Robert Henry Robins, "Linguistics is concerned with human language as a universal and recognizable part of the human behaviour and of the human faculties perhaps one of the most essential to human life as we know it, and one of the most far-reaching of human capabilities in relation to the whole span of mankind's achievements". Linguistics encompasses the study of the origin, structure, grammar, syntax, and phonetics of languages, and the inter-relationships between different languages and groups of languages. There are many different branches of linguistics, and the more prominent ones among these include sociolinguistics, dialectology, psycholinguistics, computational linguistics, comparative linguistics, linguistic anthropology, anthropological linguistics and structural linguistics. Language is an essential tool of human communication, as is a manifestation of human culture as well. It is therefore, much more than just a vehicle of human expression. A language may be defined as "A purely human and non-instinctive method of communicating ideas, emotions and desires by means of voluntarily produced symbols." (Sapir 1921:8) According to Bloch and Trager, "A language is a system of arbitrary vocal symbols by means of which a social group co-operates." (1942:5) Languages around the world often bear striking similarities, whether due to historical factors, accident, or otherwise. As the thirteenth century English philosopher Roger Bacon once famously stated in this regard, "He that understands grammar in one language, understands it in another as far as the essential properties of grammar are concerned."^{2 3 4 5 6}

Languages evolved tens of thousands of years ago, probably even before Homo Sapiens appeared on earth, and early languages may only have had simple grammar and rudimentary vocabulary. Many scientists now argue that Neanderthal man also possessed the ability to speak based on an analysis of fossilized hyoid bone. Man's linguistic ability sets it apart from every other species on earth, and this is by far its most important distinguishing characteristic. Man is sometimes called Homo Loquens, or the talking species, a term first proposed by Johann Gottfried Herder. The earliest written literature is believed to date from around 2600 BC, and represents early Sumerian. The code of Hammurabi, issued by Hammurabi, is a well-preserved Babylonian code of law of Ancient Mesopotamia, dated to 1700 BC. The Rig Veda was compiled in 1500 BC, and was among the world's oldest codified texts, along with early Avestan texts, and was initially passed on as an oral tradition. The Egyptian "Book of the dead" recorded in the "Papyrus of Ani" is dated to 1240 BC. Early research appears to have been more wide-

¹ The Linguistic sciences and language teaching, MAK Halliday, Angus McIntosh and Peter Strevens, Longmans, London, 1965

² General Linguistics, RH Robins, Taylor and Francis, 1989

³ The origin and evolution of language, Brian Stross, University of Texas, W M C Brown Company, 1976

⁴ Homo Loquens: Man as a talking animal, Dennis Fry, 1977

⁵ Homo Loquens: An ethnologue, Ernst Pulgram, *Lingua* 24 (1970), 309-342, North Holland Publishing Co, Amsterdam

⁶ On the origin and spread of languages: Propositioning Twenty-first century axioms on the evolution and spread of languages with concomitant views on language dynamics Sujay Rao Mandavilli, *ELK Asia Pacific Journal of Social Science* Volume 3, Number 1 (2016)

ranging than hitherto imagined. An Egyptian papyrus dated to 1700 BC includes medical descriptions of language disorders following a brain injury, demonstrating that linguistic studies were multi-faceted from early times.⁷

The following experiments seem to suggest that field-based observations were used from early days, and are reviewed in brief. The Egyptian Pharaoh Psammetichus I is believed to have carried out a language deprivation experiment involving two infants, known as the Psammetichus experiment in the 7th Century BC as narrated by Herodotus, to study how language was acquired. This may have been the earliest ever recorded test of linguistics known till date, but has not been corroborated by independent sources. A similar experiment was carried out by James IV of Scotland around 1500 AD following the footsteps of the Italian emperor Frederick II a few centuries earlier, where he sent two new-born babies to the remote island of Inchkeith. Both the children were raised by a deaf-mute mother, and the king wished to see what language they would eventually learn. The Mughal Emperor Akbar also held that speech arose from hearing, and that children who were not exposed to language would become mute.

Linguistics also developed independently in China and India before the dawn of the Christian era unaffected by the dictates of the West and constraints imposed by work carried out elsewhere. Chinese linguistics evolved around the fourth century BC. The Xiaoxue, the Erya (An ancient dictionary) and the Xiao Erya were the early notable works from China, and are usually dated to around 300 BC. The prominent early works from India were the much-acclaimed Sanskrit grammar by Panini composed between 500 BC and 300 BC, and the ancient treatise on Tamil grammar Tholkappiyam which is believed to have been composed at around the same time. As Max Muller states, the work on the scale undertaken by Panini was not attempted in the West until well after the advent of the Christian era.

Prominent Greek scholars such as Herodotus, Plato, Protagoras of Adbera, Prodicus, Aristotle, Heraclitus, Sextus Empiricus, Hippias and Apollonius made important early contributions to the study of language, and this work was later taken forward during the Roman era by scholars such as Aelius Donatus. Most of the linguistic work from the Middle Ages centred around grammar (particularly Arabic and Hebrew grammar), and was an extension of Greek and Roman analyses. Linguistic studies increased in importance towards the end of the Middle Ages, and a significant amount of scholarly output was observed in this era. Arabic and Hebrew literary traditions had also reached a peak during this period. During the Renaissance, grammatical treatises were written for several European languages. The Academie francaise and the British Royal Society also carried out important work on linguistics in this period, and the former codified French grammar. J. G Herder, James Harris, Gottfreid Hensel, Ziegenbaig, James Burnett and Sir William Jones were leading linguists of Eighteenth Century Europe. The Nineteenth Century produced important European scholars such as Wilhelm von Humboldt, Friedrich von Schlegel, Jakob Grimm, Ferdinand de Saussure, Franz Bopp, and August Schleicher. Some work was also carried out on the reconstruction of the Proto Indo-European language which became an important field of study within linguistics due to a fortuitous discovery on similarities between European

⁷ Language and Linguistics: An introduction, John Lyons, Cambridge University Press, 1981

and Indian languages by William Jones which was announced by him at a famous speech at Calcutta.^{8 9}
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In the early Twentieth Century, there was a major shift towards structuralism, formalism and behaviourism, and major scholars of this era were Franz Boas, Edward Sapir, Benjamin Lee Whorf, Noam Chomsky and B.F Skinner. The Sapir-Whorf Hypothesis, the Whorfian hypothesis or the theory of linguistic determinism proposed by Edward Sapir and his student Benjamin Lee Whorf (the term was coined by the American linguist and Anthropologist Harry Hoijer) which states that language shapes man's perception of reality, and the ability to process thoughts differently and uniquely depending on the language of the speaker is an important product of the early Twentieth Century, and is widely accepted by linguists to this day, despite strident criticism from some quarters. This theory was shaped by work by Johann Gottfried von Herder and Wilhelm von Humboldt who proposed the idea of language determining human thought, and the idea of language being a rule governed system respectively.

Noam Chomsky's generative grammar, William Labov's and Peter Trudgill's sociolinguistics, Michael Halliday's System Functional linguistics and Kantor's Psycholinguistics are also significant ideas in the field of linguistics, and new sub-fields of study are continuously being invented. Research linking linguistics with diverse fields such as Anthropology, Genetics, Evolutionary Biology and Brain Psychology is also being carried out in different parts of the world. Much progress has been made in Evolutionary linguistics and the origin of language and is being studied along with ethnolinguistics, psycholinguistics, anthropological linguistics, neurolinguistics, evolutionary psychology, evolutionary anthropology, universal grammar, and cognitive science. This, along with advances in biology, has led to demonstrable and quantifiable insights into the origin of language. Researchers from other parts of the world besides Europe and North America are also beginning to contribute, and this is a welcome sign as this will lead to new perspectives, and is in consonance with our wide-ranging thrust on the 'Globalization of science'.

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What is language dynamics?

Language dynamics is a new and rapidly evolving field of study in the field of linguistics, and this promising field of study includes a formal study and investigation of how languages change, thrive, flourish, spread or decline over a period in time, how changes to language take place due to contacts with speakers of other languages and how languages and dialects compete with each other for viability and success. More recently, this has come to cover non contact-based scenarios. Language dynamics is

⁸ Language: The cultural tool by Daniel Everett, Profile Books, UK, 2012

⁹ Linguistics: A very short introduction by PH Matthews, Oxford, 2003

¹⁰ Linguistic foundations of identity: Readings in Language, literature and contemporary cultures, Edited by Om Prakash, Rajesh Kumar, Aakar books, 2018

¹¹ The Study of Language, George Yule, Cambridge University Press, 1985

¹² Contemporary Sociolinguistics: Theory, Problems, Methods, Aleksandr D. Svejer, John Benjamin Publishing Company, Amsterdam, Philadelphia, 1986

¹³ Sociolinguistics: A study of speaker choices, Floran Coulmas, Cambridge University Press, UK, 2013

¹⁴ Sociolinguistics: Bernard Spolsky, Oxford University Press, Oxford, 1998

¹⁵ What is Sociolinguistics ? Gerard Van Herk, Wiley Blackwell, 2012

also related to the birth and death of languages, although these are independent fields of study in their own right. The formal study of language dynamics is divided into different theoretical frameworks that seek to address different issues pertaining to the subject, and include data analysis and computational modelling. Language dynamics is also classified into diachronic or time-based analysis (also known as historical linguistics) and synchronic or spatial analysis (also known as descriptive linguistics) which is a formal study of language dynamics and changes in language dynamics at a point in time, due to interactions between languages, dialects and different speakers of the same language, and regardless of its past history or its future destiny. Another interesting area of study is how diachronic factors impact a synchronic analysis of language dynamics. Thus, this sub-field explores the co-relation between diachronic linguistics and synchronic linguistics. The study of language dynamics also has much in common with social dynamics, and many of the principles overlap, and uses our symbiotic approach to socio-cultural change as its basis. (Social dynamics refers to the study of behavior of groups resulting from the interactions of individual group members and the study of the relationship between individual interactions and group level behaviors).¹⁶

Changes to language are often broadly classified as internally-generated changes or changes brought about through external influences and contacts with speakers of other languages. Changes are also classified into changes from above which comprise changes which are brought about through political influences and intellectual traditions (elitist or esoteric traditions which can gradually percolate down into different strata of society, or in some cases, from urban centres to rural or peripheral areas) and changes from below which comprise more natural changes that spread due to popular culture. The terms “Conservative” and “Innovative” are also used to describe the rate of linguistic change. The terms “Transformation” or “Progression” are sometimes also used to describe the quantum of linguistic change during a given period. Different languages may exhibit varying rates of change in different periods. Analysis of linguistic change can also be classified into real-time analysis which analyzes changes that take place during the lifetime of a speakers and apparent-time analysis which is a comparative study of different generations of populations at a given point in time.¹⁷

Today, linguists have begun to study novel issues pertaining to the world’s languages. Nettle, for example, attempted to explain current distributions of languages with respect to various geographical and socio-economic factors (Nettle, 1999). Languages can also often be traced to parent languages, though this approach is disputed, and may be derived from the outdated tree model. The term ‘sprachbund’ is often used to describe an area containing languages with striking similarities. Mixed languages arise, when features of two or more languages are combined into a single language. Many scholars now recognize that languages are parts of complex ecological systems which can be modeled mathematically, and mathematical modeling and computer-driven studies are being increasingly used in linguistics. (Zanette 2001, Wichmann 2005).^{18 19 20}

¹⁶ A Course in Linguistics, Tarni Prasad, PHI learning Private Limited, Delhi, 2014

¹⁷ Linguistics: an introduction to linguistic theory, Victoria A. Fromklin, Susan Curtiss, Bruce P. Hayes, Nina Hyams, Patricia A. Keating, Hilda Koopman, Pamela Munro, Dominique Sportiche, Edward B. Stabler, Donca Steriade, Tim Stowell, Anna Szabolcsi, Blackwell, 2000

¹⁸ Language and Linguistics: An introduction, John Lyons, Cambridge University Press, 2000

Many important research institutions around the world have now begun to study language dynamics, though the field is still in its infancy. Among these are the Social Dynamics Lab, which is headed by Vittorio Loreto who is a Full Professor of Physics of Complex Systems at Sapienza University of Rome and Faculty of the Complexity Science Hub Vienna. Another school of study is the School of Advanced Study of the Open World Research Initiative (OWRI) led by the University of Manchester. It explores the role that languages play in relation to key contemporary issues such as social cohesion, migration, health, business and diplomacy. Another institute worth mentioning is the Australia-based ARC Centre of Excellence for the Dynamics of Language which is currently headed by Professor Nicholas Evans.

In addition to general journals on linguistics, there are now specialized journals covering language dynamics and change. An example of this is the Brill international peer-reviewed journal on Language dynamics and change that covers both traditional linguistics and new aspects of the dynamics of language change. Language dynamics is already being studied in a South Asian context. The South Asian Languages Analysis Roundtable (SALA) is organized every year in different parts of the world, and analyzes problems from a South Asian perspective. The foundation for SALA was laid during the 1978 Linguistic Institute of the Linguistic Society of America held at the University of Illinois at Urbana Champaign. There have been several novel approaches to language dynamics, too. Harsh Mathur is an Associate Professor of Physics at the Case Western Reserve University, specializing in theoretical physics. He is interested in the application of statistical physics to the study of language. He is a part of the Baker Nord Center for the Humanities, College of Arts and Sciences, Case Western Reserve University. One drawback of many existing research approaches, however, is that they are not predominantly fieldwork-based, and ties from the colonial era have not been fully severed.²¹

Let us now review some fields of linguistics that may have some bearing on our study.

Sociolinguistics

Sociolinguistics is the study of the effect of society on language, and the way it is used, and various other related aspects. It differs from sociology of language, which focuses on the effect of language on society. Sociolinguistics also takes into account social factors, class differences, differences between sub-cultures, ethnicity, religion, education, gender, the interplay between cultures, socio-economic classes, and other diverse factors. Sociolinguistics also overlaps with pragmatics, which deals with the contextual use of language. It is also closely related to linguistic anthropology, and the distinction between the two fields is often blurred.^{22 23}

The social aspects of language were first studied by linguists in the 1930s, and also by Louis Gauchat in the early 1900s, but ground-breaking work was not carried out until much later. The first use of the term “Sociolinguistics” was by the British Social Anthropologist Thomas Callan Hodson in his 1939 article

¹⁹ The Handbook of Linguistics, Edited by Mark Aronoff and Jamie Rees-Miller, Blackwell Publishing, 2000

²⁰ Language: The basics, R L Trask, Second edition, Routledge, 1995

²¹ Handbook of the Philosophy of Science. Volume 14: Philosophy of Linguistics Volume editors: Ruth Kempson, Tim Fernando, and Nicholas Asher. General editors: Dov M. Gabbay, Paul Thagard and John Woods. c 2012 Elsevier

²² An introduction to sociolinguistics, fifth edition, Ronald Wardhaugh, Blackwell Publishing, 1996

²³ The handbook of applied linguistics, Edited by Alan Davies and Catherine Elder, Blackwell Publishing, 2004

"Sociolinguistics in India" published in the journal "Man in India". The study of Sociolinguistics in the West began in the 1960s and was pioneered by linguists such as William Labov in the USA, who created much of the methodology of sociolinguistics, and the Sociologist Basil Bernstein in the UK. Many other researchers also contributed to sociolinguistics – Among these are William Bright who described the social basis of language and its forms, and studied Native American and South Asian languages.

Many terms have been defined as a part of sociolinguistics. Speech community as defined by Labov and others, is a concept in sociolinguistics that describes a distinct group of people who use language in a unique and mutually accepted way among themselves, and in a social and cultural context. It may at times also be synonymous with shared community membership. To be considered part of a speech community, one must have a communicative competence. That is, the speaker has the ability to use language in a way that is appropriate in the given situation. It is possible for a speaker to be communicatively competent in more than one language. However, the definition of a linguistic community may change along with its boundaries and constitutive elements. This process has only accelerated in the recent past due to immigration and globalization.

Crucial to sociolinguistic analysis is the concept of prestige; certain speech habits or social patterns are assigned positive or negative values, which is then applied to the speaker, or a set of speakers. The terms acrolectal (high), mesolectal (middle) and basilectal (low) are also used to distinguish between a more high-class dialect and a dialect of lower prestige. Overt prestige is understood to be the prestige associated with a variant that people are aware of and is associated with the speech of higher-status speakers. Peter Trudgill's (1972) work on Norwich English showed that some speakers openly talk about one variant as being 'better' than another. The term covert prestige refers to cases where speakers' recognition of a variant is not openly manifest.

Sociology of language is the study of the relations between language and society, and was founded by Joshua Fishman and others. It is related to the field of sociolinguistics, which focuses on the impact of society on language. Sociology of language studies society in relation to language while Sociolinguistics studies language in relation to society. In the Sociology of Language, society is the object of study, whereas, in Sociolinguistics, language is the object of study.^{24 25}

Anthropological Linguistics

Anthropological linguistics is the intersection of linguistics and anthropology, and deals with the place of language in a social and cultural context, and its role in preserving cultural practices and societal structures. In the 1960s and 1970s, sociolinguistics and anthropological linguistics were a single field of study, but they have since become distinct due to specialization. Anthropological linguistics studies different types of languages, both written and spoken, and in a wide variety of social and cultural contexts. Studies likewise have tended to be diverse, and have covered every facet of linguistics. For example, a study of the Penan people, shows how their language employs six different and distinct words for "we". Anthropological linguistics studies these distinctions, and relates them to types of

²⁴ An introduction to Sociolinguistics, Ronald Wardnaugh and Janet M. Fuller, Seventh Edition, Wiley Blackwell, 2015

²⁵ Introducing Sociolinguistics, Miriam Meyerhoff, Routledge, 2006

societies, and their social norms and mores, and contrasts them with societies which have different values.²⁶

Linguistic Anthropology

Linguistic anthropology is an interdisciplinary study of how language influences social life. It is a branch of anthropology that originated from the endeavour to document endangered languages, and has grown over the past century to encompass most aspects of language structure and use. Linguistic anthropology explores how language shapes communication, forms social identity, cultural beliefs and ideologies, and develops cultural representations of natural and social worlds. It has some overlap with the field of sociolinguistics. Dell Hymes was one of the pioneers of Linguistic Anthropology in the 1960s, though he also coined the term 'Ethnography of speaking' (or ethnography of communication) in 1962 to describe the use of language in a social or a cultural context i.e. speech communities.^{27 28 29 30}

Language ideology or linguistic ideology on the other hand, is a concept used in Linguistic anthropology, to describe beliefs or feelings about languages as used in their social contexts. Language ideology implies ideas that are related to language and its connection with social values and norms. This is based on works of earlier scholars such as Valentin Voloshinov, Mikhail Bakhtin and Roman Jakobson.

Existing theories of linguistic change

We will now provide a high-level overview of some models of linguistic change proposed by scholars in the past few decades. Many leading theorists such as Jean Aitchison discuss changes to language itself, rather than explain how languages spread or decline, and therefore have objectives which are different from the objectives of this paper. They also do not attempt to make useful generalizations from a diverse set of real-world scenarios, given that fieldwork within the field of linguistic anthropology is scant and has barely even begun on a large-scale. Nonetheless, we present the most common among them here, as they should provide a context for our work. It should also serve to highlight the vast void that this paper seeks to fill in. We therefore hope that this paper will provide a precursor for future work, and invite other researchers to join the field.

The Substratum theory of linguistic change proposes that changes in language occur due to external changes such as trade relations, migrations, invasions, networking and cultural contacts with other groups. Of late, changes are also being brought about through social networking, in the latter involves no physical contact of any kind. It is expected that this category would account for most linguistic changes in future. The S-Curve Theory of Linguistic change proposed by Chen (1972) and Bailey (1973) states that the rate of linguistic change resembles an S-Curve, remaining low initially, increasing rapidly towards the middle, and then gradually levelling off. This theory also proposes that changes in language take place chiefly due to social factors, with other factors being subservient to them. According to Peter Trudgill's Gravity Model of linguistic diffusion, linguistic changes take place due to social contact

²⁶ Anthropological Linguistics, Bambi B. Schieffelin, Paul Garrett, Routledge, 2011

²⁷ A basic course in Anthropological linguistics, Marcell Danesi, Canadian Scholar Press, 2004

²⁸ Textbook of Anthropological Linguistics, Concept Publishing Company, New Delhi, 2000

²⁹ A companion to Linguistic Anthropology edited by Alessandro Duranti, Blackwell Publishing, 2004

³⁰ The language of the genes, Steve Jones, Flamingo 1993

between speakers of different languages. Changes are proportional to factors such as distance or proximity and population size, and rapid changing happen between populations in close contact, and through influential languages. Juliette Blevins's theory of evolutionary phonology attempts to account for synchronic phonological patterns as the result of phonetic changes in the transmission of sound systems from generation to generation over time. Lev Vygotsky's sociocultural theory of human learning or the 'Language as a tool' theory describes learning as a social process due to the emergence of social values and cultural processes in society or culture. According to the Functional theory which was proposed by M.A.K Halliday, languages change and evolve in tune with its users' needs and the needs of society, and languages are designed primarily to serve the needs of society. This theory appears to focus more on lexical than other types of changes. Words may therefore be coined to reflect new discoveries, technological changes, new legal requirements, new cultural contexts etc. According to the Theory of Lexical Gaps, a word is usually invented or borrowed to fill in gaps in usage. This theory states that linguistic changes are mainly driven by lexical gaps. According to the Wave model proposed by Bailey (1973) geographical distance can have an effect on language change, and greater distance means there will be less impact. The Random Fluctuation theory proposed by Paul Postal and Charles Hockett proposed that linguistic changes are not dependent on any definite event, and linguistic changes are random. According to the ease of articulation theory, languages change because people tend to favour sounds and combinations of sounds that are easier to produce.

According to Jean Aitchison, Professor of Language and Communication in the Faculty of English Language and Literature at the University of Oxford, there are three different aspects of linguistic change. The first is a linguistic change where a speaker makes a linguistic choice, and implements it. The second is widespread implementation where the choice becomes selected as a part of a linguistic system. The third stage is diffusion where the change is replicated beyond the site of origin. With hindsight, these are perhaps gross over-simplifications, as no one paradigm can satisfactorily account for linguistic changes in all contexts and situations.^{31 32 33 34}

Merits and demerits of these approaches apart, any approach will also need to address underlying causes of linguistic change over a period of time and across geographies including Social factors, Political factors, Technological factors, and Cultural diffusion which may arise due to contact with speakers of other languages. Our basic assumption here is that the rate of linguistic change is never constant and may fluctuate very widely due to a result in an interplay of various factors in a manner that future trends can be predicted, but to a limited degree and subject to certain constraints. It would also be necessary to understand such changes in conjunction with various factors so that linguistic changes can be better-justified or analysed with underlying causes, and periods of relative linguistic non-change can also be predicted, and rationalized.³⁵

³¹ History of linguistic thought and contemporary linguistics, de Gruyter, Wiley, 1991

³² The Oxford Handbook of the history of linguistics, Keith Allan, Oxford University Press, 2012

³³ The relationship between language proficiency and language attitudes Evidence from young Spanish-English bilinguals, Lauren Miller, University of Central Arkansas

³⁴ Definitions and Critical Literature Review of Language Attitude, Language Choice and Language Shift: Samples of Language Attitude Surveys Serafin M. Coronel-Molina Indiana University, Bloomington, 2009

³⁵ The story of language, CL Barber, The English language book society and Pan books Ltd, London, 1964

Languages can also change on account of several factors, and we had discussed them in brief in an earlier paper. These were: efficiency, economy and simplicity, naturalness, emphasis and clarity, expressiveness and comprehensiveness of vocabulary, role-based suitability and context-based suitability. The researcher will need to have access to a dictionary of various theories, principles and factors driving the dynamics of languages, and often, a weighted average model will need to be used because more than one factor and principle will apply in a given context.³⁶

There can be many different types of linguistic changes. The Great Vowel Shift in English, for example, is a series of changes that took place in the pronunciation of the English language, between 1400 and 1700, influencing all dialects of English, and changing the pronunciation of long vowels, and some consonants. The Great Vowel shift was first studied by Danish linguist Otto Jespersen, who first coined the term.

Identifying some key principles before we proceed

Let us now identify some foundational principles upon which our approaches are based. It would be necessary to understand these before the principles, concepts and the frameworks of our paper are laid out.

Negation of pre-scientific theories

Before we formulate the principles of language dynamics, we deem it prudent to list out pre-scientific theories still prevalent in different parts of the world, mostly in isolated pockets. It is necessary in this age of scientific thought and endeavour, to attempt to negate them, weed them out, and ensure that they eventually fade from the general public consciousness into obscurity and oblivion. It is unfortunate that they have some currency, and are still glorified in some circles.

- Tower of Babel: The Tower of Babel is a narrative in Genesis 11:1-9 which seeks to explain why people in different parts of the world speak different languages. According to the story, a united human race in the generations following the Great flood, came to Shinar, and agreed to build a city, and tower tall enough to reach heaven. God, observing their city and tower, confounded their speech so that they could no longer understand each other, and scattered them around the world.
- Saraswathi, the Hindu goddess of learning: Saraswathi is the Hindu goddess of knowledge, music, art, wisdom and learning, the wife of Brahma the creator, and first described in the Rig Veda, and is often associated with language and linguistic ability.
- Garden of Eden: Adamic was believed to be the language spoken by Adam and Eve in the Garden of Eden. Adamic is the language used by God to address Adam or the language invented by Adam. (Book of Genesis 2:19)
- Noah's Ark: Noah's Ark is the vessel in the Genesis flood narrative (Genesis chapters 6 to 9) through which God spares Noah, his family, and examples of all of the world's animals from a world-engulfing flood. This is believed to be pure myth as no evidence of the ark has ever been

³⁶ The problem of linguistic universals, Arundhati Mukherjee, Allied Publishers Limited, New Delhi, 2004

found. Some Biblical creationists believe that Hebrew was used during the flood, and this split up to other languages.

- Original language hypothesis: The Original language hypothesis of the Proto-world language hypothesis is the hypothesis that there was a hypothetical ancestor to all the world's languages. This language is purely hypothetical and conjectural, and is not directly or indirectly attested. Even though it is attributed to mainstream science, there is not a shred of evidence in support of this theory. This is akin to the idea of monogenesis, and was proposed by Alfredo Trombetti in his book *L'Unita d'origine del linguaggio* published in 1905, and by others. It was eventually discarded in favour of the idea of polygenesis.
- Linkage to OAT: The OAT refers to the 'Out of Africa theory' or the theory that humans migrated out of Africa, and then dispersed around the globe. There are many variants of the 'Out of Africa' theory, and one of this is the recent Out of Africa dispersal hypothesis, or the recent single-origin hypothesis (RSOH), which assumes that humans first left Africa as recently as eighty thousand years ago. The other extreme is the Multi-regional hypothesis which assumes that humans evolved independently around the globe. There are many via media approaches, and even OAT variants do not preclude admixture with pre-existing populations elsewhere. The OAT is strongly co-related with monogenesis, though the OAT by no means necessitates it, while the MRH is associated with polygenesis. This is a hotly debated topic today, and is by no means resolved, and the author is in favour of the MRH. This also has some co-relation to the early theories of the Nineteenth century. James Cowles Prichard, an English physician and ethnologist, believed that all races originated from Adam, while American physician Samuel George Morton believed that humanity could not have originated from a single source, but had multiple origins.

Field-work driven approaches versus ivory-tower approaches

While the quantum of fieldwork carried out in linguistics has increased greatly in recent times, it may still need to follow other fields of Anthropology in becoming predominantly fieldwork-driven. Thus, Linguistic Anthropology must follow mainstream Anthropology in bringing prolonged fieldwork, and the Participant Observation method to the centre stage of study. Field work must be carried out in different parts of the world, in line with our SAPTA approach (Structured Annotated Participant Driven Appraisal), and multi-sited ethnography which seeks to follow a hypothesis to its logical conclusion by initiating studies in different parts of the world. Case studies must also be a part of investigation, and these must be drawn from different parts of the world. Case studies must include not just etic, but also emic perspectives. The latter must be implemented in letter and spirit, but may be far from easy at the present juncture, and until all Eurocentric paradigms are challenged. This must also follow the ideals of George Marcus and others who proposed Multi-sited Ethnography as a way to examine and study global processes through Ethnography and identify macro-level issues, and are related to World Systems theory influenced by Immanuel Wallerstein and others. This is also called 'living the global' ethnography, or simply 'Globalized Ethnography'. Many linguists have always recommended fieldwork, as a precursor for meaningful studies. The American linguists Dell Hymes and John Gumperz, for example, had encouraged their students to do fieldwork as a part of linguistic analysis, and Gumperz did extensive work in India and other countries himself.

Ethnographic studies encompassing linguistics have been carried out by Sherzer (1983), Hill and Hill (1986), and Mendoza-Denton (2008). Sherzer describes how the Kuna of Panama use language: their public language of the gathering house, and their use of language in curing and music, in rites and festivities, and in everyday conversation. Hill and Hill describe how the Malinche of Central Mexico use language in their daily lives and in their struggle to preserve their linguistic and cultural identity in the context of the encroachment of Spanish. Mendoza-Denton (2008) studied Latina gangs in a California high school. The students were a mixture of Euro-Americans, African Americans, Pacific Islanders, Asians, Asian-Americans, and Latinos. She focused her research on the Nortenas and the Surenas, two rival Latina gangs. She studied these groups in depth, and found a strong ideological divide between the groups. The Nortenas were northern-oriented, preferred to speak English, while the Surenas were more Mexican-oriented, preferred to speak Spanish, Mendoza-Denton showed how the members of each group reinforced their identities through their linguistic practices and behavior. Daniel Everett lived for many years in the Amazon jungle, and carried on research on many languages of the Amazon jungle. However, it would be expected that in addition to primary data collected on the field, some amount of secondary data would also be utilized, given the practical difficulties in collecting primary data in many situations. Thus, a repository-type approach is recommended.

No computer-driven linguistic modelling or computational modelling for the sake of it

Computational linguistics is a branch of linguistics where the techniques of computer science are applied to the analysis and synthesis of language and speech. It has many uses in Machine translation, speech recognition, text-to-speech synthesizers, interactive voice response systems, and the like, and has both theoretical and applied elements. It has many positive elements such as Machine Translation, Retrieving data, Analysis of texts, database building, and creating chatbots. Another related field is Mathematical linguistics which is a field of scientific enquiry applying mathematical methods and concepts to the study of languages, and their inter-relationships. This field of study was conceived in the 1950's to solve problems in theoretical linguistics. Quantitative linguistics investigates languages using statistical methods to formulate general theories of language change, and the structure and the inter-relationship of languages. These days, Open Source Software such as R is being increasingly used in this field. While all this may be admirable, the human element in Linguistic Anthropology, one that is based on an interface with humans in diverse cultural and social contexts must not be lost sight of, and in no context can the former be a substitute for the latter. The human-centric nature of the social sciences must never be ignored, compromised or relegated to the background, in the backdrop of the increasing glamour and razzmatazz of computer science or the hard sciences. ^{37 38 39}

Use of linguistic models

We also strongly recommend the use of linguistic models, such as the one we had proposed in conjunction with the Aryan problem as central to linguistic inquiry. Most models would deal with the interrelationships between languages within a sprachbund. However, many models may be global in

³⁷ Mathematical Linguistics, Andras Kornai, Springer, London, 2008

³⁸ Mathematical Methods in Linguistics, Barbara H. Partee, Alice ter Meulen, Robert E. Wall, Kluwer Academic Publishers, 1990

³⁹ Statistics for linguistics with R: A practical introduction Edited by Walter Bisang, Hans Henri Hock, Werner Winter, Mouton de Gruyter, 2009

nature, or quasi-global and deal with relationship between languages across a wide geographical area. Examples of these models could be models dealing with relationships between various branches of the postulated Indo-European family of languages. Another type of model could be a model depicting changes to a single language over a period in time. Many models may initially be conjectural, but may serve as place-holders, and can be refined as further data becomes available. Linguistic models however, have several connotations in linguistics, and different types were used by linguists such as Zellig Harris, Carl Pollard and Ivan Sag.^{40 41 42}

No intellectual Nerdism

A nerd may be described as a foolish or contemptible person who lacks social skills, and this may stem from a myopic or an inward-looking attitude. This approach can also be applied to intellectual endeavours, leading to a flawed output. Early Anthropological work depended on the accounts of traders, travellers and missionaries such as Herodotus, Marco Polo and Fa Hien, and were mostly second hand. Later, Armchair Anthropology was in vogue as epitomized by the works of James G Frazer who studied magical and religious beliefs from around the world. This was followed by Verandah Anthropology where subjects were summoned to the verandahs of colonial bungalows, and then the hand-maiden era where Anthropologists accompanied colonialists and missionaries to colonies to impose a Euro-centric worldview of Anthropology. Fieldwork began to take off by the 1800's, as exemplified by the Torres Straits expedition of 1898 and other earlier expeditions and studies such as those of the Mohawks and Zuni Pueblo, but the full-fledged Participant Observation method was only developed by Bronislaw Malinowski in the 1920's, and has become the gold standard ever since. Even though Anthropology has always studied exotic cultures, their subjects were treated as objects of curiosity, and Anthropologists did not work for them. The target audiences of their work were always western audiences.⁴³

Many early Anthropologists worked within the premises of positivism. Malinowski believed that their subjects were pre-literate and could produce no meaningful works of their own. Therefore, scientific works could only emanate from external sources, and these were objective and unbiased. Radcliffe-Brown believed that their subjects in the Andamans were so decimated with measles that they were endowed with meaningful thought processes of their own. Levi-Bruhl likewise contended that Non-western minds were pre-scientific and pre-logical. According to Evans-Prichard, witchcraft in the Azande does have a practical utility in a native context, and some people may even believe it to be true, a premise not valid in Western science. However, this was another day, and another age. Few will deny that Western thought is only one of the many systems of thought. For a meaningful and unbiased study, a combination of emic-etic studies and etic-emic studies are a must, and one that must involve scholars

⁴⁰ Syncretism and Acculturations in Ancient India: A New Nine Phase Acculturation Model explaining the process of transfer of power from the Harappans to the Indo- Aryans Part One Sujay Rao Mandavilli, ICFAI Journal of History and Culture, 2009

⁴¹ Syncretism and Acculturations in Ancient India: A New Nine Phase Acculturation Model explaining the process of transfer of power from the Harappans to the Indo- Aryans Part Two Sujay Rao Mandavilli, ICFAI Journal of History and Culture, 2010

⁴² The Demise of the Dravidian, Vedic and Paramunda Indus Hypotheses: A brief explanation as to why these three Hypotheses are no longer tenable, Sujay Rao Mandavilli, 2013

⁴³ The Golden Bough: A study in comparative religion, James G Frazer, 1880

from across the world. Emic perspectives must be merged seamlessly with mainstream scientific method.

No over-theorizations, over-simplifications and over-generalizations

Over-theorizations, over-simplifications and over-generalizations must also be avoided at all costs. One of the prime causes for this could be the application of Western-centric (or alternatively, Indo-centric, Afro-centric or Sino-centric which are also antithetical to the interests of science) propositions that all ill-suited for other parts of the world. Theorization or hypothesis building involves the formation of tentative conclusions from incomplete data, and provides a tentative explanation that can be tested through further verification. A good hypothesis possesses the power of prediction, and real-world hypotheses can often be exceedingly complex encompassing many dependant and independent variables. They must encompass as much observable or known data as possible, and should be easily verifiable, refutable or modifiable, regardless of whether they are statistical or non-statistical. Hypotheses can be greatly improved if as much reliable data as possible is collected from global teams, so that modifications are minimal, and costly rework as a result of rejecting or substantially modifying hypotheses can be minimized or eliminated. This would also pre-empt over-simplifications as complex hypotheses (those which encompass as many scenarios as possible, but eschew redundancy at the same time) which are amenable to real-world testing in multiple scenarios can be formulated. This would greatly also reduce the risk of the formation of stereotypes and cultural biases, and minimize the risks arising from cultural naivete. Phenomenological and emic approaches can help study issues and topics as they are experienced by subjects first hand, instead of imposing external worldviews.

All flights of fancy and leaps of logic must be abandoned

Flights of fancy and leaps of logic have been the direct outcome of cultural myopia and over-generalizations, though the researchers' (in question) prejudices may have greatly contributed. Robert Caldwell proposed the existence of a separate Dravidian language family, though the term 'Dravidian' only had a geographical connotation in Sanskrit literature. Some researchers consider his work to be highly divisive, though he found some support among Dravidian nationalists. He even went as far as to proclaim that Hebrew and Greek contained words of Dravidian origin. Similar hypotheses such as the Elamo-Dravidian hypothesis as proposed by David McAlpin were also highly conjectural, and remained controversial. Some of these hypothesis proposed that the 'Harappan language' also formed a part of this postulated language family, and that the Dravidian languages were brought into India from Elam. We had reviewed the claimed evidence in support of all these claims in an earlier paper and found them to be tenuous and flimsy. Claimed evidence centred around the sub-stratum of Sanskrit, and the structural analysis of the script can be easily negated. This hypothesis was mindlessly accepted for decades ignoring inconsistent evidence, but is now falling out of favour.⁴⁴ Some other linguists think Japanese was related to Tibetan or to Tamil, and that these were introduced to Japan during migrations. Others postulate the existence of an Altaic language family, though this is now disputed, and is rapidly falling out of favour. This hypothesis also encompassed the search for what may be a

⁴⁴ The Demise of the Dravidian, Vedic and Paramunda Indus Hypotheses: A brief explanation as to why these three Hypotheses are no longer tenable, Sujay Rao Mandavilli, 2013

mythical homeland, discounting the search for reasonable causes for claimed similarities. Likewise, some think that the language of Easter Island in Polynesia was derived from Tamil. This claim is made by Dravidian nationalists due to the striking similarities between the pictographic Rongorongo script and the Indus script, as this is indeed one of the most baffling coincidences in science. However, all aspects of this problem need to be studied together to arrive at a meaningful conclusion. More recently, excavations at Keezhadi have uncovered a culture dated to 400 BC. However, Dravidian nationalists have used this as an excuse to prop up the Dravidian Harappa hypothesis. How well would these stand the test of scrutiny?

On the other hand, some Hindu nationalists go as far as to dispute the relationships between North Indian and European languages, or proposing a homeland in India. Hindu nationalists insist that the whole of the Indus Valley spoke Sanskrit, which was primarily a liturgical language. Thus, existing Euro-centric (Even Indo-Centric or Afro-centric) paradigms must be constantly challenged and upended in the interests of science, following robust inter-disciplinary methods. Clearly, there is a lot of work to be done. All hypotheses must therefore be re-examined from time to time particularly in the light of new and expanding data, and all reassessment must follow bonafide scientific methodologies. How many misleading conjectures could have been avoided, we may ask, if data had been systematically collected from different parts of the world?

Studying both diachronic and synchronic factors

In addition to understanding synchronic changes, a compendium of historical factors may also need to be prepared and updated from time to time, and the key takeaways culled as this will have a bearing on any study on the spread of languages. Several linguists have studied diachronic and synchronic aspects in tandem, examples being Gordon Gauchat and Eduard Hermann.

For example, the Vikings were a sea-faring people from the late eighth to the early eleventh century who established a name for themselves as traders, explorers and warriors. They travelled over a wide region, and deeply impacted the regions they travelled to. The Vikings spoke several languages, which included the Old Germanic Old Norse, Old Gutnish and other dialects, and used the Runic alphabet in which inscriptions survive to this day. Old Norse had an influence on English dialects, Lowland Scots and Ulster Scots. The extinct languages of Orkney and Shetland off the coast of Scotland are believed to be the direct descendants of these languages (Unlike Scottish Gaelic which developed from Old Irish, and the now extinct Manx), as well as languages in Scandinavia and Denmark.

The Norman conquest of England was a eleventh century invasion and occupation of England by an army of Norman, Breton, Flemish and French soldiers led by the Duke of Normandy, William the Conqueror who won in the Battle of Hastings in 1066. This led to the near total elimination of the old English aristocracy, and also brought about major linguistic changes in England. Anglo-Norman became the language of the elites, displacing Old English. It also influenced the language of the masses over a period in time.

Historical factors can also bring about sudden changes, examples being the sack of Rome by the barbarians i.e. Visigoths under Alaric I, in 410 AD. Rome was sacked again in 455, 546, 549-550, and

1084, by Genseric, King Totila, the Ostrogoths and Robert Guiscard respectively. The Gauls under Brennus had also sacked Rome in 390 AD in the Battle of the Allia. The fall of Constantinople was the capture of the capital city of the Byzantine Empire by the invading Ottoman army on 29th May 1453. This event, like many other historical events of a similar kind, affected trade in the European region rather suddenly and abruptly, changing power equations to a considerable degree, perhaps triggering linguistic changes in its wake as well. ⁴⁵

We had also proposed the following Six Phases of the Indo-Europeanization of the World in an earlier paper, and we reiterate them below, as this will give an idea of the kind of complex deep-history analysis that may need to be done by linguists to research the dynamics of language, and in turn integrate them with other data:

(a) Phase A: The spread of various dialects and languages forming a part of what we call Base Indo-European from the Indo European homeland and linguistic transformations in outlying regions would constitute what we may refer to as Phase A. These expansions would have been accompanied by human migrations which may have taken place not at one point in time, but at different points in time to different outlying regions beginning around 3000 BC.

(b) Phase B: Billiard like extensions. This phase would comprise the Indo-Europeanization of Europe as explained in our papers, and the spread of Sanskrit within India as a liturgical language including parts of South India and its influence on Dravidian and other languages. This form of a spread may or may not have happened in tandem with human migrations. These may have occurred at much later periods of time in many cases and may constitute a form of elite dominance in many cases.

(c) Phase C: Tertiary extensions. This phase would comprise tertiary extensions like the spread of Sanskrit into South East Asia from India due to political factors in pre-modern times.

(d) Phase D: This phase would comprise the spread of IE as a primary language over the past couple of centuries into regions such as North and South America and Australasia due to migrations from Europe.

(e) Phase E: This phase would comprise the spread of IE as a secondary language as a result of colonialism in places such as Africa and Asia.

(f) Phase F: This phase would comprise the spread of IE languages in modern times as a result of globalization, and the entrenchment of English as a global lingua franca.

While studying historical factors, our approach to the origin of language must also be kept in mind, and linguistic and dialect isoglosses studied. An assessment of natural barriers and physical features would also form a backdrop of any study, and researchers must evaluate how languages come to be. This must be accompanied by etymological studies and a study of hermeneutical texts wherever these are available, to make any assessment complete, and a study could incorporate study of relationships with neighbouring languages and word borrowings as well.

A mapping of dialects has also been attempted for different languages with features and dialect isoglosses mapped. Complex language atlases have also been developed such as the *Atlas Linguistique de la France* or 'Alf' by Jules Gilliéron and Edmond Edmont. A number of atlas projects have been

⁴⁵ Generic Identity Theory for the Twenty-first Century: Towards grand unified approaches in identity formation, identity transformation and identity dilution or neutralization Sujay Rao Mandavilli *Elk Asia Pacific Journal of Social Sciences* Volume 5, Issue 3, 2019

undertaken in different counties across Europe such as Switzerland, Germany, Italy and Spain. Dialect atlases of North America have also been undertaken. These would provide a vital input into the study of the origin of languages, and would impact a study of language dynamics as well.

In addition to real-time linguistics and apparent-time linguistics, trend studies are sometimes carried out. A trend study uses data that includes comparable speakers who have been recorded at different points in time. In addition, generational changes or changes between generations and lifespan changes or changes within a speaker's lifespan are also carried out.

Micro and macro-level study including a study of macro and micro cultures

The term micro-linguistics and macro-linguistics are already in use, but we propose a slightly different definition to make it appropriate to our proposed sub-field of study. The term micro-linguistics was first used by George L. Trager in an article published in 1949. The term micro-linguistics is a branch of linguistics that deals with the study of language in the abstract without regard to the meaning or notional context of linguistic expressions, and includes a study of phonetics, syntax and morphology. On the other hand, macro-linguistics studies the social and cultural context of language, and closely corresponds to sociolinguistics. From our perspective, micro linguistics can also correspond to an assessment of language dynamics or factors contributing to language dynamics through an individual level study while macro linguistics would include a study at the level of a culture or a society, and would involve a study of human interactions, and could also comprise an aggregation of micro-level studies. At an intermediate level, micro-cultures can also be studied, and these would be subsets of macro-cultures. Sociolinguists have maintained that asocial or stand-alone linguistics is not worthwhile and that language can be comprehensively understood only if understood in a social context. This is because society imposes constraints on the speaker and his idiolects which can be transcended only in the rarest of cases. On the other hand, community-wide linguistic changes are more common in most societies. This is a principle we will strive to maintain throughout this paper, but a micro-level study is also adopted wherever warranted. ⁴⁶

Some researchers like Hudson (1996) also distinguish between sociolinguistics (or micro-sociolinguistics) and the sociology of language (or macro-sociolinguistics). Micro-sociolinguistics investigates the relationships between language and society to understand the structure of language and of how languages function in communication; On the other hand, the goal of the sociology of language is to discover how social structure can be better understood through the study of language.

Descriptive as opposed to prescriptive

There is also a growing amount of work called critical sociolinguistics (Singh 1996, Kress 2001) that takes an 'interventionist' approach to issues that need to be remediated. However, language dynamics can seldom be prescriptive. Predictions can also be seldom be accurately made given that language dynamics are impacted by political, economic, cultural and social factors that may be outside the

⁴⁶ LANGUAGE CHOICE AND LANGUAGE ATTITUDES IN A MULTILINGUAL ARAB CANADIAN COMMUNITY: QUEBEC- CANADA: A SOCIOLOGICAL STUDY Bader Sa'id Dweik Hanadi A. Qawar Middle East University Middle East University, British Journal of English Linguistics Vol.3, No.1, Pp.1-12, March 2015

linguists control. Such predictions can rarely be accurate, particularly if they are made for the long-term, and may involve such major assumptions, that they may hold out little practical value.

Collaboration and interdisciplinary approaches

Collaborative and interdisciplinary approaches are highly recommended in the era of globalization, and qualified teams from different parts of the world must participate and contribute. Teams must be so set up that no one particular paradigm can be allowed to dominate, and as is applicable for all fields of social science, truly culture-neutral value propositions on all aspects of study must be placed on the table. Interdisciplinary pursuits have been more challenging due to the high degree of specialization present in today's research, but must become the norm: collaboration with historians and biologists are easier said than done. This can happen through empowerment of all members of the team and other specialists, and this will lead to inter-cultural and inter-disciplinary frameworks that can be further modified. This, would lead to dialectical exchange of ideas across cultures, unseat cultural biases and perceptions, and avoid approaches that appear to challenge mainstream norms but are unwittingly Eurocentric (or English-centric) in their orientation. For example, Amitav Ghosh has challenged the dominance of Western English and Western narratives, but as an English writer, much of his work on language and political power equations was English-focussed. Opposing ideologies have tended to be associated with some other form of "centrism", examples of these being Dravidian nationalist constructs of language, which may be somewhat removed from reality. In recent years, there has been a shift from British Anglocentrism to American Anglocentrism, through the demonstration of American hard, soft and grey power, though this constitutes another form of centrism by itself.

Doctrine of non-predictability

We must also introduce the doctrine of non-predictability here. This principle states that language dynamics cannot be predicted with any degree of certainty. This is because language dynamics are dependent on factors such as political factors and economic factors over which a linguist may have no control. Thus, a linguist may at best be able to come up with a set of scenarios, along with suitable assumptions. Unquestionably, the quotient of predictability may increase due to ever-increasing integration, but no form of integration at any level can completely annul any factor of uncertainty driven by political and economic factors, or vested interests.

Factors can therefore be categorized into predictable and non-predictable factors. Predictable factors include those factors which can be incorporated into the science of language dynamics. Unpredictable factors include those which cannot be incorporated into the science of language dynamics. Examples of such factors are political and economic factors. Unpredictable factors can also be expressed as scenarios. For example, Scenario A may assume an increase in the economic power of the USA, scenario B may assume no change in status quo while scenario C may predict a decline. Unpredictable factors will have a bearing on future assessments, more so in the long term. It is often said that the future is nothing but a set of possibilities, with each possibility assigned a probability; a list of such scenarios must therefore be made, to the extent possible, and probabilities worked out wherever possible. In a nutshell,

the reliability of predictions decreases with time, and predictions are always fraught with risks and uncertainties.

Language dynamics don't lead to ideal situations

It must also be borne in mind that the principles of language dynamics don't take into account what is good for society, or lead to ideal situations, and proactive approaches and intervention are required to ensure that language paradigms take into consideration requirements of all groups of people in a society, and lead to the well-being of all sections of society. For example, English is the de facto Official language in India, and demand for it is increasing manifold. However, allowing it to spread naturally, or adopting "standard" pedagogical practices with respect to the learning of languages would not raise linguistic standards, or lead to a situation where language learning is attuned to the needs of the people. Language planning must therefore, include a careful consideration of what linguistic skills are needed in a given socio-cultural and a socio-economic context, and the cultural preferences and habits of learners as well. However, this would be a two-way process, and enhanced linguistic skills would lead to changes in language dynamics as well, by impacting patterns of usage.

Nomothetic, inductive and idiographic approaches

A nomothetic approach is used to discover general or scientific laws, and is derived from the Greek word 'nomos' meaning law. This approach must be adopted to identify universal principles and formulate theories that can be as widely used as possible. This is related to the inductive approach where general laws are derived from large sets of data. Another related concept is that of nomothetic causation where the same cause has an effect on a lot of people.

The idiographic approach, on the other hand prescribes that each situation or context is unique, and must be studied in its own unique way. Identifying Idiographic stand-alone cases will form a part of this field, but must be later probed in depth by a more specialized set of scholars who may collect additional quantitative and qualitative data. Thus, principles which operate in a given set of circumstances must also be identified. For example, a unique form of pluri-lingualism is the case of the Tucano tribe who live along the Vaupes River in Columbia and parts of Brazil. These groups practice linguistic exogamy, normally marrying outside their linguistic group. It is therefore, common for a member of a tribe to speak several languages in different situations and with different groups. This therefore constitutes a different and a unique form of pluri-lingualism where the principles described in this paper will not apply, and must be studied as an idiographic case.

Additionally, a repository-type approach offers many benefits over a stand alone solution for any given context as a plethora of solutions may apply. The days of the latter may well be over. As an example, we can cite the failed 'bow-wow theory', whose progenitors insisted that it was the panacea to all the riddles on the origin of languages until it was too late. Instead, a combination of different solutions from experiences culled from different parts of the world may apply in a given context.

Our theory on the origin of language: The Epochal Polygenesis approach

We had presented the Epochal Polygenesis approach in an earlier paper and a summary of this paper is represented below. We had divided the origin of language and explained the possible high-level changes to language into five major epochs each with its unique characteristics. The five epochs were the Pre-historic period (comprising the Stone Age (The Palaeolithic age and the Mesolithic age) and the Neolithic age), the Proto-historic age (covering the Neolithic age and the Early Chalcolithic age), the historic period (covering the Late Chalcolithic age, the Old world, the Iron age, the Ancient world, the Medieval era, the Renaissance, the Age of discovery and the Georgian era), the Modern Pre-globalized era (from the Victorian era to the end of the Twentieth century), and the Age of globalization (from the end of the Twentieth century to the Twenty-first Century).^{47 48 49}

The idea of language would have progressed and changed from epoch to epoch. For example, languages in the pre-historic period would have been primitive and may have been largely autochthonous in origin. These languages would have been spoken unstandardized varieties, and would have covered a small geographical region. Theories such as the bow-wow theory would have applied at this stage, as speech was kept simple and practical. In the Proto-historic period, words would have been constantly overridden, and languages would have been more standardized over a given, and relatively larger area. Some linguistic traditions would have been passed on from generation to generation, and quasi-political factors would have come into play. There may have been some word borrowing from neighbouring regions. The historic period would have been equated with the emergence of full-blown political authority, and the emergence of proto-literate and literate traditions. By this time, language would have played an important social and cultural role in a society, and would have been the hallmark of a culture. Intellectual traditions would have begun, but would have been elitist. The modern pre-globalized era would have seen the emergence of new technologies and vastly improved technologies as well as near-universalization of literacy. Intellectual traditions would have increased greatly. The post-globalized era would have seen the breaking down of national barriers on an unprecedented scale, and the spread of languages with little or no direct contact. Technology would greatly facilitate the spread of languages at this stage, and this stage would also be marked by the rapid extinction of minor languages, as some languages become more technology-empowered than the others.

Our approach to study the spread of languages: The Theory of Linguistic Osmosis

An important building block to be understood before understanding the theory of linguistic osmosis is that of a linguistic unit or entity. Linguistic units or entities may exist at various levels; the lowest level being that of the linguistic community, which can have one or more subsets. This term is already in use in sociolinguistics and anthropological linguistics, is similar to a speech community, and corresponds to a group of people who share a set of linguistic norms and expectations regarding the use of language. It also connotes shared community membership and shared linguistic communication. At a lowest level, this could correspond to a small town, or a big city. The American linguist Charles Hockett defines a linguistic community as follows: "Each language defines a speech community: the whole set of people

⁴⁷ Linguistics, HG Widdowson, Oxford University Press, 2003

⁴⁸ Linguistics, An introduction, Andrew Radford, Martin Atkinson, David Britain, Harold Clahsen, Andrew Spencer, Cambridge University Press, 1999

⁴⁹ Linguistic for Everyone: An introduction, Kristin Denham, Anne Lobeck, Cengage learning, 2009

who communicate with each other, either directly or indirectly, via the common language.” (1958:8) A similar definition provided by English linguist William Labov is as follows: “The speech community is not defined by any marked agreement in the use of language elements, so much as by participation in a set of shared norms; these norms may be observed in overt types of evaluative behaviour, and by the uniformity of abstract patterns of variation which are invariant in respect to a particular level of usage.” (1972: pp 120-21) However, in real-world scenarios, linguistic communities around the world typically have several linguistic minorities within their territory in addition to a majority or a dominant group.

Linguistic communities may also be characterized by the presence of a large number of dialects, both geographical and social. A dialect is a specific form of a given language showing sufficient differences from the literary form of that language. Examples of dialects in Chinese include Pekingese, Cantonese, and Yunnanese, and these are geographical dialects representing the name of a city or region. Social dialects comprise acrolects, mesolects, and basilects, which denote high-end social use, middle-class use and low-end social use respectively. The study of social dialects is related to the field of Ethnolinguistics which is a specific area of study under sociolinguistics. Sociolinguistics studies the variation in language on the basis of interaction between social classes and cultures.

In some cases, geographical dialects may themselves be perceived as being superior or inferior. For example, the Telangana dialect of Telugu is perceived to be inferior to the Andhra dialect of Telugu by Andhra Telugu speakers. In extreme cases, speakers of various dialects may be rival or even mutually antagonistic to each other, or at least possessing key distinguishing features, as dialects may themselves be major, and often contending for full-fledged language status. In such cases, the spread of a language may also be influenced by linguistic and ethnic rivalry, and often the fear of persecution and marginalization may also drive language dynamics.

It would logically follow that, there are two distinct and separate scenarios, each with its own set of rules and defining characteristics: Linguistic osmosis by Geographical dispersion, and linguistic osmosis through direct contact, involving multiple linguistic groups in a linguistic unit in close contact with one another. This approach focuses primarily on the former, but can also be applied for the latter in most cases.

The next higher level is a linguistic block, which can also be referred to as a linguistic zone or a linguistic area, comprising various linguistic communities sharing common linguistic or cultural traits, or additionally, a geographical zone where dynamics of language are similar to one another, closely influence each other, or are driven by a similar set of factors. A linguistic block usually does not comprise a region with speakers of a single language. In a majority of cases, they would speak related languages or different dialects of the same language. A linguistic block may or may not be equal to a ‘Political entity or an Economic entity’, (both terms have different connotations even though there can be an overlap) which are completely different definitions, with or without an overlap. In case they are equal to one another, the dynamics or language spread within the linguistic area are heavily influenced by political or economic factors created by such a political or economic entity. In case the linguistic area does not correspond to a political or an economic entity, such political and economic entities will need to be identified nonetheless, and their impact and downstream implications analysed and quantified.

Therefore it is extremely important to define a linguistic block correctly to avoid unwanted errors of different types.⁵⁰

We must also reiterate that the dynamics of language spread outside the linguistic community or a linguistic block can have a bearing on the dynamics of language spread within the linguistic community or the linguistic block due to the process of linguistic osmosis. Similarly, the dynamics of language spread within the linguistic community or the linguistic block can have a bearing on the dynamics of language spread outside the linguistic community or the linguistic block. Therefore, all the principles of 'The Theory of Linguistic Osmosis' will almost always apply, and exceptions must be clearly stated with justifications. Thus, the internal dynamics will always take precedence in determining the spread of languages within the linguistic community or block, the linguistic community or the block will always be a tighter linguistic unit. There may be exceptions such as the influence of ubiquitous pan-regional or global trends, but these must always be studied separately.

For the purpose of our analysis, we will always adopt an inside-out approach first, and then follow it up with an outside-in approach for simplicity and reliability. Thus, the dynamics of language spread within a linguistic community or the lowest sub-unit will be analysed first, using one or more of the principles described in this paper based on the principle of relevance. These will then be aggregated sequentially using a bottom-up approach, and analysed thoroughly at all levels, after working out the inter-relationships between subservient units. The last level of analysis will therefore be an analysis at the global level, and an analysis at this level will be the sum total of the results of all analyses, carried out at different linguistic blocks. The result will then need to be worked back to linguistic blocks and linguistic communities to the extent this approach is warranted. This process may be repeated ad infinitum diachronically, but usually only when some kinds of changes are observed at one or more levels which warrant a re-analysis. This may be well beyond the competency and the bandwidth of a single researcher, and may be taken up and carried out in different periods by different groups.⁵¹

This analysis can be readily related to, and vetted with real-world scenarios, situations and observations. For example, Hindi may not spread easily outside India, or become a world language given the resistance within India to the spread of Hindi within India itself, and attempts to spread it overseas using political clout or methods have been strongly resisted. Another scenario is the spread of English outside England over the past few centuries due to the age of discovery and colonialist expansion. However, the spread of the English language outside England has not been able to exterminate the dialects of English, or annihilate related languages like Welsh completely. These have revived through the principle of cultural ethnogenesis.⁵² Thus, regions may be approached distinctly for the purposes of such studies, and may be further broken down as required so that a thorough region-specific analysis taking into account the peculiarities and the unique characteristics of the region may be applied. The recent popularity of English in Europe would be impacted by and would also impact the global spread of

⁵⁰ A brief history of languages, Jaya S Nagendra, Atlantic Publishers and distributors (P) Ltd

⁵¹ The Language Instinct: The new science of language and mind, Steven Pinker, Penguin books, 1995

⁵² English as an international language in Asia: Implications for language education, Andy Kirkpatrick, Springer

English, and consequently lead to an inevitable decline in French in Europe and elsewhere in the long-term.^{53 54}

In this paper, we define two levels which can be aggregated as required (a) The linguistic community along with various sub-communities, and the aggregation of such communities, and (b) The linguistic block. We also define the term 'Political or Economic entity.' The other levels must be defined on a case to case basis as explained.

We now lay down the following broad rules to explain how an analysis can be operationalized:

1. A linguistic community or a sub-unit or a linguistic community is always the smallest linguistic unit.
2. A linguistic community or a sub-unit or a linguistic community normally sets the norms and patterns for itself, and the spread of languages within the linguistic community would be dictated and driven by the dynamics of language spread within the linguistic community. This is because the forces operating within this level are usually much stronger than, and therefore take precedence over other factors. This is only a crude rule of thumb, and is by no means a rigid rule. For each principle, there could be countless exceptions, and this is one of the hallmarks of linguistics and indeed, social sciences itself. Therefore, exceptions can be proposed if they are adequately substantiated and justified.
3. The dynamics of language spread within a linguistic community can also be influenced by external factors, though in an overwhelming majority of cases they would be weaker in comparison to the forces generated from within the linguistic unit.
4. A linguistic community can influence the dynamics of language spread in neighbouring linguistic communities, or in a wider region. However, dynamics of language spread in other regions would be also additionally determined by other internal and external forces operating in that region.
5. The dynamics of language spread within the linguistic community normally play a greater role in determining outcomes within the community, than external factors, is this may therefore construed to be the tightest unit. There may be exceptions, and these need to be evaluated on a case to case basis and adequately justified.
6. The spread of languages within a linguistic block would primarily be dependent on the dynamics of language spread within the block. However, the dynamics of language spread of the constituent linguistic communities would also play a role.
7. The spread of languages within a linguistic block can also impact and be impacted by the dynamics of language spread at the next level which can be user-defined, as the concepts in this paper are only illustrative. For example, while English may have once spread because of colonialism and imperialism in India, its domestic strength later largely grew as a result of its internal language dynamics and the international strength of English.

⁵³ Handbook of foreign language communication, Edited by Karlfried Knapp, Barbara Seidhofer, Mouton de Gruyter, Berlin and New York, 2009

⁵⁴ Linguistic Imperialism, Robert Phillipson, Oxford University Press, 1992

8. In order to understand how the dynamics of language spread in linguistic block affect the dynamics of language spread within the political or economic entity, the patterns of intersection between the linguistic block and the political or economic entity also need to be understood. There may be many possible patterns of intersection between a linguistic block and a political or economic entity. In one scenario, say scenario X, the two may be synonymous, and identical to one another. In a second scenario, a linguistic block may be a subset of a political or economic entity, and the political or economic entity may have more than one linguistic block. In a third scenario, the linguistic block may lie partly within the political or economic entity and partly outside it.

9. Therefore, the workings and the mechanics of the political or economic entity will have an impact on the dynamics of language spread in the constituent linguistic blocks and the other way around. If the linguistic block partly lies outside the political or economic entity, it needs to be logically split into two parts.

10. Given that the levels proposed here are purely indicative, the researcher might want to prepare a detailed schema before he commences his study.

11. An analysis should ideally commence at the level of a linguistic community, and should be ideally aggregated by geographical region.

12. This exercise must always be carried out in conjunction with a context-based analysis and a role or a function-based analysis (Refer to the section on Contextual Suitability and Role-based suitability in this paper) to model the forces of language spread better.

13. This exercise must also be carried out in conjunction with the other principles in the paper such as the Theory of win-win propositions, for better efficacy.

14. The key to correct modelling is to define Linguistic Communities, Linguistic blocks, Political and Economic entities and other levels correctly. For example, if India is chosen as the focus area of study, a linguistic state would ideally be a linguistic community. In some cases like Karnataka, the state can be split up into two levels. However, a hypothetical region comprising Karnataka and Andhra Pradesh or Gujarat and Rajasthan for example, or even the whole of South India (despite the fact that they speak languages belonging to a unique language group known as the Dravidian group of languages) can never be a linguistic block as such a region can produce no unique dynamics and would be largely irrelevant for such studies.

There may also be a non-synchronicity in forces operating in different linguistic units or different linguistic blocks, due to differences in factors operating at different levels, and also due to non-availability of information in some cases. This may itself impact the dynamics of language in different ways. However, there would be a tendency towards long-term synchronicity across cultures as a free flow of information increases. This would lead to a more stable situation in the long-term.

Changes in language usually take place through the following three dimensions:

Geography-driven propagation: Per this type of propagation, languages spread primarily from one region to another, either across geographies, or from a central area to peripheral areas. The following example may drive home some of the peculiarities of geography-driven propagation. Till the 1930's, the Gujarati language was widely used in Bombay chiefly in commerce and trade. Its prominence has declined after independence, and Hindi and English are widely spoken today in addition to Marathi which is also being slowly eclipsed. This may be due to the fact that Hindi has become a popular contact language since then. There has however been a popular resurgence of Marathi linguistic pride in the 2000's, and attempts are being made to make the language relevant to current needs. In this type of propagation, geographical dialects may be levelled, thereby adding to the standardization of the language. In Malaysia, for example, there is a use of English in urban areas while in rural areas, it is virtually a foreign language. Consolidation of the Malay language here has happened though language policy, where it is slowly displacing English as a language of higher education.

Social hierarchy-driven propagation: In this kind of a scenario, trends and usage patterns which begin among the upper classes or elites permeate through all echelons of society, an example of this being the current rage for learning the English language among lower classes in India. Acrolects may replace basilects through the process of dialect levelling, and language may no longer prove to be a major differentiator of social classes.

Role-driven changes: In this scenario, role encroachment takes place, and a language spreads by taking on more and more roles, and eventually restricting the role played by other language. An example of this may be the demand for science and mathematics classes in the English language worldwide. The popularity of English music in Germany is another example of the soft power of the English language. We had earlier discussed this under the heading 'Intangible roles played by a language'. A term we would like to use here is 'Role encroachment' where a language cedes the one or more roles played by it to other languages gradually and over a period in time. This is also sometimes referred to as 'Language displacement'. In Scandinavia, the use of English is increasing in trade and commerce, and is almost always the working language of multinational companies, though its usage remains minimal in other spheres of activity. Role-encroachment mechanisms must be worked out by linguists, by taking into consideration changes to roles played by different languages in different contexts over a period in time, and patterns identified, and this will also additionally throw light on the process of language change.

Lexical diffusion, Syntactical changes, phonetic changes etc.: We had already discussed this in an earlier paper, although these would be, for all practical purposes irrelevant to a study of language dynamics.

A formal and a well-structured analysis of changes across all the three dimensions may be carried out from time to time as it would provide further empirical data for analysis and corroboration with other approaches presented in this paper. This will also include a 'Change of status quo.'

We had also proposed the following modes by which languages could spread in a given region:

Push: In this mode, a language is usually initially imposed from an external source or entity. An example of this was the 'imposition' of English on the languages of India during the period of colonial rule through carrot and stick approaches. Another example was the attempt to push Hindi into South India in

the 1960's and Urdu into East Pakistan or Bangladesh using brute-force political methods. However, all these types of imposition must consider the principles of language spread that we propose in this paper. Otherwise they will most certainly fail or promote unintended consequences such as the break-up of a political unit. The spread of English was successful in India because the British consciously or unconsciously followed the principles that we proposed, and often used a pragmatic, carrot-and-stick approach even though such principles may not have been formally documented given the absence of language dynamics as a field of study at the time. These examples cited from India and Bangladesh above resulted in total failure, and the reasons can be easily explained from our paradigms. Push factors may also either be hard or soft factors. (i.e., Hard push and Soft push) The former may be a result of political and military factors and the latter may be associated with cultural factors.

Pull: In this mode, a language is learnt because demand already exists for it. An example of this is the demand for the learning of the English language around the world and the recent spread of Hindi in South India, and in North-eastern India. North Korea has now mandated the teaching of English, and English is being learnt by millions of people in China, even though proficiency in it is rather limited.

Push-Pull: This is a combination of Push and Pull modes. In this mode, a language is first introduced by push techniques, and is later willingly adopted by populations. If this approach has to work, a language must offer some benefits to society or a section of society on an on going basis. An example of this is the widespread use of the English language in India. While English was undoubtedly spread by force in colonial times, globalization and its suitability for science, technology and higher education is responsible for its recent increase in demand. Thus, it is now associated with an 'economic reproductive function' which has been generated through the process of linguistic osmosis.

Pull-Churn or Push-Pull-Churn: In this mode, a language is first introduced in society due to various factors and spreads internally due to the language dynamics of the region in consonance with the principles mooted in this paper.

Pull-Churn-Feedback or Push-Pull-Churn-Feedback: In this mode, a language is introduced in society and spreads internally due to the language dynamics of the region in accordance with the principles that we proposed. It then begins to influence neighbouring or other regions, and impacts the dynamics of language spread at a wider level, often at a global level. This is how many languages tend to spread widely, ultimately impacting language dynamics at a global level.

Subconscious adoption: Subconscious adoption is a more subtle variant of the Pull mode. This type of scenario may typically be non-contact based and may be more common in the Post-globalized era or epoch. In this mode, language or elements of language are adopted subconsciously by sections of society, just as English words were adopted by Indians before the advent of globalization, and much more rapidly thereafter. In the post-globalized world physical contact between speakers of different languages may not even be necessary; The Internet, Satellite television, mobile phones and other modern technologies may empower people and facilitate intra-cultural contacts among them. Smartphones and whatsapp have now reached billions of users across the world across the cultural and

economic spectrum and have become a vehicle for the propagation of the English language. This may be itself become an intensive topic for study in the years and decades to come.

Also note the following different kinds of linguistic change. Many of these changes may increasingly happen in entirely non contact-based scenarios, and in the absence of any direct contact between speakers, and this parameter must also be taken into account in any analysis:

- New language replaces old language completely – In such scenarios, old languages vanish completely out of existence. The death of languages has been recorded as recently as 2019, and out of the existing languages, more than a third of them are not likely to make it to the end of the century. For example, the Tehueleche language of Patagonia is now declared dead, although it is sometimes used as a cultural symbol. This language has been in decline for a long time, due to the occupation of this territory by Chilean and Argentinian states leading to cultural and linguistic intrusion. Often, the death of languages may be an agonizingly slow process, and in one case in West Bengal, India, a language was officially declared dead after its last speaker died.
- Old language cedes certain roles to new language - In India, many languages are being increasingly pushed into irrelevance, as languages of power due to intrusion by both English and Hindi, though it is unlikely that they will ever perish entirely. Thus, their written usage may diminish gradually, or be relegated to the lower echelons of society. This is in some ways a step backward for the particular language in question, but is a consequence of globalization and the spread and dominance of major languages. Roles played by a language may also change either subtly or otherwise. For example, English was once a language of prestige in India, and one associated with colonialism. It is now associated with science and technology. However, speaking in Indian languages is no longer associated with an inferiority complex. People often take great pride in using Indian languages, and switch to English only where required. Needless to say, this shift in attitudes may have impacted the demand for languages and language dynamics, even if marginally. This may even impact the roles played by languages in society, and partially reverse role encroachment.
- Structural changes to languages over a period – Examples of this have been the Great Vowel Shift in English between 1400 and 1700 AD. English also saw a loss of inflection earlier in its history, as it transitioned away from Old English. The pidginization and creolization of French has picked up pace in many places in Africa to make them more suitable for use in these regions, and the recent century has also seen the emergence of hybridized languages such as Jamaican Patois which is also seen as a Creole continuum. Interestingly, some pidgins such as Tay Boi, a Vietnam-based French pidgin, are now extinct. The development of German was also influenced by several methodological shifts of certain consonants. The Germanic consonant shift distinguished the Ancient Proto-Germanic from other Indo-European speech. In this shift, which is described as per Grimm's Law, and Indo-European p,t,k changed to a Germanic f, th, h respectively; Indo-European b, d, g to Germanic p, t, k and similarly, Indo-European bh, gh, dh into German b,d,g constituting a two-way process. Per our model on the Indo-Europeanization of India, an ancestor of Vedic Sanskrit interacted with various languages of the Indus Valley Civilization to produce Vedic Sanskrit and various Prakrits, and this process might have been the most complex process of linguistic change the world has ever known.
- Word borrowings only – For example, Latin was introduced in Germany due to the Roman Invasion into the Germanic region. Words like Kaiser or emperor were derived from the Roman Caesar. Words are readily borrowed on account of the theory of lexical gaps or owing to prestige. The

widespread use of English words in India is a case in point. This apparently would constitute the fastest mode of linguistic change in most situations, but this idea must be ratified through fieldwork.

Porosity Analysis

Linguistic Blocks and Linguistic units may also be categorized on the basis of their porosity, and the degree of porosity must also be considered while carrying out any analysis. The three possible levels of porosity are:

Highly porous: In this case, there is very little political or legal protection for linguistic groups, and languages are open to influences from other linguistic groups. An example of this scenario is Sri Lanka which has not adopted federalism, and adopts a monolithic political structure instead. India is less porous because of its competitive federalism and linguistic activism in some circles but this factor is neutralized by the absence of barriers to the free movement of peoples across its state borders, a feature that is not present in China or North Korea. Pakistan may actually be on a better footing than India because the chosen link or national language is neutral to all its provinces, unlike India, and this allows languages to spread more naturally, without intimidating linguistic minorities.

Moderately porous: An example of this would be a linguistic block comprising fully independent political units. Examples that would readily come to our mind are the European Union and Francophonie West Africa.

Low level of porosity: Examples of such blocks would be a hypothetical block comprising all English speaking countries or a hypothetical block comprising all countries where French is the official language and external influences are kept to the minimum due to legally enforced political barriers. Thus, exchanges are predominantly cultural.

The porosity of a linguistic block would be determined by the legal rights available to its speakers, the political structure including degree of autonomy in decision making granted to speakers of various languages, the design of the federal structure, the design of the education system, the relationship between speakers speaking various languages, the dominance of one or more linguistic groups etc.

Latency time

The Latency time denotes the time taken for changes to propagate within a linguistic community, linguistic block or at a global level. While there are no reliable measures for measuring latency, it is expected that the latency time will gradually decrease due to the improvement of communication systems, a general rise in the standard of living and improved levels of literacy, and the rate of increase will eventually level off beyond a point.

Factors influencing the power of Linguistic communities and linguistic blocks

The following factors influence the power of linguistic communities and linguistic blocks directly and indirectly

Demographics: Demographics and Demographic power must be understood not in terms of just total population, but factors such as the Total fertility rate, longevity and population structure must also be considered. The purchasing power and level of education associated with an economy must also be considered in an analysis. This is important because countries like Japan are associated with a high degree of economic clout, but with a very low birth rate. According to a report by the United Nations in 2015, the world population will reach nine billion by 2050 and eleven billion by 2100. Out of this, the population of almost all continents is expected to shrink after 2015, the sole major exception being parts of Africa, particularly Sub-Saharan Africa. Another question is to what extent population dynamics can impact the clout of a country like India, and the relative clout of different states in India. This is of great relevance in India where skewed Total Fertility Rates have been observed across states, and TFR's by state have varied from 1.6 Children per woman in West Bengal to 3.5 Children per woman in Bihar in 2014.

Political power: The Political power possessed by Linguistic communities, Linguistic units and Linguistic blocks will add more complexity to the issue. Countries like the USA do not need to spread English as a demand has already been created for it, and language adoption happens through a Pull mode. On the other hand, the Indian government promotes Hindi abroad, but not Bengali, Marathi or Assamese, and consciously discriminates between Indian languages. Linguistic discrimination was a major factor leading to the separation of Bangladesh or East Pakistan from Pakistan in 1971. The French government spends a large sum of money in promoting its language and culture abroad due to its political power and perceived cultural superiority, but not so much so, the Italian government which acknowledges the fact that its language can never become a major political force. Threats were also observed to the Catalan, Galician and Basque language due to the imposition of the Spanish language by General Francisco Franco in parts of Spain in the mid-Twentieth century, leading to their marginalization in many spheres. French was associated with the Rwandan genocide in 1994, and consequently, the government of Rwanda proceeded to replace it with Kinyarwanda and English. As a part of any study on the dynamics of language, a compendium of political factors operating in a given region as well as globally need to be prepared, and the underlying principles identified, as they may have a bearing on future studies. However, such impositions or artificial methods of spread cannot override the principles mooted in this paper. If they could, they would not be valid principles at all.

Economic power: The Economic power of a Linguistic community or a Linguistic block can play a role in influencing the dynamics of languages spread at a global level. For example, Japan never possessed a major military prowess after the Second World war and neither did it promote its cultural influence in a big way, but came to be equated with economic might very rapidly in the second half of the twentieth century due to its inspiring economic success story. Mandarin Chinese is now one of the most sought after courses in the USA particularly since the 1990's due to that nation's economic and political ascendancy, and there is some demand for Hindi language courses now in the USA and the Middle East due to the rise of India as an economic power. When the economy of a country declines, there is a decline in hard power, soft power and grey power, and the power and sway its languages enjoy may decline as well.

Cultural power: The Cultural power of soft power of a Linguistic community or a Linguistic Block can play a part in shaping linguistic trends. American music, jazz, pop and rap led to the promotion of American culture and raised the demand of English language learning across the world. The rise of Bollywood in India and beyond has similarly increased the demand for knowledge of Hindi, and it is possible to find people who can speak some Hindi in places such as Sri Lanka and the Middle East. Japanese Cultural power is known as 'Kuru Japan', and icons of Japanese cultural power in different forms are Manga comics, J-pop, Sake, Anime, and Sushi. China is also promoting Chinese values abroad, and aspects of Indian culture such as Bollywood, Yoga, Ayurveda and Indian cuisine are now widely-known abroad. An extreme version of cultural power is known as cultural imperialism, and this itself can be classified by degree. Linguistic imperialism rode piggy-back on colonial expansion, but some languages of erstwhile colonizers are now firmly entrenched in their former colonies, decreasingly on account of cultural factors, and increasingly on account of other factors.

Religious factors: Religious factors will play a role in inducing linguistic change to a fair or moderate degree. For example, the living language Arabic has seen fair demand across the world despite being associated with multiple spoken forms, in places as far apart as Indonesia and India owing to its association with the Islamic religion and clergy. Sanskrit, taught throughout India and beyond, but it cannot impact language dynamics majorly given its status as a dead and a non-living language, but is a major icon of Indian culture nonetheless, and is associated with a liturgical tradition and religious texts. Religious factors also played a role in the successful revival of the Hebrew language, which is widely regarded as a trend-setter in this regard.

The demand for the learning of Latin comes from several factors such as its liturgical importance, and its importance for theological studies. The translation of Bible into German by Luther in 1522 and 1534 played a role in launching it as a literary language even though earlier translations existed.

Technological factors: Technological factors have played a major role in the critical success of English beyond English speaking countries and have ensured its popularity in most fields of science. English has emerged as the dominant language of the internet, though this dominance is eroding as other languages catch up. Technology and social media overwhelmingly uses English, but there are now options in other languages too. Technology alone appears to have cemented the role of English as a major world lingua franca, and the principles mooted in this paper can be used to explain why the English language will continue to be a world-leader in technology for a long-time to come.

Ideological factors: An example of ideology impacting language dynamics is the resistance to Hindi as the Indian Government's sole official language by Dravidian parties in Tamilnadu not just due to fears of discrimination, but also ideological factors. This was one of the factors that led to the continuation of English in India. Another interesting case is the proposal of the Gambian government to drop English altogether despite its increasing popularity worldwide. The latter was seen as being at odds with pragmatism and the economic interests of the nation, as was widely criticized.

Legal considerations: According to the Indian constitution, Hindi was declared the Official language of the central government and English was declared the 'Associate official language' of the central

government. Non-Hindi speaking states however, have been permitted to use their own official languages in their states, and most states have chosen the local language and English as the formal usage of Hindi is non-existent most non-Hindi states. A similar situation exists in Senegal where French is often used in formal situations even though the native language Wolof is increasingly being used as a spoken lingua franca in many parts of Senegal. The idea of linguistic rights may not have been known to planners at the time of India's independence. Many provisions to protect legal rights of linguistic minorities exist, and these are discussed elsewhere in this paper. We expect legislation to protect the rights of linguistic speakers to be stepped up in the Twenty-first century, and Anthropologists must play a major role in this, using field-work driven methods, and other methods intrinsic to the field of Anthropology.

The Aggregated Demand for a language or the demand for a language due to the sum total of various factors, and by itself is a driver of language dynamics, as many people learn a language only as a matter of rational choice. Thus, fads may not sustain in the long-term, and any language has to provide a solid value proposition to its learners in a particular geography, role or context wherever, social, cultural, religious or emotional factors do not intervene or come into play.

Long-term factors versus short-term factors

It is also necessary to isolate short-term factors from long-term factors and focus more on the latter, and they will provide a better yardstick of linguistic change and expose their underlying principles. An example of a short-term factor is Brexit which may lead to a short-term decrease in demand for the English language, but it may override other factors working in favour of English. Thus, long-term factors take precedence over short-term factors for the purpose of our analysis, though the former may also be studied, and given their due place under their sun.

Let us now explore some more factors than can have a bearing on language dynamics. In addition, judgement-driven, Rule of thumb driven and instinct-driven approaches may also be used by experienced planners and assessors without resorting to formal evaluation methods. These approaches may however lead to errors in many cases.

Changes to factors influencing the dynamics of language

Changes to factors influencing the dynamics of language in a pluri-lingual society can be artificially induced through at least the following five methods. However, by no means can such endeavours ever override the core tenets and principles outlined as a part of our paper:

Obfuscation of free flow of information: This approach was attempted in many Marxist and Semi-Stalinist societies. For example, Television was practically controlled by the Indian government prior to the liberalization of the Indian economy in the 1990's, and an attempt made to telecast predominantly in Hindi and not in other Indian languages. Similar policies were followed in the erstwhile USSR. Whether this approach is workable in the long run is debatable, as totalitarian societies have collapsed already.

Creating a situation of indispensability: Another approach is to create a situation of indispensability. The English language has entrenched itself worldwide primarily by the 'Push-pull', 'push-pull-churn', the 'push-pull-churn-feedback' and the 'sub-conscious adoption' modes. The Indian government is promoting Hindi abroad with the hope that it will influence the dynamics of language spread within India. Whether they will be successful is debatable, but readers can use the principles of the 'Theory of linguistic osmosis' to determine this for themselves.

Waiting for cultural changes to manifest themselves: This is typically a slow process, as language is seen to be central to cultural and ethnic identity in most cases. Community sentiment, which R.M McIver and Page associate with a "we-feeling" and a "role-feeling" is common throughout the world, but to varying degrees.

Changes to the education system: Examples of this are the non-introduction of Hindi as a mandatory subject in Tamilnadu schools resulting in a lack of knowledge among the public of the language and the low importance given to English in some Hindi speaking states.

Political and ideological opposition: Examples of political opposition were the Anti-Hindi agitations of Tamilnadu in the 1930's and the 1960's. While these cannot influence the dynamics of language directly, they can serve to create awareness among the larger public and the laity. Pro-English and Pro-Hindi campaigns many of them shallow and devoid of any substance are common on the internet even today. Similar anti-English campaigns were organized by the Jan Sangh in North India; this is usually associated with hypocrisy; these politicians have always wanted to send their children to prestigious English schools, which the common man never had access to.

Linguistic attitudes, loyalties and worldviews

The affinity between language and culture and language as a symbol of ethnic identity has been formally studied ever since the emergence of the field of Sociolinguistics which deals with the study of language in relation to society. Such studies have thrown new light not only on the nature of language but on the nature of society as well. Culture is tightly interwoven with language, and all definitions of culture bring out this inter-relationship either directly or indirectly. Therefore language would occupy a pre-eminent position in the cultural taxonomy. According to British Anthropologist Sir Edward Tylor, "Culture or Civilization is that complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society." (Kroeber and Kluckhohn 1952). Clifford Geertz states, "Culture is the fabric of meaning in terms of which human beings interpret their experience and guide their action; social structure is the form that action takes, and is the network of social relations. Culture and Social structure are different abstractions from the same phenomena." According to Marvin Harris, "A culture is the total socially acquired life-way or lifestyle of a group of people. It consists of the patterned, repetitive ways of thinking, feeling and acting that are characteristics of the members of a particular society or segment of society." (1975:144) Ward Goodenough states, "A society's culture consists of whatever it is one has to know or believe in order to operate in a manner acceptable to its members. Culture being what people have to learn as distinct from their biological heritage, must consist of the end-product of learning knowledge, in a most general

sense of the term.” Ethnicity, on the other hand, may be described as a feeling of shared identity among a group of people based on a sense of ethnicity, common heritage, language, religion, or other aspects of culture. Anthropologists such as Margaret Mead, Julian Steward and Abraham Kardiner have strongly suggested that culture also impacts personality and group behaviour strongly, and this would bi-directionally influence language too. The concept of language is also strongly tied to the idea of a society. According to Ian Robertson, “A society is a group of interacting individuals sharing the same territory and participating in a common culture.” According to Robert Morrison MacIver and Charles H. Page, “Society is a system of usages and procedures, of authority and mutual aid, and many groupings and divisions, of controls of human behaviour, and of liberties. This ever-changing, complex system, we call society.” According to H.M. Johnson, “Society is a group of groups. People collect together to form groups. A group of groups is a society.”

Anthropologists such as Marvin Harris (1983) have developed concepts such as national character which have a bearing on culture. Language and culture are also inter-related in many ways due to factors such as semantic relativity and verbal intelligence, and Linguistic Anthropology is now an important field of study in its own right. There are multiple causations between language and society, and this relationship is often extended to national identity too. One factor is that of social structure which can even influence linguistic structure and behaviour to a fair degree. A second relationship is between linguistic structure and behaviour which may determine social structure and the speakers’ worldview. A third kind of relationship is a bi-directional relationship: in this scenario, language and society influence each other. A fourth view held by a minority of scholars is that the roots of language can be traced to genetics. A study and methodological investigation of relationships between language, culture and society based on empirical data and structured observation form the basis of the new field of sociolinguistics.⁵⁵

The importance given to language in a culture also varies widely from community to community, and is often an index and a reflection of both a language’s and a culture’s strength. Some ethnic groups exhibit a high degree of ethnocentrism and be driven by inward-looking approaches and demonstrate disinterest or hostility towards other cultures, while other may be more receptive to ideas of external origin. In either case, Community sentiment, which R.M McIver and Page associate with a “we-feeling” and a “role-feeling” is common in communities throughout the world. In India, language is seen as being more central to identity in the South and East of India than in the West or the North, and linguistic pride is particularly high among some groups such as the Tamils who see their language as distinct from Sanskrit or Hindi, and even superior to, or older than it. Therefore, linguistic groups such as the Tamils argue that languages should be kept pure from corrupting outside influences. Deification and worship of language is also common among a minority of groups such as the Tamils as demonstrated by the song “Invocation to the Goddess Tamil”. Such a feeling can also be found among the Telugus, though to a much smaller degree, and the song “To my Mother Telugu” is the state song of Andhra Pradesh. This would also have a bearing on how accommodating linguistic groups are to other linguistic groups.⁵⁶

⁵⁵ An Introduction to Applied Linguistics: From Practice to Theory, Second Edition, Alan Davies

⁵⁶ Linguistics: An introduction, Andrew Radford, Martin Atkinson, David Britain, Harald Clahsen, Andrew Spencer, Cambridge University Press, 2009

As Schiffman states, "linguistic culture is the set of behaviours, assumptions, cultural forms, prejudices, folk belief systems, attitudes, stereotypes, ways of thinking about language, and religio-historical circumstances associated with a particular language. That is, the beliefs that a speech community has about language in general and its language in particular are part of the social conditions that affect the maintenance and transmission of its language." (Schiffman 1996)

Language affects feelings, behaviour, attitudes and learning patterns very strongly. According to Richards, "Attitudes refer to the attitudes which speakers of different languages or language varieties have towards each other's languages or to their own language. Expressions of positive or negative feelings towards a language may reflect impressions of linguistic difficulty or simplicity, ease or difficulty of learning, degree of importance, elegance, social status, etc. Attitudes towards a language may also show what people feel about the speakers of that language. Language attitudes have an effect on second language or foreign language learning. The measurement of language attitudes provides information which is useful in language teaching and language planning." (Richards et al 1992)

There are two theoretical approaches to the study of language attitudes. The first one is the behaviorist view, according to which attitudes must be studied by observing the responses to certain languages, i.e. their use in actual interactions. The mentalist view considers attitudes as an internal, mental state, which may give rise to certain forms of behaviour. Attitudes to knowledge also have subparts, such as cognitive (knowledge-based aspects), affective (feeling towards language), and conative (desire for action) components. (Fasold, 1984) Language attitudes can be measured using both direct and indirect methods. A direct method would be based on questionnaires or interviews while an indirect method would not reveal that a person's language attitudes are being investigated. (Fasold 1987).

According to the Sapir-Whorf hypothesis, language is a major determinant not only in shaping culture but also in determining attitudes and thinking patterns of its users. Thus, a speaker of a particular language who uses many variations for a term may be in a better position to conceptualize variations of the same theme than a speaker of another language whose vocabulary may be limited in this regard can. Languages also have unique words to express concepts that are specific to a particular culture. For example, even English may lack some words which are found in French, Japanese or Chinese. Thus, it has been argued by some scholars that language constitutes a thought world, and people who speak different languages, or the same language to varying degrees of proficiency comprise different thought worlds. This may be described as some form of a linguistic determinism.^{57 58}

As controversial as the Sapir-Whorf hypothesis may seem, we do endorse the idea of a "Linguistic repertoire driven mindspace", a "Linguistic repertoire driven individual mindspace", and a "Linguistic repertoire driven societal mind-orientation". This is because people knowing different languages with differing levels of proficiency in each, have access to different kinds of information and materials, and this may impact the kind of knowledge that they acquire. Thus, the knowledge available to a person who is well-versed only in Gujarati would be inferior to a person proficient in Hindi, and this is in turn,

⁵⁷ The Oxford Handbook of the history of linguistics, edited by Keith Allen, Oxford University press, 2013

⁵⁸ The handbook of linguistics, edited by Mark Aronoff and Jamie Rees Miller, Blackwell Publishing, 2001

inferior to a person proficient in English. This, would again cause a change in language learning patterns, and affect his mind-orientations, societal orientation and individual and cultural worldviews as well.

Linguistic attitudes can also play a role in influencing dynamics of language spread. Tamils, and some other linguistic groups in India are now worried that the unchecked spread of Hindi may lead to cultural homogenization and lead to the disenfranchisement of other languages. The first Anti-Hindi agitations in Tamilnadu took place in 1937, nearly a decade before Indian independence and were led by Periyar and other Dravidian nationalists, as a result of a proposed policy that sought to make the learning of Hindi mandatory in the former Madras presidency. Anti-Hindi agitations resurfaced in 1965 when an attempt was made to position Hindi as the sole official language after a fifteen year transition period. Linguistic attitudes may be divided into internal and external attitudes, and language dynamics may also be driven by external perception, as speakers of one language choose to learn or ignore another language, overriding popular demand for it.

Linguistic loyalties to this degree may not be exhibited by all other communities in India, or elsewhere in the world. The Bengali language movement of East Pakistan was a similar linguistic movement which sought some rights for the Bengali language in a united Pakistan such as its usage in media, administration, education and politics. Many Thais also consider the Lao language to be inferior, while many Laos tacitly accept the 'cultural superiority' of the Thai Language. Most linguists accept the theory of inequality of languages, and the French use the term 'Langue de Culture' to distinguish culturally evolved languages from less evolved ones. This is referred to by the Germans as Kultursprache. On the other hand, even languages that may be considered primitive may have a fair degree of complexity. For example, a study by Daniel Everett of the Piraha language spoken in the Amazon region has shown that it is not primitive at all, and possesses a complex protean verb structure and prosody. Many new fields such as Ethnolinguistics which deals with society, ethnic groups and their tripartite relationship with language are emerging as major fields of study. These fields also study the effects of language in fostering cultural pride or a sense of ethnicity among speakers of different languages. From our point of view, one reason for the inequality of languages is the obstruction of the development of languages across time and space due to social, cultural, economic and political factors besides dominance from well-entrenched languages.

One of the policies of the former USSR was the policy of Russification. The former Soviet Union comprised of speakers of many different languages and dialects. One strategy was to elevate regional and local dialects into 'languages,' as a part of a policy of 'divide and rule' to prevent the formation of large language blocks and allow the central government to promote Russian as a lingua franca. The Cyrillic script was made the standard across all the languages of the Soviet Union. This also helped cut off the Muslim people of Central Asia from contacts with Arabic, Turkish, and Persian influences. The Russification policy also required the local languages of the Soviet Union to borrow words from Russian when new words were needed. Russian was also promoted as a universal second language and as a language of instruction in schools. However, there was resistance in Georgia, Armenia, Azerbaijan, and the Baltic republics.

Theory of positive cultural acceptance

In a society, a language may get positive cultural acceptance. This is often a slow process, and may take several generations. Acceptance may be role-based and may spread across dimensions, ensuring that outliers always remain. Languages may often get acceptance because there may be no other alternatives to them. In some other cases, languages may get downgraded, and slowly fall out of favour from their own speakers. This has happened in case of some poor Telugu immigrants in the state of Tamilnadu who have gradually tended to abandon their language in favour of Tamil. Languages that never get positive culture acceptance in a new or an enhanced cultural setting may be doomed to oblivion.

Theory of cultural neutrality

In this scenario, a culture is totally neutral to a particular language, allowing other factors to take precedence. This is seldom achieved in practice. North Korea has been particularly hostile to the English language, but has now embraced some English teaching given its inevitability. South Korea has warmed to English more, as evidenced by its borrowing of English words, but other factors apply in all scenarios, and the competence of South Koreans in English is only marginally better than that of North Koreans.

Thus, the idea of a neutral language may be driven by a real or imagined fear of persecution, fear of dominance by another group or fear of economic and cultural marginalization. The principle of least harm states that individuals sub-consciously choose a paradigm that harms their interest the least. This is often a reflex action and a sub-conscious process. It is a part of human nature, as individuals seek to avert negative outcomes, or minimize losses arising from negative outcomes.

Per the least common denominator principle, a language or a set of languages that are acceptable to all the members of a group speaking several languages, are favoured, and tend to spread faster than other languages.

Speakers may often prefer a neutral language for all their formal interactions. The benefit of this is that it does not give the speakers of one language undue benefits over speakers of one or more other languages. This may have ensured the survival and predominance of English in formal, written contexts in almost all parts of India, and relegated Hindi to a baazari lingo. This is a trend which is likely to continue into the foreseeable future. In most parts of Africa, linguistic boundaries do not equate to political boundaries, and this has propped up the demand for either English or French.

In multilingual contexts, an attempt is often made to find a 'neutral' language, that is, a language which gives no group an advantage. In 1974, President Kenyatta of Kenya decreed that Swahili would become the second official language of the country and the language of national unity, even though most Kenyans did not speak the language. Swahili was chosen over one of the local languages, for example, the president's own Kikuyu, a language spoken by about 20 percent of the population, because the ethnic composition of the country made any other choice too dangerous. A neutral language like English was adopted in Singapore as well, where there are many ethnic groups, and while Malay is the national language. English has become the working language of Singapore: it is the language of the government, science, technology, commerce and trade. A study among young people in Switzerland has shown that

many prefer to use English in addition to their respective mother tongues, because it is seen as a neutral language, and also the language of business and commerce. (Durmuller 1984)

Interestingly, English appears to have become much more culture-neutral than its rivals or competitors even at a global level, even though this has given an unfair advantage to English speaking countries. This may have happened gradually, and well after the collapse of colonialism and due to several factors such as the geographical spread of English speaking nations throughout the world, and the widespread demand for it. In some regions, the hegemony of English is now a 'common sense social fact'. On the other hand, French keeps its former colonies tied to the cultural backyard of France, and gives them little economic advantage as well.

Theory of hostility and linguistic prejudice

This may be on account of historical factors, personal or group prejudice and fears of economic discrimination. Hostility towards a particular language may eventually determine its success or failure, but must be studied in conjunction with a plethora of other factors to arrive at a balanced and a meaningful conclusion. This may explain the prejudice of many Frenchmen towards English and the reluctance of people in Hindi speaking states to learn English given the atrocities the British committed in that region.

This prejudice may operate at either an individual level or a group level. This prejudice may be acquired by him horizontally or laterally as a member of society, or may be passed down vertically from generation to generation. One boy was advised by his father to learn his native Bengali, followed by Sanskrit. After that, he was told to pick up a little bit of Hindi. English was a strict no, as it was the language of imperialism and against Indian culture. Another Bengali boy was advised nothing at all by his parents, and consequently, his linguistic skills in English were better than that of the first boy. This appeared to fit an ethnic pattern. The first boy was Brahmin, and the second boy was Dalit, and in the first case, Sanskrit was seen as the language of ritual and prayer, while in the case of the latter it was seen as a language of hegemony. Prejudices may therefore, also be linguistic or non-linguistic, and even the latter may impact language dynamics. For example, South African Indians are increasingly avoiding Afrikaans in the post-apartheid era, and preferring to learn English and Zulu along with their mother tongues.

A tolerated language is one that is neither promoted nor proscribed or restricted, for example, many immigrant languages in Western Europe, and Native American languages in North America, are already proscribed or restricted, and their existence grudgingly acknowledged by authorities. A discouraged or proscribed language is one against which there are official sanctions or restrictions, examples being Basque during Franco's regime in Spain, Scottish Gaelic in Scotland and Macedonian in Greece. Native American children in the United States were forced to attend special schools where they were disallowed to speak their native languages (Garcia 2009). Speaking Indian languages is also discouraged in some Indian schools, although this policy is now coming under the scanner by Hindu nationalist groups, and other groups. In many cases, languages may also be proscribed indirectly by favoring another language. Examples of such policies have been the partiality shown to Arabic in Mauritania, and

Amharic in Ethiopia till 1974, besides the non-recognition of certain languages in countries such as Zambia and Ghana. This process may lead to linguistic stigmatization in the long-run, and these language may be looked down upon, or even be associated with taboos.

Extreme forms of linguistic prejudice are therefore, linguistic taboos, and these may operate in different forms, and impact language dynamics nonetheless when they operate over a large geographical area. Situations leading to linguistic taboos may either emanate due to external action or policy dictated by factors external to the community in question, or internal social order, and internal political factors. In some cases, languages may become taboo due to other factors. For example, Afrikaans is strongly associated with apartheid and is now widely frowned upon by non-whites in South Africa. Apolonia Tamata (2004) discusses taboo-related language change in Fiji. In a village, there is an expectation that the community will avoid using a high-ranking person's language completely when they die. But because this is communicatively disruptive, the community decides who will initiate the change in the community. Tamata explained how the village decided which speakers would initiate the language shift on behalf of the entire community.

Ideological factors

Language ideology or linguistic ideology is used in linguistic anthropology to characterize a set of beliefs, emotions or feelings (often irrational beliefs, emotions or feelings) people have about languages particularly in relation to their own social and cultural worlds. Therefore, language ideologies are built on the perceived connections between the speakers beliefs about their language and their social and cultural systems. Language ideologies are conceptualizations about languages, and are also influenced by political and other factors in the context of a cultural setting.

One of the broadest definitions of language ideology is proposed by Alan Rumsey, who describes language ideologies as "shared bodies of common sense notions about the nature of language in the world." Michael Silverstein defines linguistic ideologies as "sets of beliefs about language articulated by users as a rationalization or justification of perceived language structure and use." According to Linguistic anthropologist Paul Kroskrity, a language ideology is a "cluster concept, consisting of a number of converging dimensions" with several "partially overlapping but analytically distinguishable layers of significance," Other definitions include Shirley Heath's characterization of language ideologies as "self-evident ideas and objectives a group holds concerning roles of language in the social experiences of members as they contribute to the expression of the group" and Judith Irvine's definition of the linguistic ideologies as "the cultural system of ideas about social and linguistic relationships, together with their loading of moral and political interests."

While many Non-Hindi speaking states opposed the imposition of Hindi steadfastly, the opposition of Dravidian parties to the imposition of Hindi was not just logical or analysis-driven; it was also largely ideology-driven. The Dravidian parties, who have somewhat mellowed down now, were seen as Anti-North Indian, Anti-Aryan, Anti-Brahminical and Anti-Hindu as well, due to real or perceived persecution by these groups. Another well-known movement at that time was the Thani Thamizh Iyakkam movement or the Pure Tamil movement which sought to eliminate all Sanskrit word borrowings from

the Tamil language which were considered impure. Proponents of this movement even changed their personal names. One Mr Gnanasundaram of the DMK even went as far as to change his name to Mathialagan. Likewise, there was a movement to expunge Hindi of all Persian word borrowings, and replace them with Sanskrit words in the 1950's, and was analogous to their Anti-English sentiment and their 'Angrezi hatao' or 'Banish English' campaigns. These movements however barely succeeded, and did not make any dent on the linguistic landscape. Therefore, we believe that language dynamics are largely ideology-neutral, and ideology can succeed in the long term only if satisfies some other principles mooted in this paper. In most cases, linguistic ideology may not sustain in the long-run.

Linguistic ideologies may also often be shaped by notions of linguistic dominance or linguistic assertiveness which include beliefs that languages can be imposed on other peoples or linguistic cultures can be transferred on other peoples, due to the innate superiority of their own languages or cultures. It is therefore largely dictated by real or imagined notions of linguistic or cultural superiority. Language ideology can impact language dynamics, by impacting learner preferences, social patterns and preferences and can even endow linguistic community with a zest or zeal for learning languages, or lull them into a sense of complacency.

Other practical versus non-practical considerations

As per this approach, a complete list of practical considerations influencing the spread of language must be made. Examples of such causes are technological superiority, economic factors and even role and context based suitability and indispensability. Non-practical considerations would include emotional and cultural aspects or linguistic pride. Without getting into a discussion about the moral and ethical aspects of such debates, we will at least state that a list of practical and non-practical considerations must be made, and their impact assessed on a case to case basis. One hypothesis is that practical considerations would outweigh non-practical consideration in the longer run, thereby impacting the dynamics of language spread, but we would like this hypothesis to be tested more empirically. This may also be alternatively be recast as Tangible factors and Intangible factors. Tangible factors include factors driven by economic or social considerations, while Intangible factors include cultural pride, a feel-good factor associated with language etc. Again, for example, Swahili symbolizes local ethnicity in East Africa, in a way English simply cannot, (Scotton: 1982) and Bahasa Malaysia has become a symbol of Malaysian identity and English cannot play this role. English on the other hand is a status and an aspirational symbol in India. Even though only three per cent speak it fluently, around forty per cent of the books published in India are in English. (Annamalai 1988)

The doctrine of utility states that languages spread largely based on their utilitarian value. Humans have the innate ability to select paradigms or ideals which suit or fulfil their needs even in the absence of full or comprehensive information. In most cases, this would dictate the learning patterns of different languages, and increase or decrease demand for them. The utility of a language would be linked to a language's value proposition in a given geography, role or context. A language's value proposition in any given situation may be either perceived or absolute. Both these can be assessed through valid sociological methods, but any divergence between these could be attributed to either lack of awareness or the spread of misinformation.

Per the doctrine of inevitability, demand for languages increases when there is no other option but to learn a language. In other words, people learn languages only when they have to, and when learning them becomes inevitable or unavoidable. As per this scenario, individuals acquire proficiency in a language only where it is absolutely necessary. For example, the dominance of English and Hindi in India has ensured that few Non-Kannada speakers make any attempts to learn the Kannada language in Bangalore. The Kannada Rakshana Vedike, a Pro-Kannada organization, argues that this is slowly killing the Kannada language.

This idea is also linked to the idea of linguistic deprivation in some ways. Nothing can illustrate this better than the role played by English in today's world. As Burchfield put it, "English has also become a lingua franca to the point that any literate educated person is in a very real sense deprived if he doesn't know English. Poverty, famine and disease are instantly recognized as the cruellest and least excusable forms of deprivation. Linguistic deprivation is a less easily noticed condition, but nonetheless, one of great significance". (Burchfield 1985) This statement must be taken with a pinch of salt, and analysed in the light of different contexts. For example, there are many educated people in Russia, China, Japan and elsewhere who are completely ignorant of English.

Principle of ignorance or non-awareness

In this scenario, people in a linguistic unit have no formal or informal knowledge of the outside world or an understanding of language dynamics. This is a major factor that leads to inertia in many parts of the world, and can also impact language dynamics. However, with increased communication and horizontal and lateral transfer of knowledge, the importance of this factor in promoting inertia and non-change may reduce. An example here is the state of Uttar Pradesh, where people were blissfully unaware of the intrusion of English all around them, and chose not to learn English at all, often preferring to learn French or Russian as a foreign language. This was also compounded by the 'Rajbhasha' (or 'official language') complacency, and anti-English sentiment, which ensured that they did not wake up to the importance of English until it was too late. This ignorance was spread in non-Hindi regions too, as Hindi zealots convinced non-Hindi speaking states to ditch English in favour of Hindi. This was also often done through government propaganda, and the control of state television. However, most educated youth in the region have now woken up to the importance of English, and demand for learning the language has sky-rocketed. Needless to say, Non-Hindi speaking regions took off economically after liberalization after government-mandated ideologies stood exposed. Alternatively, the levels of Information, misinformation and non-information may vary from situation to situation, but we expect that scenarios of misinformation and non-information may eventually disappear in the long-run. This would mean that language spread would be more in tune with the principles of language spread.

Non-information or misinformation may also promote non-synchronicity or in some cases, what we call the Yoyo theory of learning and attitudes towards language. This may often be a complex process, and may be related to political and other factors. For example, the relationship between Tamils and Sinhalese since the time Sri Lanka obtained independence from the British has been complex, and has been riddled with bigotry, chauvinism and suspicion. These less than ideal relationships between these two groups may have dictated language attitudes of both Sinhalese and Tamils, and it is only after decades

that the dust is finally settling down. Likewise, attitudes to both English and Hindi in India may have been shaped largely by misinformation, antiquated shibboleths as well as government propaganda. This itself may have produced a yoyo-like pattern of rapidly oscillating attitudes, and Hindi zealots and chauvinists often employed a divide and rule strategy of a wholly different kind than that adopted by erstwhile British rulers. This adds credence to the need for a scientific school of language dynamics, and one that will itself impact language dynamics meaningfully by curtailing and eliminating misinformation, and lead to meaningful policy initiatives in the long-term in different contexts and situations.

Linguistic attributes and linguistic complexity

Linguistic attributes and linguistic complexity need to be taken into account because they may impact the dynamics of language spread and may be partly responsible for many political decisions including Rwanda's recent switch from French to English, in addition to a distaste for French following the Rwandan massacre. English was believed to be much simpler, and a more practical offering than French. A large number of measures have been proposed to assess linguistic complexity, though these measures are currently far from perfect, and there is no consensus among linguistics among linguists in identifying the most optimal measures. Measures may be classified into Syntagmatic complexity (measure of syllables, phonemes and morphemes), Paradigmatic complexity (Parts of speech and grammatical complexity), Organizational complexity (Number of ways phrases and clauses can be arranged), Hierarchic Complexity (Recursion and lexical-semantic hierarchies).

Any language policy must take into consideration not just a language's innate attributes and complexity, but also the relationship between language and culture for different linguistic or ethnic groups, and the attitudes of various ethnic and linguistic groups towards various proposals, policies and paradigms must be studied without prejudice. These of course would be only one of the constituent factors responsible for the success or the failure of a language policy, though probably the most important one, and the other factors discussed in this paper need to be considered too.

Theory of simplicity, practicality and convenience

In an overwhelming majority of situations, practicality and convenience would weigh in. This may explain the rise of Hinglish in India, and the slow and steady decline of the French language in Laos, Vietnam and Cambodia. In Laos, the decline of the French language has been slow, but is being slowly being eroded by English. The decline of the French language has been more rapid in Cambodia, even though there has been some revivalism. The French language also slowly declined in Vietnam after the Second World War, even though there has been a slow rebound. Per our approach, all analysis must be data-driven, and attempts must always be made to carry out a root-cause analysis keeping in mind the principles mooted in this paper.

French is considered to be a sophisticated and high-class language, as is seen as the language of diplomacy, haute cuisine and haute couture. It aspired to be a global lingua franca like English and Esperanto, but has now lost the race, and most see it as a language in decline. It is also considered to be one of the most expressive languages in the world, and the French often refer to it as 'The language of reason'. At the other end of the spectrum, some see it as complex and impractical to use even in

relation to English, particularly in non-native contexts. How are such languages perceived in distant parts of the world? How suitable are they in alien contexts? Why do less developed languages continue to thrive and flourish? All these questions can also be answered through global inter-disciplinary studies, and not by considering only the viewpoint of one community.

The need for formal training in a given language would also determine how quickly or rapidly a language spreads. Thus, languages requiring a high degree of formal training spread slowly, or are restricted to certain roles, while those requiring less formal training spread rapidly. This factor may assume new and added meaning in current multi-lingual milieus, due to the increase in the clout of multi-lingual societies, where one language cannot be expected to dominate.

Thus, per this theory, complex languages do not spread rapidly or easily. This is because the steep learning curve, and the time taken to master them is a natural barrier. This could be one of the factors, apart from linguistic osmosis, to explain the decline of French across the globe, and the relative popularity of English which itself is preferred only for specific contexts.

Let us take the example of two hypothetical languages, Uneekish and Quikish. These hypothetical languages are characterized by several positive attributes and characteristics that make them easy to master and use. However, in the real world, a language that is eminently qualified to fulfil the needs of one role, may not serve another role well, or may not be suited to the needs of a culture, and therefore the characteristics presented below are highly general:

Some of these ideal positive attributes and characteristics could be:

1. One to one correspondence between what you wanted to say, and how you said it.
2. No ambiguity of any kind, and no scope for miscommunication
3. Each word has only one meaning
4. Simple writing system
5. Simple orthography and grammar
6. Expressiveness and richness without redundancy
7. Co-relation between pronunciation and writing

Degree of standardization

Standardization refers to the process by which a language has been codified through a formal process. The process involves selection or gradual adoption of a variety of language, formalization of grammars, spelling books, and dictionaries, and is often associated with a rich literature. Wycliffe's and Luther's translations of the Bible into English and German, respectively, Caxton's establishment of printing in England, and Dr Johnson's dictionary of English published in 1755 led to the standardization of English in a big way and set the ball rolling for its global ascendancy. Historically, the standard variety of English is based on the dialect of English that developed after the Norman Conquest resulted in the transfer of the Court from Winchester to London. This dialect became the one preferred by the educated, and it was developed and promoted as a model, or norm, for wider segments of society. This variety was also promoted overseas. The standardization of German went on for hundreds of years due to the spread of mass literacy, and many minor languages were annihilated. High German or Hochdeutsch became the

standard, and replaced Low German or Plattdeutsch in many cases. High German also spread due to Luther's translation of the Bible into German around 1600 AD.

Standardization, and choice of a national or unifying language in the context of a multi-lingual society, is often determined through political choice. Choice of a national or unifying language, which may be the target of further standardization, may depend on various socio-cultural factors such as its association with great tradition, religious, cultural or historical factors, or considerations of political integration, and the choice of a national symbol. In many cases, there may be competing Great traditions such as in India, and such situations call for political negotiations and compromise, and may lead to enforced multi-lingualism. Within a language, standardization may be monolithic as in the case of France, or multi-polar as in the case of English which has British, American and Australian varieties. In India and China, the varieties of the dominant language chosen were Khadi Bholi and Pu tong hua, respectively, though a process of complex political decisions. In both these cases, dialects were politically empowered. This would lend weightage to the popular adage, "A dialect is a language with an army and a navy" and "A dialect is never anything other than a defeated language".

While there is no definition of what standard language is, Trudgill (Trudgill 1995) defines Standard language as the variety usually used in print, taught in schools, learned by non-native speakers, spoken by educated people, and used in news broadcasts. In this connection, it is necessary to differentiate between national language and official language. A national language may be defined as a language of political, social and cultural identity, while an official language is the language of government, executive, judicial and legislative.

As defined by Rosina Lippi-Green, Standard Language Ideology is "a bias toward an abstract, idealized homogeneous language, which is imposed and maintained by dominant institutions and which has as its model the written language, but which is drawn primarily from the spoken language of the upper middle class." According to Lippi-Green, part of this ideology is a belief that standard languages are internally consistent. Linguists generally agree, however, that variation is intrinsic to all spoken language, including standard varieties.

Lippi-Green (2012) states that the standard variety of any language is actually only the preferred dialect of that language: Parisian French, Florentine Italian, and the Zanzibar variety of Swahili in Tanzania are examples of preferred dialects. It is the variety that has been chosen for some reason, usually political, social, religious, or economic, or a combination of these reasons, to serve as either the standard model or the norm for the language. For example, the dialect spoken in London became the standard variety in English. However, many geographical dialects tend to vanish out of existence. This is also known as dialect levelling, something which has been observed in languages all over the world. In some cases, dialects may have their own names, and literature, and undeveloped dialects are called patois. Another concept is the concept of a vernacular, which usually is a home grown language, as opposed to what is grown elsewhere and then transported. A related concept is diaglossia, which is characterized by wide variations between spoken and written forms of the language. Standardized languages often possess more vitality and dynamism than non-standardized ones, though there can be exceptions.

A hypothetical axis is an axis around which most formal usage of the language revolves. In addition, a language may also be pluricentric or polycentric which means that there is more than one standard or widely accepted variety. An example of this kind of a language group is the Hindi Urdu continuum. In this case, the spoken languages strongly resemble each other, but the script and diction vary. Arabic has a standard form, but many spoken variants. Another example of this kind of a language is English which has American, British and Australian variants, but in this case, the variations are minimal. Pluricentrism may also lead to the formation of completely independent languages, and this process is already happening with Malaysian and Indonesian and Serbo-Croatian. The variants in this case are also strongly associated with the respective religious traditions. In this case, centripetal and centrifugal forces must also be identified, and used in modeling. Centripetal and centrifugal forces must be identified and evaluated for each language or dialect and each situation or context, and changes to these forces must also be evaluated from time to time. Such forces could be forces promoting standardization or non-standardization of language, or a move away from the language itself. These would strengthen or weaken the language in question, either directly or indirectly, and impact language dynamics as well. For example, the process of Ethnogenesis leads to the emergence of a new language from a parent language, or the consolidation of a new dialect, and this process may have already begun in the Indian state of Telangana. Thus, merger and split of linguistic units can also alter language dynamics, examples being the split-up of, and reunification of Germany, and the split of Korea.

Communicative competence as a basis for language spread

There is another kind of competence, called communicative competence, in the field of sociolinguistics, and this refers to speakers' ability to use language appropriately in practical contexts. According to Canale and Swain, it comprises knowledge of words and rules, appropriacy, cohesion and coherence, and use of proper and relevant communication strategies. (Canale and Swain 1980) Most people who are multilingual do not have the same abilities in all the languages (or varieties of languages) that they speak, and most can speak only one or two languages competently. According to Sridhar, (Sridhar 1996) "Multilingualism involving balanced, native-like command of all the languages in his repertoire is rather uncommon. Typically, multilingual speakers have varying degrees of command of the different repertoires. The differences in competence in the various languages might range from command of a few lexical items, formulaic expressions such as greetings, and rudimentary conversational skills all the way to excellent command of the grammar and vocabulary and specialized register and styles." For example, in Hong Kong, most people lack a command of either Chinese or English, and this is a consequence of a colonial-derived system. (Lord and T'Sou 1987)

According to Dell Hymes, competence does not mean just knowing the rules for combining words into phrases and phrases into clauses. In order to be a truly competent speaker, one has to know when to use certain styles or registers, what variants are appropriate for different groups of speakers, appropriate politeness routines, and even when to speak or stay silent. This kind of knowledge is often described as pragmatic competence, but the important point here is that some linguists recognize many forms of competence that go much beyond syntax and semantics. Thus, competence may range from passive knowledge of a language to native proficiency, and in the case of the latter, linguistic proficiency alone will not suffice. A related field is that of semiotics which deals with signs, and the symbolic

behaviour of communication systems, though this applies more for written language. Any analysis would also involve the study of communication systems, and how signals are transmitted from the sender to the receiver, and the channel of communication. For any meaningful study in sociolinguistics, these must be aggregated at the level of a society or culture, and preferred communication patterns identified.

Chomsky (Chomsky 1965) also distinguishes between what he has called competence and performance which is similar to Saussure's distinction between language and parole. According to him, linguistic competence is the system of linguistic knowledge possessed by native speakers of a language, while linguistic performance is the actual use of language in concrete situations which may be determined by social and cultural contexts as well as linguistic competence and rule-governed creativity. Some linguists have also made a difference between linguistic competence and communicative competence. As Saville-Troike (1996, 363) says: "Communicative competence extends to both knowledge and expectation of who may or may not speak in certain settings, when to speak and when to remain silent, whom one may speak to, how one may talk to persons of different statuses and roles, what nonverbal behaviors are appropriate in various contexts, what the routines for turn taking are in conversation, how to ask for and give information, how to request, how to offer or decline assistance or cooperation, how to give commands, how to enforce discipline, and the like – in short, everything involving the use of language and other communicative dimensions in particular social settings."

Changes to language may often take place due to imperfect learning. If a significant proportion of speakers of a language do not learn a language properly, it may result in linguistic decay in the long term. Imperfect learning may also occur when a large number of non-native speakers try to learn a language thereby impacting the way native speakers use the language.

Multilingualism may often have unanticipated consequences. Telugu people may lose competence in any language in due course due to the proliferation of English schools. While the locals cannot attain a native proficiency in English given the absence of an English-speaking environment in the state, written language skills in either language are increasingly in jeopardy. To complicate matters, Hindi has also entered the mix, and some schools teach only English and Hindi bypassing Telugu entirely. Thus, a man may know to speak Telugu, without knowing how to read or write it, and may be able to read English and Hindi without knowing how to speak them, or even fully comprehend what he is reading. As a result, standards of written Telugu are falling precipitously while standards of spoken and written English and Hindi are not increasing appreciably. This trend is expected to lead to an overall decline in linguistic ability among native Telugu speakers in general in the long-term. What consequences does this have for language dynamics? In this case, the Telugu language is being progressively disenfranchised by its own native speakers who continue to use it only in some contexts.

Changes may also take place due to the increasing competency of speakers as a result of increasing standards of education among the wider populace, the universalization or near-universalization of education and any resultant intellectual revolution leading to an illumination and enlightenment among the masses.

Linguistic naturalness

Naturalness, as opposed to artificialness, is the quality of being in a pristine state, and devoid of pretensions. There is no consensus on what constitutes naturalness, but ease of expression, unambiguity, simple grammar, logical word flow, ability to express a wide range of emotions, lack of redundancy, and co-relation with brain processes are important. Sophistication may not imply naturalness. Many Dravidian nationalists have argued that Tamil is the most natural language in the world, but such assertions are subjective. Many speakers of Indian languages and speakers of other language groups naturally prefer their own native languages and other related languages over much more evolved languages such as English for everyday communication, even when they have a natural affinity for the learning of global languages. A rich, complex and a nuanced vocabulary or rich idiom doesn't seem to work here; this is something that sociolinguists must study in different parts of the world in the age of globalization. This would appear to turn theories such as the Whorfian hypothesis on their head, or at least dent them badly. Naturalness is also important given the fact that spoken language still wields a high degree of power in many contexts, and is often used much more widely than written language. The spread of spoken languages must therefore be studied distinctly from written language, and their success would be driven by a different set of factors, and they impact the dynamics of language differently, often by intruding into other languages. We must therefore be prepared for situations where the languages or arts, trade and commerce yield some power to the languages of the streets. This by itself would be one of the hallmarks of a global, a culture-neutral and a language-independent study of language.

Linguistic expressiveness

Expressiveness is the quality of conveying a thought or feeling. It has been defined as “a magnification of the speech figurativeness and expression, its influence” or “the magnification of expression and figurativeness, enhancement of the illocutionary force of the utterance.” (Glakina-Fedoruk, 1958, Shakhovskiy, 1987) It is associated with articulateness, eloquence and facundity. French is considered to be a highly expressive language as there are words and expressions for which there are no equivalents in English. However, diction and vocabulary are not the only yardsticks of expressiveness. The ability to articulate thoughts with ease, felicity is also a determinative of expressiveness. The study of syntactic expressiveness has emerged as a pre-eminent inter-disciplinary field of study, with underlying concepts and methods. For example, language functions have been categorized into referential, poetic, emotive, conative, phatic and metalingual. (Jakobson, 1975) The study of linguistic expressiveness is viewed within the framework of lexicography, semantics, poetics, rhetoric and other disciplines.⁵⁹

Theory of fashionableness, trendiness and chicness

As per this hypothesis, fashionableness, trendiness and chicness play a major role in propagation of language. For example, speakers of certain basilects of Telugu, abandon their language for Tamil within a generation of migrating to Tamilnadu. As observed by the author in a study in the early 1990's, this can

⁵⁹ On the concept of “expressiveness” in modern linguistics, Margaret Apresyan, *Annals of language and literature*, Volume 2, Issue 4, 2018

happen very rapidly indeed, and less than a generation. This is because speaking basilects of Telugu is associated with social stigma and impedes social mobility. This, is because Tamil is seen as being the only way out in this situation. However, speakers of more prestigious dialects of Telugu, particularly those higher up in the economic ladder, prefer to learn English instead and opt for a combination of Telugu and English as the spoken language, as their linguistic skills in Telugu wane. This principle also states that the zeitgeist of the times also has a role to play in altering language dynamics and the patterns of language usage. For example, English was considered to be prestigious soon after the days of the British Raj, and Indian languages were considered to be inferior. Thus, proficient speakers of English always showed they were proficient in speaking in English. Attitudes have changed considerably since then, but the demand for the English language has not diminished. Attitudes may change due to many reasons, and fuzzy logic may come into play here. For example, the rise of Japan as an economic power, may have changed the perception, albeit subtly of Indian languages, and made them cooler in the eyes of many Indians. Even though this is an indirect factor it cannot be discounted. English is now seen as cool in Lebanon, and has begun to intrude on both Arabic and French. Arabic has now fallen behind in high circles, and it is perceived to be cool to speak English or French. Some elite schools use English as the medium of education, and teach very little Arabic. As a result, proficiency in written Arabic has fallen precipitously, and code switching and code mixing is common as speakers often alternative between Arabic, English and French. There is an on going campaign to promote Arabic as a trendy language, and this is being spearheaded by organizations like the Fael Ummer. A decline in Arabic skills has been reported in UAE and Oman too. In Oman there is a proposal to make the use of Arabic mandatory in business documentation, and vouchers, invoices and receipts.

Language vitality and dynamism

The term vitality describes the likelihood that a language will continue to be used for different social functions by a community of speakers. Vitality is determined by institutional, social and demographic factors. In multilingual communities, different languages have more or less vitality in different institutional, social or personal domains. In multilingual settings, the choice between languages carries interactional force or implies something about the situation or the preferences of the interlocutors. One language may be used for some social functions or in a specific social context, while another language may be used in other functions and contexts. A winning language formula creates a win-win proposition for all its speakers in a given context or situation, and often may be the best possible choice in that context. Such languages often thrive and flourish, and such language paradigms are highly successful.

Language vitality answers questions such as ‘why do some languages remain strong in the face of social change, while others are abandoned within a few generations?’ and ‘what role does language play in defining a group or ethnic identity?’ A linguistic variety has high ‘vitality’ if it is spoken and used widely, and is popular among its speakers. Vitality is a good indicator of whether or not that particular language will continue to be spoken by successive generations, or whether speakers are likely to shift to another language. The demographics of the ethnic group speaking a language, the status given to that language, and the institutional support provided for a language are all important considerations for evaluating the vitality of languages.

Changes may also take place due to constant innovation and refinement, and a language like English has lent itself fairly well to various types of innovation such as word coinage and word borrowings from other languages. Speaker innovation may or may not percolate into the community; it is in the second case that changes to language typically take place. Language vitality may be impacted by ideological factors too. For example, purist language ideologies can close off languages to innovation and external influences. Among the Tewa, for example, the influence of theocratic institutions and ritualized linguistic forms have led to a resistance to the external influences on language. According to Paul Kroskrity, this is due to a "dominant language ideology" through which ceremonial Kiva speech is elevated to a linguistic ideal and the cultural preferences are projected onto the Tewa language as a whole.

According to Alexandra Jaffe, language purism can lead to stigmatizing habitual or natural language practices and frown up contact-induced linguistic changes as well. Ideology may lead to complacency which is closely related to the 'Zone of comfort' hypothesis. As a matter of fact, this principle often has ideological underpinnings, and ideology often compounds a latent problem or a syndrome. For example, people in Hindi speaking states did not realize the importance of English until it was too late, and people in Tamilnadu were caught unawares by the spread of Hindi as a spoken language throughout India, and its importance and role in this respect. Complacency can often border on delusion and paranoia, and can make people blind to reality or practical issues, or promote non-practical considerations over practical ones. In 1998, the Mauritian government issued new bank notes with inscriptions in English, Tamil and Hindi. On the new notes, Tamil followed Hindi unlike the old system where Tamil preceded Hindi. Tamils argued that, as one of the first communities in Mauritius, Tamil should precede Hindi. Hindi people argued that since they made up a larger section of the population, Hindi should precede Tamil. Finally, the government recalled the notes and reinstated the old order where Tamil preceded Hindi.

Institutional support also contributes to increased vitality of a language and therefore promotes its maintenance and use along with its use in the popular mass media, as the medium of education, and in official government business.

Measures have also been proposed to calculate language vitality. These include the GIDS (Graded Intergenerational Disruption Scale) proposed by Joshua Fishman in 1991. Other linguists such as Arienne Dwyer, Martin Ehala, Lynne Landweer, Mark Karan, Andra Korna, Paul Lewis and Gary Simons have also proposed measures to assess language vitality.

Linguistic prestige

High-end varieties of a language are called acrolects, middle varieties are called mesolects, and low-end varieties are called basilects. In this case, variation is based on education, economic power, or social status. In such a case, the issue of prestige comes into popular play, and speakers of basilects tend to adopt acrolects, often within a few generations, annihilating the former in the long-run. Language must also cater to user prestige and pride. If this does not happen, other consequences may result. Contrarily, acrolects and mesolects may also adopt features of basilects, though this is relatively rare. In some cases, speakers of basilects may adopt other languages more rapidly than speakers of acrolects do, especially if they are in an environment where another language is more widely spoken. In either case, basilects tend to die out faster than acrolects, and their long-term survival prospects are bleak in an era

of rapid socio-economic integration. Basilects are often represented by slang, and colloquial or unstandardized varieties which are present in almost every language. Slang has been known from ancient times, prime examples being Vulgar Latin and Roman army slang. The comedies of Aristophanes, Menander, Plautus, and Terence are examples of slangs used by the ancients. Thus, languages with a large proportion of basilect speakers, or speakers of stigmatized varieties may die out faster than languages with a large proportion of acrolect speakers, and speakers of these varieties may move to other languages. This is a theoretical supposition, and other factors too will always come into play in any practical situation.

In some cases, stigmatized varieties may also be preserved. In a study in Philadelphia, Labov and Harris (1986) argue that there are two distinct speech communities in Philadelphia, Black and White. However, the Blacks succeeded in preserving their dialect, and the differences between the two may have even increased. Butters (1989) also attempted to list out factors promoting convergence, and distinguish them from those promoting divergence. According to Bailey, each speaker of a language controls a 'lect'. Thus, a language consists of different inter-related 'lects', each containing its own speakers. Thus, linguistic change can be modeled by determining the pattern of relations between the speakers of the 'lects'.

The standard variety of language is associated with high prestige. However, non-standard varieties of language have roles to play in different situations. Thus different non-standard varieties may be used in different situations. For example, different varieties may be used by the same individual when going to an official meeting or going to a party, or meeting with his fiancée.

The Power of the Mother tongue

A mother tongue is usually defined as either the language of the biological mother, the biological father, or a language native to a region. A mother tongue usually confers upon a group, self-identification and identification by others. (Skutnabb-Kangas 1984) It also helps express a feeling that that it constitutes a distinct and internally coherent community. (Williamson 1972) During the time of Shakespeare, English was limited to England and Southern Scotland, and had not even penetrated Wales and Ireland. Today, English is spoken in most parts of the world, despite the fact that it is a relative newcomer, and lacked any form of prestige even five hundred years ago. The power of the mother tongue must not be discounted under any circumstances. English has succeeded because of its establishment as a mother tongue outside England, and is all continents of the world. This process began in the seventeenth century with the establishment of colonies in North America and Australia. On the other hand, French did not establish itself in any part of the world outside France as a mother tongue except Quebec. Even though many non-English speakers emigrated to the United States, they adopted English as their primary and national language within a couple of generations, and this process tilted international language dynamics in favour of English, along with the process of linguistic osmosis.

Thus, a language may be used either as a native language, a second language, or solely as a foreign language. A popular model is Braj Kachru's 'Three circles of English' model. The three concentric circles described here are the Inner circle, the Outer circle, and the Expanding circle. The Inner circle refers to English as it originally took shape and was spread by original migrants, and includes English speaking

countries. This is often known as the norm-providing circle. The Outer circle corresponds to the spread of English due to imperialist expansion, and includes all colonies. The Expanding circle refers to the circle where English is used only as a means of global communication. Examples of this circle include Eastern Europe and Russia. Other models have been provided by Edgar Werner Schneider, McArthur, Manfred Gorrach, Modiano and others, but have proved to be less popular. Thus use of English as a mother tongue in important parts of the world has provided a strong centripetal force for the use of the standard forms of the language. In the absence of this, English may have broken up into pidgins much more rapidly, and its global importance would have diminished long ago. In some cases, emerging forms of a language have been deliberately flavoured with a local essence to foster a local sense of identity. Some have frowned on this kind of a process, and the British linguist Randolph Quirk referred to this as liberation linguistics. However, the high status associated with the English language appears to have acted as a bulwark against this process, and has ensured that English did not go the French way.

In most cases, the Strength of secondary and tertiary usage would play a role in the dominance of a language. For example, English and French possess large 'Linguistic hinterlands' that Dutch does not. These have begun to feed and enrich the core area in unexpected ways, through the development of an auxiliary literature, theatre or drama. In addition, English is unique among all the imperialist languages that it possesses a rapidly increasing 'Expanding circle', and this alone has cemented its role as the world's most important lingua franca, in addition to the emerging power of its erstwhile colonies.

Theory of Linguistic Hegemony

As per this scenario, more dominant and established or entrenched languages continue to propagate while less dominant languages are further pushed into irrelevance and obscurity. This is representative of the 'Big fish eats the small fish syndrome' and languages spoken by smaller number of speakers may be gradually pushed into irrelevance. Thus, what is big, gets even bigger, and what is small, gets even smaller. This may also be referred to as the 'Strong language versus weak language syndrome'. In this case, the number of speakers of a language, their geographical distribution, the clout enjoyed by them, the lexical strength of the language, and its suitability for various roles will make a difference in a speaker's choice. The geographic location of the speakers of a language can play a vital part too, and its location vis-a-vis trade and commerce routes. For example, Sanskrit was historically in a better position to influence Tamil, and other Dravidian languages, than the other way around. During the apartheid regime in South Africa which lasted till 1994, Afrikaans, a language derived from Dutch, was imposed as a language by the white minority on the black majority, and it was mandated that all official transactions be conducted in that language. Its learning was even mandated in Black schools and was hated by that community.

According to the critical mass theory, languages that have reached critical mass keep on propagating, unless checked by another language that can fulfil all its functions in a given role and context. In other words, what goes up, keeps going up, and what goes down, keeps going down. This would explain why minor and endangered languages may have very little chances of success. Thus, the big fish always eat the small fish. As a corollary, it would stand to reason that dominant languages change more slowly than less dominant languages, and less dominant languages are influenced more easily by dominant languages, and tend to be subsumed by them. We live in a world of more than seven billion people and

perhaps six thousand languages. Many of these are endangered or even dying. Less than half of these are likely to make it to the end of the twenty-first century. Languages are often progressively classified as weakening, sick, moribund, dying, dead or extinct. Extinct languages can usually never be revitalized.

Linguistic hegemony is achieved when dominant groups create a consensus by convincing others to accept their language and norms as paradigmatic. In such a scenario, linguistic minorities believe in, and participate in the subjugation of their language by majority language speakers. This is achieved by creating a suitable cultural and linguistic climate. In many cases, linguistic minorities may even find it difficult to present their case effectively, and the majority accepts persuasion as a strategy. (Wexler and Whitson 1982) (Gramsci 1995) Thus, in a process of bargaining minorities are forced to make major compromises. The process of linguistic hegemony is therefore often associated with words such as manipulation, distortion and legitimation. (Erikson 1992) Linguistic hegemony may be created as a result of either political or non-political factors, and without the direct intervention of the majority language group. For example, English is entrenching itself as the world's lingua franca due to predominantly economic factors. (Phillipson 1992) Linguistic hegemony may also be dependent on the intrinsic qualities of the language, (what it is) its extrinsic value (what it has), or its uses (what it does). (Phillipson 1985) It would also be dependent on the ability of the dominant group to provide moral, intellectual and philosophical leadership. (Bodock 1986) However, hegemony does not always imply exclusivity, and hegemonic languages often give room for other languages to grow. (Williams 1977)

Linguistic imperialism is a more extreme form of linguistic hegemony and is defined as the transfer of a dominant language to marginal or peripheral groups. Linguistic Imperialism is therefore, a demonstration of power, which may either be military power or economic power, and may often involve strategizing and exploitation of structural, political and cultural inequalities. This kind of transfer may therefore lead to transfer of other aspects of culture other than language. Linguistic imperialism has been studied by many scholars such as Robert Phillipson in his 1992 book, 'Linguistic imperialism' which is considered to be a trendsetter in this regard. The idea of linguistic imperialism may also be largely perceptual. In Hindi speaking states, linguistic imperialism is often associated with the English language, while in Tamilnadu, it is associated with the Hindi language. Linguistic imperialism is sometimes associated with linguistic genocide, linguicide, or language extermination, and this often only happens over a protracted span of time.⁶⁰

Linguistic imperialism plays a major role in language spread, either directly or indirectly. According to Lewis (Lewis 1982), Language spread occurs on account of 1. Language attitudes, for instance, the strength of efforts to maintain a threatened language, or to restrict the functions of an indigenous language. 2. The nature of the in-between group interaction, e.g., geographical continuity, ease of communication, conquest, colonization, the nature of relationship between the colonizing centre and the periphery. 3. Modernization, including the intensity of economic development, the degree of external exploitation of indigenous resources, urbanization, demographical features, such as the degree of education, and mobile and stable population groups, and 4. The political theories and cultural characteristics associated with a language, especially the distance between the spreading language and

⁶⁰ Linguistic imperialism, Robert Phillipson, Oxford University Press, 1992

the other languages in contact with it with respect to these theories and characteristics. Thus, loyalties towards indigenous languages, and other factors working in favour of indigenous languages may pale into significance in many cases, and may allow, hegemonic languages like English to spread their wings and take control. According to Kachru, there are four basic mechanisms through which linguistic imperialism manifests itself. These mechanisms are linguistic, literary, attitudinal, and pedagogical mechanisms, and pedagogy in turn comprises teaching methods, teacher training and other aspects of teaching and learning which are often imperialistic in nature, and seldom take into account learning preferences of subjugated people. (Kachru 1986)

Galtung's imperialism theory proposes six types of imperialism. These are economic, political, military, communicative, cultural and social imperialism, and these often go hand in hand with each other. (Galtung 1980). In the early phase of imperialism, languages were spread by colonizers, though they are now being increasingly replaced by local elite. However, local elites may continue to have strong links with colonizers. In the next phase of imperialism, languages would be spread through international communications and economic relations. Technology would obviate need for direct contact, and languages would spread without such contact. Thus, power can be either innate power, structural power or resource power, and control can be exercised through sticks (impositional force), carrots (bargaining), and ideas (persuasion), and this would be tantamount to asymmetrical bargaining. Linguistic imperialism can also promote hegemonic soft power in music and the arts, often through inter-state actors. (Preiswerk 1978) In some cases, it can promote social imperialism by promoting the norms of an ideal social structure. It can also promote what Galtung calls scientific imperialism, promoting a Euro-centric view of science, and ensuring a monopoly of scientific research by the west. Imperialism leads to a linguistic hierarchy where less dominant languages are wrongly perceived as being inferior. For example, in Tanzania, English dominates over Swahili, which in turn dominates over other languages. Even less prestigious languages have been declared predators. For example, Bambara which has become a medium of literacy has been threatening to destroy minor languages of Mali, and the cultures associated with them. It also leads to cultural synchronization, which may in turn marginalize local languages. (Hamelink 1983). Thus, linguistic imperialism always leads to linguistic hegemony, which are related to one another but distinct from one another. (Dale 1982) Linguistic imperialism is also related to linguisticism which involves the promotion of a dominant language, and the neglect of non-dominant languages due to a belief in its characteristics or on racial, cultural or economic grounds. This comprises ideologies and frameworks based on exploitation, and the unequal allocation of resources.

Language imposition refers to the imposition of a language on other language groups using brute force political methods. An example of this was the Hindi imposition in South India in 1965 following Anti-Hindi agitations and opposition to Hindi as the sole official language, which led to the death of many civilians in Tamilnadu. Unofficial estimates put the death toll at over five hundred people. This is different to other forms of linguistic imperialism with regards to the use of political power. This approach may often not take into account the principles mooted in this paper, and may be unworkable.

Linguistic imperialism is now being replaced by Language promotion, a less subtle version of which is linguistic propaganda. According to Fishman, English is no longer being imposed, but is now viewed as a

tool to progress in developing countries. (Fishman 1989) the French are alarmed at the decreasing use of French in diplomatic institutions, and are now fighting to reverse this trend. The Germans, too are making attempts to promote their language abroad through technical education, to prevent the inroads of English. These measures have only been partly successful. Both the British and the Americans have attempted to promote their own varieties of English. The British began this process with the setting up of the British Council. The promotion of English was also supported by private institutes like the Carnegie Foundation. The British government's promotion of English formed a part of its larger post-colonial cultural goals as laid out in the Drogheda Report of 1954. Eventually, America overtook England as a global power, and public attitudes veered towards American English. Language promotion also became a part of the American global strategy following the example of the Philippines where English was originally imposed. Many US departments are now involved in English teaching activities, and its goals for cultural diplomacy were laid in the Fulbright-Hayes Act of 1961. (Coombs 1964) (Marckwardt 1967). In the case of linguistic propaganda, languages are promoted as a result of a government's linguistic ideology and also due to a government's control over television, education, or mass media. This was attempted in India in the decades following its independence but only achieved mixed results.

A similar concept is that of linguistic chauvinism, which may manifest itself either in the majority or minority community, and may be associated with a high degree of aggressiveness. This may manifest itself due to a feeling of cultural superiority, persecution or perceived persecution, among other factors. Chauvinism may often be associated with linguistic radicalization, which may ride piggyback on an ideology, or linguistic or other forms of identity. It is often an unnatural expression of love or pride of one's language and may also be tied to ethnic, religious or national identity. Such feelings have been recorded since time immemorial, and Greek speakers, for example, looked down upon Non-Greeks. In modern times, linguistic chauvinism has been recorded in many parts of the world, including India and Sri Lanka.

Desire for ethno-maintenance

The desire for ethno-maintenance varies from community very widely, although the causes for this have not been fully ascertained. Many ethnographic studies have already been carried out, but the factors have not been fully understood. Indeed, there could be many reasons for ethno-maintenance, and the underlying factors need to be understood fully before language dynamics can be modeled.

Itesh Sachdev studied the Fisher River Cree community in Manitoba (Sachdev 1998) and the Haida Gwaii community on Queen Charlotte Island in British Columbia. In both these communities, English is the dominant language and has high status and institutional support. Cree and Haida languages have comparatively low status and little institutional support. However, these communities are keen to find ways of promoting their use and maintaining them in the younger generations. In both communities there was a belief that the Haida and Cree languages were a very important index of Haida or Cree identity.

Another case is that of Serbo-Croatian which is breaking up into two different languages due to ethnic and religious reasons since the break-up of Yugoslavia. After Tito's death, the country broke-up.

Linguistically, Serbo-Croatian is a single South Slav language used by two groups of people, the Serbs and Croats, with different historical, cultural, and religious backgrounds. The Serbian and Croatian varieties of Serbo-Croatian are known as srpski and srpskohrvatski, respectively. The actual differences between them involve differences vocabulary and not differences in pronunciation or grammar. The varieties are written in different scripts (Roman for Croatian and Cyrillic for Serbian). After the country split up, in Serbia, people speak Serbian and people speak Croatian in Croatia, and Serbo-Croatian no longer exists as a single official language (Pranjkoic 2001).

Other communities have adopted different approaches. In New Zealand, Maori communities established nursery schools called language nests, and languages were formally taught to children to prevent them from becoming extinct. Both English and Maori now have official language status. The Jivaros of Equador have managed to promote their language as a vehicle of education, and have succeeded in promoting their language in mass media as well.

The Sentinelese are a tribe who live in the Andaman and Nicobar Islands. They are one of the world's last uncontacted peoples. Along with the Great Andamanese, the Jarawas, the Onge, the Shompen, and the Nicobarese, the Sentinelese are one of the tribal populations of the Andaman and Nicobar Islands. The Sentinelese have refused any interaction with the outside world, and must rank as the most isolated tribe on earth. The Sentinelese are a Stone Age tribe, and have lived in isolation for over 60,000 years. They are hostile to outsiders and have killed anyone who has dared to approach the island. Their language is unknown, and not fully categorized. It is considered to be mutually unintelligible with other languages. Thus, their linguistic maintenance is as a result of cultural isolation. However, other languages of Andaman and Nicobar Island are not so lucky, and are slowly dying. These include the Great Andamanese languages such as Yerawa which is spoken by a few people, and languages such as Jeru, Aka-Bale and Aka-Bea which are extinct. The Onge languages comprise languages such as Onge which is still spoken and Jarawa which is also spoken. Many speakers of these languages are abandoning them, and slowly shifting to languages such as Bengali and Hindi. In another case, the Jangil language of the Andamans became extinct because, the Jangil tribe itself became extinct between 1907 and 1920. The Nicobarese languages such as Car share some affinities with Andamanese languages, but are distinct. Languages such as Car are healthy because of the large number of speakers. Other languages of Tamilnadu such as Toda, Irula and Kurumba are relatively healthy, but this may be because of the isolation of speakers of these languages. Many vital lessons can be learnt by analyzing the process of change and death of these languages, as they can hold clues for what is happening with other languages elsewhere. In many cases, linguistic amnesia is preceded by cultural amnesia, and this is the process of loss of cultural identity. This process has been reported among several communities such as Indians in Mauritius, and elsewhere in the world.

Theory of Elitism

As per this scenario, elites alter the dynamics of language spread so as to maintain their power, self or relative advantage. Elitism may stem from education, socio-economic status or even political authority or military power. Elitism may have evolved in many contexts as a tool for achieving and maintaining control. However, only very rarely will they be successful in preventing others from emulating them, and

stepping into their shoes. Linguistic elitism is exhibited by English-speakers in India and by French-speakers in parts of Africa.

As per this theory, elites play a much greater role than non-elites in influencing language dynamics. This almost always happens in the real-world, can be due to several reasons. Firstly, elites are often trendsetters, and the rest of the population often implicitly follows what the elites do. The elites are also usually better educated, and decide the language that is to be used in the administration, the courts, and businesses among other things. This would naturally ensure that the elites have an unnatural advantage in deciding the course of events as opposed to the less educated who are often poor and marginalized, lacking any say in economic affairs. This may also be represented as the "Theory of inequality of weights" where different segments of the population carry different weights, and some of them are naturally more influential than the others. This would also imply, among other things, that educating more and more sections of the population can mould language dynamics as well, though the incremental efficacy of this approach would fall. Thus, it is the relative position of the influencers versus the rest of the population that counts, in a vast majority of cases.

This theory of the power of elites states that elites have a disproportionately large share of power in driving language dynamics. The power of elites may come from a variety of factors such as educational attainment or professional achievement. It may also come about due to self or political power. The elite class may also be differentiated into the high elites, the middle elites, and the low elites. Thus, all other factors being equal, the rest of the population does what the elites do.

In political and sociological theory, the elite (French elite, from Latin *eligere*) are a small group of powerful people who hold a disproportionate amount of wealth, privilege, social, political power, in a society, either due to their innate skills or as a result of their power of dominance. According to the Cambridge Dictionary, the "elite" are "those people or organizations that are considered the best or most powerful compared to others of a similar type."

American sociologist C. Wright Mills wrote of the "elite" in his 1957 book "The Power Elite" as "those political, economic, and military circles, which as an intricate set of overlapping small but dominant groups share decisions having at least national consequences. Insofar as national events are decided, the power elite are those who decide them". According to Mills, men receive the education necessary for elitist privilege, allowing them to enter different branches of the power elite, which include the Political leadership, the Military circle, and the Corporate elite.

The basis for membership of a power elite can also comprise institutional power, not just individual power, i.e., an influential position in a prominent private or public organization. A study has shown that the French corporate elite dictates who joins this elite group, with those from the upper-middle class tending to dominate, and excluding others. Another study published in 2002 of power elites in the United States under President George W. Bush identified 7,314 institutional positions of power encompassing 5,778 individuals. Such studies have shown that age, gender, ethnicity, education and social class are key determinants of elitism, whether due to acquired or ascribed power.

Theory of Emulation

Per the theory of emulation, language speakers tend to emulate speakers of other languages and dialects, and this leads to linguistic change and affects language dynamics. For example, the popularity of Bollywood in India, has led to an increase in the demand for the Hindi language and may eventually erode the popular base of other dialects of Hindi and other Indian languages. Speakers of some dialects may tend to emulate speakers of other dialects leading to linguistic change willy-nilly, and this would in turn pave the way for dialect levelling, and other forms of linguistic change. A small group of Marathi, Punjabi and Odia speakers have begun to use Hindi increasingly at home, though their proficiency in that language is compromised due to a wide variety of factors.

Per the follow the herd theory, people mindlessly follow the herd, or what others do with a great deal of thought or formal analysis. Thus, there may be no particular rationale or logic behind the spread of a particular language. This approach may work in the real world in many situations, and may even produce long-term trends though its sustainability would come under the scanner and remain in serious doubt. The North Indian politician Mulayam Singh Yadav once attributed the learning of English in India to a craze, though as a Hindi zealot, he may have been off the mark.

In a more extreme version of 'follow the herd' mentality, speakers of a language exercise practically no judgement, but let themselves be carried away by current or prevalent trends. This would lead to further amplification or magnification of current trends, or at the barest minimum ensure that such trends perpetuate unchecked and unimpeded. An alternative term for this kind of scenario is groupthink.

We may also refer to the definition of Emulation and Reference groups here, as these would have a bearing on language dynamics. An Emulation group is a group that is perceived to be superior and is considered worth emulating, and which another group seeks to emulate. A Reference group, on the other hand is a group which another group considers to be a frame of reference, or a yardstick for comparison. Thus, other groups consciously follow the speech patterns and habits of emulation and reference groups.

Theory of aggregated and perceived personal advantage

In this scenario, humans subconsciously or consciously evaluate what is good for them, and act accordingly. For example, most South Indians, reject Hindi as a replacement for English, and use Hindi only in situations and circumstances where they stand to benefit.

This theory of perceived individual or group advantage is a modification of the previous scenario, and in this case, humans act on the basis of perception which may or may not match with reality. For example, there is now a craze for English schools in India, and this may even symbolize a follow the herd attitude. The highest growth in enrolment in English schools was in the Hindi-speaking states. It was the highest in Bihar, where it grew 47 times, as compared to an eighteen percent increase for Hindi schools. In Uttar Pradesh, enrolment in English schools grew over 10 times compared to a eleven per cent increase in Hindi-schools. In other Hindi speaking states too, the number of English schools has shown a significant increase—In Haryana by over 500 percent, in Jharkhand by over 450 percent, and in Rajasthan by over 200 percent. In states like Jammu and Kashmir, almost all students study in English schools. What is

highly alarming is that many students do not study their mother tongue even as a second language. In most situations, Hindi is chosen. Some organizations like the Bharatiya Bhasha Suraksha Manch have even gone to the extent of demanding the shutting down of all English schools in Goa, and their replacement by Konkani and Marathi schools, while parents have opposed this idea.

Doctrine of inertia and familiarity

This is largely due to the force of habit, and the time taken for the learning of languages as well as the mental blocks involved. This doctrine would imply that languages are learnt slowly, with language replacement being an agonizingly slow process. A speaker who is skilled in many different languages, continues with the language he is most used to speaking, and typically on a constant basis. This factor will be aggregated across various speakers speaking one or more languages to determine the dynamics of language spread in a region. In many cases people do not wish to leave their zone of comfort, and must be goaded to do so. This is where government policy and educational policy steps in. This principle is naturally related to many other principles mooted in this paper, and in many cases overlaps with them.

Thus, the existing language fluency or proficiency would continue to dictate linguistic trends. For example, the Tamils living in the Northern Province and Eastern Province in Sri Lanka speak very little Sinhala, and among these, speakers at the bottom of the social pyramid, speak virtually no Sinhala. Tamils living in Colombo on the other hand, have some knowledge of Sinhala as do many upcountry Tamils or Indian Tamils. The knowledge of Tamil among Sinhala speakers is rather limited, though it varies from region to region. Thus, individuals need to know a language before they can use it. Thus, the use of the Hindi language is not widespread in Tamilnadu because most people do not know it. A speaker who is skilled in many different languages, chooses the language he is most fluent or comfortable in. This factor will be aggregated across various speakers speaking one or more languages to determine the dynamics of language spread in a region. A speaker of a language also prefers the language he is formally taught or grounded in. Thus, a man who is taught in an English school in India, prefers to send his children to English schools in turn. This naturally increases the demand for the English language over time.

Context-based suitability, Role-based suitability, Context-based indispensability and Role-based indispensability

The pre-eminent role played by the language must always be taken into consideration in such an exercise. For example, Chinese, Arabic, French or Japanese may never challenge the hegemony of the English language in the realms of science and technology, and this alone may bestow upon it unrivalled and unparalleled supremacy in the short to medium term. On the other hand, the role played by the English language in other spheres is rather limited and a role-based analysis of language may be in order. This is also known as a language situation or an evaluation of the role of language in a social setting. For example, in East Africa, English symbolizes education and authority, while Swahili or the local language symbolizes solidarity or local ethnicity. (Scotton 1982) In 2014, Dweik and Al-Obaidi carried out a study among the Chaldo-Assyrians in Baghdad, Iraq. They identified the domains where

they used Syriac and Arabic and their attitudes towards both languages. It was found that they used Syriac mainly at home, in religious settings and in their inner speech; and used it side by side with Arabic in many other social domains such as neighborhood, place of work, media and other public places. Similarly, in Ghana, there is a strong identification with the mother tongue, but this has not reduced demand for English which plays several other critically important roles. (Ansre 1975)

A language must be inherently and innately suitable for the role it is expected to play. If this does not happen, this may trigger other outcomes such as the loss of functions of a language, or its restriction to roles for which it is suitable. Alternatively, other languages may replace it for other roles. Some languages are also indispensable in some roles. For example, no power on earth can replace the comfort of the mother tongue. Languages that play such roles can be replaced only in the rarest of situations. Nothing illustrates role-based usage better than India, where multi-lingualism is increasing, and different languages are used for different roles. For example, English is used in higher education and learning. Hindi as an entry-level link language etc. The role played by a language also determines the relation between language and the pattern of social mobility, though it is by no means the only predictor of success. Other factors such as socio-political factors and socio-economic factors play a role too. (Foster 1975)

Mohanty, an Indian sociolinguist, states, “ I use Oriya in my home, English in my work place, Hindi for television viewing, Bengali to communicate with my domestic helper, a variety of Hindi-Punjabi-Urdu in market places in Delhi, Sanskrit for my prayer and religious activities, and some conversational Kui with the Konds for my research in their community. These languages fit in a mutually complementary and non-competing relationship in my life. (Mohanty 2006, 263)

Thus, language roles must be defined at a fair level of granularity, and role hierarchies also defined wherever possible so that role-based usage can be tracked more accurately. Another related concept is the Markedness Model (Myers Scotton 1998). This model states that for a given interaction, there is an unmarked choice, that is, a code which is expected in the specific context, and this may vary from situation to situation. Thus, a policeman may speak to a convict in a particular language or a dialect, a well-dressed gentleman in another dialect or language etc. In this case, modeling would be context-driven or situation-driven, and language use patterns must be mapped to situations or contexts. This kind of modeling may be forward modeling or reverse modeling. In the case of the former, real-world study of languages is used as the basis to define and formalize roles and contexts, while in the cases of the latter, roles or contexts are conceptualized first, and then linked to language. Modeling can also be carried out through the dimension of time, with or without the use of statistical methods. Metrics and indices for assessing a language's role-based suitability and context-based suitability may also be developed by taking into consideration language complexity, linguistic distance, attitudes towards the language, cultural suitability and other factors.

In the case of countries like Morocco, the language situation is extremely complicated, and a language's roles are stratified, overlapping and ever-changing. Thus, role-modeling in this case has been extremely challenging. In Morocco (1) Standard Arabic is the official language of Morocco and is used in public education, media and government. (2) French is used in private education, the business domain, and in

science and technology. (3) Moroccan Arabic is the variety used by almost all Moroccans, and is used primarily in daily activities. (4) Berber is also mostly spoken at home and in the street, and also for education. (5) Spanish is spoken as a second language to Modern Arabic in northern Morocco. (6) English is used in elite education and in business, science, technology, and media sectors.

The Yimas of Papua New Guinea use their own language in traditional pursuits and Tok Pisin for issues relating to the outside world. Matters to do with government, trade, and travel require Tok Pisin. Language choice among the Yimas is dependent on occasion: Yima language to perform traditional practices and Tok Pisin to establish identity within a wider community. Role-based suitability and context-based suitability ultimately leads to language displacement which happens when a language takes over specific roles from another language such as entertainment or politics. This process is in an advanced stage in countries like India, and to a lesser degree in Scandinavian countries. However, the role-based usage of language in India is poorly understood by planners, and often overlooked. (Pattanayak 1981)

Needless to say, these factors would be crucial to any analysis and naturally cannot be given the short-shrift given the fact that these would play a crucial role in language dynamics, but we have already discussed these factors elsewhere in the paper.

Linguistic inequality

Linguistic inequality is another measure that may come into play here, and this hypothesis that that different languages may be in different states of evolution. The concept of linguistic inequality, is defined by Bonnin (2013, 502) as the unequal social valuation of particular ways of speaking, which, due to the indexical nature of language, reproduces wider social, cultural, and economic inequalities.

A dialect which includes both formal and written dialects or unwritten dialects, must likewise be distinguished from a full-fledged language. Therefore, speakers of different languages may have different attitudes towards their own languages or towards other languages which may be perceived as superior or inferior from their point of view. Scholars such as Hymes also talk about the historical character of a language which would be a function of its historical tradition and contemporary usage, status and prestige. For example, many Thais consider the Lao language to be inferior, while many Laos tacitly accept the 'cultural superiority' of the Thai Language. Likewise, Tamils are aware of the hoary literary traditions in their language and its unique characteristics. Most linguists accept the theory of inequality of languages, and the French use the term 'Langue de Culture' to distinguish culturally evolved languages from less evolved ones. Another related concept in Sociolinguistics is the concept of linguistic ideology developed by Michael Silverstein and others. Judith Irvine defines the concept as "the cultural system of ideas about social and linguistic relationships, together with their loading of moral and political interests." Many new fields such as Psycholinguistics which deals with the mental processes associated with language, and Ethnolinguistics which deals with social interactions and its relationship with language are emerging as distinct fields of study. Such factors are also determinants of the effects of language in fostering cultural pride or a sense of ethnicity among speakers of different languages.

All the factors described above would naturally create variations in perception and outlook between say, a Hindi speaker, a Manipuri speaker and a Tamil speaker which in turn would shape attitudes towards language and language policy. Linguistic issues and, in particular, the treatment of minority languages are have a high emotional appeal, and have often resulted in explosive situations in the past all over the world. As Bretton (1976, p. 447) points out: "Language may be the most explosive issue universally and over time. This is mainly because language alone, unlike all other concerns associated with nationalism and ethnocentrism ... is so closely tied to the individual self. Fear of being deprived of communicating skills seems to raise political passion to a fever pitch."

Similarly, less developed languages, and younger languages may exhibit a stronger tendency to change, and may impact other languages to a lesser degree than more evolved or developed ones. Therefore, younger and less-developed languages may borrow words and expressions easily in a non-mutual way, and through a process of relexification, but this will endow them with an additional vitality to influence other languages in due course. This is a fairly general proposal, and there can be exceptions, and therefore, ratification can come about from fieldwork in various contexts. As an example, Old English borrowed heavily from other languages, and was an amalgam of various influences, but Modern English have emerged as the biggest word-giver in linguistic history, and most modern languages have begun to borrow heavily from it. This may be an extreme example. Other examples would lie in a continuum between these two extremes.⁶¹

Linguistic distance theory

Per this theory, the linguistic distance between two languages would determine the success or widespread adaptation of a language in a given context, and would also determine a speaker's attitudes towards it. This aspect must be studied along with other factors to arrive at a meaningful and a complete assessment. Linguistic distance is a measure of how different one language or dialect is from another. Although there are no standardized approaches to determine linguistic distance between languages, linguists use the concept in a variety of situations, such as learning of second languages, historical linguistics, language-based conflicts and the effects of language differences on trade, commerce and diplomacy.

As a crude heuristic and rule of thumb, mutual intelligibility is a yardstick of linguistic distance, and the linguistic distance is inversely proportional to mutual intelligibility. The presence of cognate words also plays an important role in mutual intelligibility between languages. The higher the percentage of cognate words in the two languages, the lower is their linguistic distance. Also, the greater the degree of grammatical relatedness and lexical relatedness, the lower is the linguistic distance. Using a statistical approach called lexicostatistics which compares two language's mass of words, and their frequency of usage, distances can be calculated between them. This is also known as the Levenshtein distance. In 2004, Economists Barry Chiswick and Paul Miller proposed a formula for linguistic distances based on empirical observations of how quickly and easily speakers of a language could learn another language when exposed to it in a native context. The process of relexification observed in many languages, and

⁶¹ Dialect and Language Variation, Edited by Harold B. Allen and Michael D. Linn, Academic Press Inc, 1966

the current trend of borrowing English loan words into many other languages is also reducing linguistic distances somewhat, by making it easier for speakers of these languages to learn English.

Measures of linguistic distance are crucial to our analysis because difficulty of learning language is largely relative and not absolute. A common measure is Levenshtein distance which measures the distance between languages. Various measures have also been proposed to assess the speed and efficacy of second language acquisition, and some of these are purely empirical methods. Another approach may be the classification of languages based on word order. English, French and Bantu are SVO languages or Subject Verb Object languages. Japanese, Turkish, Korean and Hindi, on the other hand, are SOV languages. Filipino and Tuareg are VSO languages, while Malagasy is a VOS language as are also Mayan languages and Fijian. A speaker of the SVO language may find it hard to learn an SOV language and vice versa.

Linguistic typology

According to Noam Chomsky, every child possesses is born with the rules of grammar which allows him to learn other languages with ease and felicity. This is also sometimes referred to as the innateness hypothesis. However, children are equipped with an evaluation procedure which helps them to choose between different languages, and switch back and forth between them, albeit with some difficulty. Chomsky talks about two kinds of universals –substantive and formal. He gives more emphasis on formal universals which are the general principles which determine the form and mode of operation of particular languages. However, the theory of substantive universals says the items of a specific kind in any language must be drawn from a fixed class of items E.g. Noun, verb, subject, predicate. Others like Nicholas Evans of Australian National University and Stephen Levinson of the Max Planck Institute of Psycholinguistics, however, have criticized this approach saying that language universals are few and far in between, and that languages vary very widely from one another in a myriad different ways.

Linguistic typology refers to the classification of languages according to their structural characteristics. The following are some typical classifications, and these would be a metric of language distances and could drive language dynamics as well.

- Language families: Many different classifications have been proposed for languages, though there has been no universal consensus on the same. For example, languages descended from Latin are called Romance languages, and these include Portuguese, Italian, Spanish, French, Romanian, Romansh, Provençal, Catalan and Sardinian. The Semitic-Hamatic family is an ancient family of languages which evolved around 3000 BC, and comprised languages spoken in North Africa and West Asia. The Ural Altaic language family is the second largest language family in the world, and is spoken over a very wide area in Asia and Europe. It has two offshoots, Finno-Ugrian and Altaic. Some linguists deny any co-relation between the two branches, and some even refuse to accept Altaic as a single language group. Indo-Chinese or Sino-Tibetan is another large family of languages comprising a large number of speakers. This group consists of three branches Chinese, Tai, and Tibeto-Burman. The Indo-European language family comprises a large number of languages in Europe and Asia, although the exact nature of relationship between these languages is disputed. The nature of this relationship continues to be one of the most vexatious issues in linguistics. It all began in 1583,

when Thomas Stephens, an English Jesuit Missionary in Goa, observed similarities between Konkani, Greek and Latin. This was followed by observations made by the Portuguese scholar Filipino Sasseti in 1585. This observation was famously reinforced by Sir William Jones in Calcutta in the late 1700's when he noted the striking similarities between Greek, Latin and Sanskrit. However, the term Indo-European in the context of language classification was first used only in 1813 by Thomas Young. We had proposed an indirect and multi-dimensional relationship between these languages in our paper (We had proposed the term Base Indo-European as well, which would comprise multiple languages) which would redefine the issue greatly.

- Linguistic isoglosses: A linguistic isogloss is the boundary line between the regions where two different languages are spoken. In some cases, linguistic isoglosses are easy to define. In other cases, they may be hazy and nebulous, and may not even represent a contiguous area. Speakers, of both languages may co-exist near the border, often in geographical pockets, and in some cases a gradual assimilation does take place such that isoglosses eventually become well-defined.
- Dialect isoglosses: Dialect isoglosses are boundaries between dialects. Dialect isoglosses have been fairly well-defined for England, and these represent smaller geographical regions. In the USA, dialects are used over much larger regions, are relatively younger, and dialect isoglosses have not yet been fully mapped.
- Word order (SVO, SOV etc.): Some researchers like Edward Gibson of MIT's Brain and Cognitive Science Department argue that SOV is not only the most common word order encountered in languages around the world, but is the most natural. Most languages in Asia follow this system. On the other hand, the languages of Europe and SVO. Sanskrit was a liturgical language, and had a flexible word order suggesting it was intermediate to two disparate groups of languages, the Indian, and the European branches of the IE. VSO, is found in different parts of the world including Classical Arabic and Welsh. OVS and VOS are very rare, and the Wari language of Western Brazil is a VOS language. OVS is rarer still, and the Amazonian Hixkaryana is of this type.
- Semantic universals are rules that govern the composition of the vocabulary of all languages. For example, English and French share a common vocabulary with differences in pronunciation. English and German share a smaller common vocabulary, but common words are pronounced more in the same way. In modern Indian languages, English words are becoming increasingly popular despite the presence of Indian equivalents, which are in many cases falling out of favour. English loan words are common in Japan and South Korea too, but not in North Korea. In Germany, English words are used often with a change in meaning. Many pronouns and basic nouns are common across swathes of Asia and Europe, and this is attributed to the purported Indo-European family.
- Linguistic typology may be based on several other characteristics too. For example, some languages have both voiced and voiceless stops in their phonemic inventories (Like English, French and Japanese), and languages that have only voiceless stops (like Mandarin, Chinese, Korean and Tahitian).
- Linguistic typology may also be based on whether they have nasal sounds in their phonemic inventory. English, Japanese, Mandarin Chinese, Korean and Tahitian fall into the category of languages that lack nasal vowels. However, French, Hindi, Tibetan and Yoruba have nasal vowels.
- Languages may also be classified into isolating language where words usually consist of one morpheme e.g. English. Agglutinating language is one where words can be sub-divided into

morphemes without difficulty eg. Turkish and Swahili. A fusional language is one where morphemes are fused together in such a way, that they are not recognizable as separate elements.

Linguistic ecosystem theory

Per this paradigm, the spread or success of a language in a linguistic unit would be dependant on the opportunities of use, both oral and written, for that language in a given linguistic unit, and by the actual usage, and usage patterns of language in such linguistic units. Thus, the linguistic ecosystem would decide which languages are learnt, and to what extent. Demand therefore is largely driven by the dictates of the linguistic ecosystem which cannot be changed due to factors such as habit and inertia.

Per the Bounded choice theory, languages spread in accordance with the formal or informal options available to learn them. Thus, elite Indians may possess a smattering of French, but not Chinese. People in Bangalore may be exposed to Hindi and not Marathi as there is no option to learn Marathi in schools, and this principle may itself lead to the marginalization of languages. This theory may also sometimes be associated with policy diktat or legislative recommendations or restrictions, which may be either positive or negative. This naturally implies that there would be a time lag between ever-changing language dynamics and language policy in most political contexts. Refer to our principle of Non-synchronicity.

The two key attendant concepts here are (a) Breadth – the number of speakers using a language or a type of language studied in conjunction with other factors (b) Depth- the level of proficiency of speakers or a sub-set of speakers studied along with a host of other factors. The interrelationship between these two factors and the host environment may itself be complex and multi-faceted. For example, the lack of proficiency of residents of a particular region in a particular language may impact the usage patterns of that particular language in one way, while its widespread but shallow usage, may impact it in another way. This may have a cascading effect on diverse factors such as role-based usage, and group dynamics, and may be impacted by, and impact language policy and planning. This is the case in India in recent decades. While more and more people are learning the English language in recent decades, standards in it among the middle classes appear to have fallen somewhat due to cultural and situational factors. This may have other implications in the long-term and India may be slowly setting the stage for the emergence of pidgins and creole. This theory must also be linked to real world data. For example, decline in standards among native English speakers was noted by the Kingman Report of the UK (1988), and the Cox Report of 1989. Similar concerns of falling standards in Japanese have been expressed by the Japanese government. This must be viewed in the context of increasing educational attainment in these countries to draw suitable conclusions.

A related concept is the Natural context hypothesis which states that languages flourish in their natural contexts where an ecosystem to foster them is in place, and that supplanting a foreign language in a given context is a laborious and time consuming process, and may often take centuries, assuming it is not constrained by other factors. This hypothesis can only be validated with historical and real-world data from diverse contexts.

Linguistic Mindspace

We had also introduced the concept of linguistic mindspace in an earlier paper, and we believe this is a simple but effective tool. The idea of 'mindspace' originates from the fact that every individual has limited time at his disposal, or limited mental bandwidth to focus on multitudinous issues, and cannot divert his attention to a large number of activities. Thus, if he spends an inordinate amount of time on a certain activity, it reduces the time available for other activities. For example, if an individual spends more time watching television, this automatically reduces the time that he has for reading or scholarly pursuits. The advent of internet and smartphones has likewise changed usage patterns of language completely, by changing time allocation patterns for linguistic and non-linguistic pursuits. This concept may impact a wide variety of domains such as linguistic skills, learning ability and consequently, even self-confidence or attitudes towards life. It may even impact usage patterns of language, roles played by languages in different contexts, and transmission of languages to subsequent generations. Thus, this approach also needs to be linked to technological change, cultural change, and other factors.

This approach can be used in different contexts and situations. For example, the spread of Hindi in Karnataka may lead to a situation where more and more people use spoken Hindi instead of spoken English. This will automatically reduce the time people have to practice spoken English, or the desire among people of some sections of South Indian society to practice spoken English. However, Hindi cannot replace English per the dynamics of language spread. Therefore, English cannot be rooted out from Indian soil, and the promotion of Hindi may have actually entrenched English even more. How can such contradictory observations be used to model a change in people's proficiency and spoken and written usage patterns in English? Therefore, the concept of linguistic mindspace can also be used to language dynamics and even future usage patterns of a language or different languages.

The idea of linguistic Mindspace is a subset of the idea of Mindspace. Linguistic Mindspace may be further sub-divided into two sub-components Linguistic Mindspace and Strictly Linguistic Mindspace. The former relates to dimensions of time allocation between the learning of languages and the acquisition of non-linguistic knowledge, while the latter involves dimensions in time allocation only within the learning of different languages or different aspects of one or more languages.

Strictly linguistic Mindspace may be dependant on preferences, habit or pragmatism. This has many practical implications. For example, difficult languages may reduce the time available for learning other languages, and impact language dynamics, by killing the formal use of other languages. Language learning may also be dependant on linguistic thought worlds, which is a subset of an individual's thought worlds. This is analogous to an individual's or a group's perception of languages, their role and their utility. Such thought worlds may also consciously exclude certain languages. Linguistic mindspace may also be categorized into micro-linguistic mindspace which operates at the level of an individual, or macro-linguistic mindspace, which operates at the level of a society. For example, a society's value system may reserve space for the use of a particular language for a particular role, or for a particular context, and this can only be altered with some amount of difficulty. Thus, an individual attempts to match his linguistic repertoire to suit the needs of society. For example, MK Stalin, the DMK Chief of Tamilnadu once thundered that there was no space for the learning of Hindi in the blood of Tamilians. This observation may have been largely perceptual and cultural. The macro linguistic mindspace of a speech community can also be chalked out by linguists, and aggregated to higher levels such as a linguistic

block, or even aggregated at a global level. Statistical modeling can be used here, and less important paradigms only mentioned in passing.

Another principle is the judicious time allocation principle. Per this principle, individuals allocate time judiciously for linguistic and non-linguistic pursuits. Thus, decisions would usually be informed, but in other cases, decisions may be made in the absence of perfect information. This principle may operate between languages as well and help individuals choose one language over another, and decide what role to use it for. Thus, difficult and exceedingly complex languages alter the dynamics of language in interesting ways. For example, the time required for the learning of French may reduce the time learnt for the learning of native African languages, and ensure that French is not learnt properly as well. This observation was made by Mahatma Gandhi as well, who argued that the inordinate time taken for the learning of English, hampered the development of not only Indian languages, but also other subjects as well, a factor that may have led Mulayam Singh Yadav to call English “The language of destruction”.

Occupation-driven learning

In many cases, a person’s desire to learn a language and hone his linguistic skills is driven by his occupation and his vision for life. These need to be aggregated at the level of a society to determine the demand for a language for a given region, and this will in turn drive language dynamics in the long run. The people of Andhra Pradesh were formerly agriculturalists, and saw little value in English. This has changed drastically with the advent of IT, and the demand for learning the English language is now perhaps the highest among all the languages in India. This factor can operate both at a micro and a macro level, and can be a significant factor in driving language dynamics.

Occupation is often a key factor in determining socio-economic classes because occupation has a major impact on an individual’s status and mobility. Patricia Nichols (1983) studied connections between people’s occupational patterns and their speech in a study of a Gullah-speaking community in the United States. On the island where she was working as a teacher, speakers alternated between Gullah, a Creole and standard, variants. Her analysis of the variability between speakers highlighted the role that a person’s occupation made to their social networks, and how these networks altered their use of Standard US English forms. This can also be co-related to socio-economic class. For example, upper class and middle class Indians prefer to send their children to English schools given their patterns of occupation. This may not however be the case with poorer Indians who opt for ease of learning. However, as occupational patterns shift, so will language learning patterns. This will consequently impact language dynamics.

In addition, language learning may be driven by Individual Mind-orientation, a concept we had mooted in a previous paper. Mind-orientation could include family-orientation, employment or business orientation, Individual mind-orientation, Societal orientation, Religious, spiritual or philosophical

orientation, Intellectual or creative orientation, militant orientation, and anarchist or queer man, and we had discussed the definition of all these in a previous paper.^{62 63}

National or community character

Often, the national character of a nation, or the cultural and economic character of a community and the economic development models followed by a nation or patterns of employment in a community may play a role in language choice. China with its thrust on manufacturing, sees a relatively lower need for the learning of English than India does. This is in addition to the fact that China has a large internal market, and that its patterns of economic interaction with the outside world are different from India's. Thus, language dynamics may also need to be studied along with economic developmental models in some cases. Some cultures have also exhibited xenophobia, or fear of other cultures, and this has been historically noted in places such as Japan where foreigners from poor countries were targeted, in the USA against Blacks and Latinos, and xenophobia also shapes Hindu Nationalist groups views about Muslims in India. The other extreme is xenocentrism, or love for other cultures. Some cultures have alternated between xenophobia and xenocentrism in a yoyo like fashion, and there is currently a great deal of fascination with American culture in some circles in Andhra Pradesh. A related concept is that of Cultural sentiment and this may also have an impact on language learning. In many cases, popular or traditional sentiment may comprise exaggerated manifestations of emotionalism or mawkishness. These may not often be based on logic or reasoning, but may be relatively more palpable comprising of intangible components and attributes, and may in many cases defy logic.

Language learning patterns, and attitudes towards other languages may also be determined by a society's cultural orientation, and the seven cultural orientations we had proposed were, past-orientation versus future-orientation, inward-looking cultures versus outward cultures, rigid versus flexible cultures, individualistic versus collective cultures, material and non-material orientation of cultures, contentment versus innovation, and rational-orientation versus Non Rational-orientation.

Linguistic enculturation

Language acquisition involves phonology, morphology, syntax, semantics, and vocabulary, and may be categorized into primary language acquisition and second language acquisition. Language acquisition in a native context is known as language enculturation. All normal children, regardless of culture develop language at roughly the same time. A child typically requires constant interaction with, and exposure to other speakers of a language to hone his linguistic skills. Linguistic ability is therefore, not genetically inherited, but is a two-way cultural process. The pre-linguistic sounds of a young toddler are called cooing and babbling. By the age of six months, the infant can produce a number of distinct sounds. By nine months, they produce distinct vowel-consonant combinations known as pre-language. Between

⁶² The relevance of Culture and Personality Studies, National Character Studies, Cultural Determinism and Cultural Diffusion in Twenty-first Century Anthropology: An assessment of their compatibility with Symbiotic models of Socio-cultural change ELK Asia Pacific Journal of Social Science Volume 4, Issue 2, 2018 Sujay Rao Mandavilli

⁶³ Articulating comprehensive frameworks on socio-cultural change: Perceptions of social and cultural change in contemporary Twenty-first century Anthropology from a 'Neo-centrist' perspective Published in ELK Asia Pacific Journal of Social Sciences Volume 3, Number 4 (July 2017 – September 2017) Sujay Rao Mandavilli

twelve and eighteen months, children produce a variety of recognizable single-word utterances. By the time a child is two years old, he begins to utter a series of short sentences, and possesses a small repertoire of words. By the time a child is between two and three years old, he will begin producing a large number of utterances and short sentences. The vocabulary increases manifold between two and five, and he has already acquired the basics of grammar by this age. Language is typically learnt at a young age, and the Critical Learning periods hypothesis was proposed by Eric Lenneberg and others. In today's world, bi-lingual or multi-lingual language acquisition has begun to be observed, and instances of toddlers picking up multiple languages at the same time are not uncommon. However, preferences for language tend to vary with age, and adults may even give up one or more of their languages completely.

According to Bronfenbrenner's Ecological System theory of Individual and Social Development, an individual may be shaped by his own attributes such as a linguistic bent of mind, and his continuous interaction with different layers of the environment. The environment may include the Microsystem (Family, peers, school, church), Mesosystem, Exosystem (Industry, neighbours, mass media, local politics, social services) and Macrosystem (Attitudes and ideologies of the culture). These interact in various ways to shape the identity of the individual.

Study of language acquisition in some form has been observed for two thousand years. Plato for example, felt that word-meaning mapping in some form was innate. Sanskrit grammarians debated as to whether speech was God-given or acquired through society. This is sometimes referred to as the nature versus nurture debate. Different models have been proposed to explain the acquisition of language. Emergentists believe that language acquisition is a cognitive process that depends on the interaction between biological pressures and the environment. The Relational frame theory developed by Hayes, Barnes-Holmes and Roche proposes that children acquire language by interacting with the environment. This is based on the principles of Skinnerian Behaviourism. The Social interactionist theory is based on the work of Lev Vygotsky, and posits that children acquire language by interacting with adults. Chomsky's view is that language is innate, and this is called nativism. This view posits that babies learn to talk as naturally as they learn to walk. Linguists Elinor Ochs and Bambi Schieffelin suggested that the processes of enculturation and socialization do not occur separately from language acquisition, but that children acquire language and culture together in an integrated process. Linguistic communication also happens along horizontal channels (e.g., within one age group and a social cohort) or vertical channels (e.g., channels between generations).

While language is acquired through enculturation patterns, there can be wide variation in enculturation patterns, and this must be understood through fieldwork, and used in modeling language dynamics. According to Samarin, (Samarin 1969) among the Gbeya of the Central African Republic, Gbeya parents and other adults focus little attention on the speech of children, and mistakes are seldom corrected. On the other hand, the Anang of Nigeria take great pride in their eloquence, and youth are trained from early childhood to develop verbal skills, and this even includes public speaking and other skills. (Messenger, 1960, p. 229):

Feral children are human children who have lived away from human contact for many years, often from a very young age, or since birth, and have not experienced human care or affection in any form. This is also referred to as the 'Mowgli syndrome', a term first used by Wendy Doniger O'Flaherty in 1995. We reproduce a few such cases which have an impact on a study of the language acquisition process. One of the earliest recorded cases of a feral child was Wild Peter, a naked brownish blade-haired creature captured in Germany in 1724 at the age of twelve. He climbed trees, lived off plants and could not even speak. Another girl from Turkey was known as the "Bear girl". She was raised by bears, lacked human speech and made bear-like sounds. Two girls from Bengal in India, Kamala and Amala, were raised by wolves, initially lacked speech, but later picked up around fifty words. They never learnt to speak fluently. However, Trian Caldararu of Romania, found in 2002, ran away from his family at the age of three and was found at the age of seven. He may have picked up language sub-consciously before the age of three, may have never learnt to speak it. He later learnt how to speak fluently and even attended school.

Language deprivation or Language deprivation syndrome is a neuro-development disorder caused by socio-cultural factors, as opposed to purely biological factors such as deafness. Language deprivation is often due to the lack of linguistic stimuli that are necessary for the linguistic acquisition process. An abandoned girl called Genie was discovered in 1971. She later developed speech, but her linguistic ability was highly flawed and limited. A German child Kaspar Hausar was kept in a dungeon till seventeen, with virtually no human contact. He was only capable of garbled speech, but eventually learnt language and was able to write an autobiography. Another child Anna, was isolated by her mother and only learnt comprehension skills, not complete speech. Another child Isabelle, was confined to her room with a deaf and dumb mother. However she learnt 1500- 2000 words, and complex sentences.

Successful communication theory

Dell Hymes, a sociolinguist and anthropologist helped found the idea of 'Ethnography of communication'. He along with John Gumperz, proposed that language communication was a cultural activity. The pioneers of language socialization are Elinor Ochs and Bambi Schieffelin who defined the field as (a) the process of getting socialized through language, and (b) the process of getting socialized to language. Thus, many aspects of communication must be studied in their social and cultural context.

According to Habermas, communication between the speaker and the listener will be successful if there are no external threats of power, or any sorts of internal constraints. In other words, communication must be one in which the speaker and listener are free to raise and challenge claims without fears of coercion and deceit. If this is not achieved, free communication will not result, and this may impact the dynamics of language in a minor way if it is a trait or a characteristic of the society as a whole. Thus, free and perfect communication is ideology-free, and the principle of rationality applies. Habermas also talks about action and discourse, where action refers to the everyday situation of social interaction, and discourse refers to the realm of communication which is abstracted from the context of everyday life.

According to Habermas, free speech requires intelligibility, truth, correctness, and sincerity. Post-modernists like Lyotard also emphasize negation challenge and perpetual resistance as a yardstick of free communication. The emphasis of post-modernists is not on social conformity but individual liberty, but all these factors will unquestionably impact group dynamics and language dynamics.

Multilingualism within a community impacting global dynamics

Many societies comprise of speakers of multiple languages living in close proximity to one another. Let us take a situation where there is no clear geographical demarcation of language speakers. In the village of Kupwar in India, there are 3000 people. Muslims speak Urdu, Jains speak Kannada, untouchables speak Marathi. They have lived together for centuries, and most are multi-lingual. Even though there is some convergence, they have been able to maintain their own languages. Another interesting case is Bangalore, where native Kannada speakers have been reduced to just thirty per cent of the population. No single language has been able to dominate here, and Hindi dominates as an entry link language, and English as the language of formal communication. This is not the case with Chennai where Tamil tends to dominate in the absence of Hindi, given the elitist nature of the English language. The situation is much simpler in the multi-ethnic Bay Area in California where English is the only mutually intelligible language. Thus, speakers of other languages may eventually adopt English as a native language within a couple of generations, though the English language may itself change as a result. In some cases, there may be ghettoization of language speakers, and this may be dependant on non-linguistic factors. Ghettoization based on race has been seen in the USA, and ghettoization based on religion has been seen in Ahmadabad as well. Needless to say, this will impact language dynamics, as languages proliferate in Islands. In other cases, people living in the same street or district may choose not to communicate with each other, and this may vary widely from community to community, and within a community it may vary by age bracket. Tamils reside in their own communities in Delhi, choosing not to learn Hindi, but this is changing with the younger generation. Attitudes cannot be assessed quickly, but some linguists have studied linguistic landscapes, which is the display of languages in public spaces, including signs, billboards, advertisements, and graffiti because this is a reflection of underlying attitudes concerning particular languages and their usage patterns (Helot et al. 2012).

The geographical dispersion of the speakers of a language is also important. A case in point is the impact of New Zealand's policies of relocating Maoris in the mid-twentieth century. The movement of Maori into urban areas was accompanied by a policy called 'pepper-potting'; that is, Maori were housed so as to avoid concentrations of Maori in one particular area. This rupture of Maori social networks had a profound effect on the transmission of key cultural information – including the language – to the next generation, a disruption that is only gradually being reversed. Changes may also result from geographical separation of users. When speakers of a language move away from each other, and lose contact over a protracted period in time, language usage may diverge. American English separated itself from British English due to this very principle.

In some cases, the causation between geographical dispersion of a language's speakers and language dynamics may be indirect. For example, the break up of the Indian state of Andhra Pradesh into Andhra Pradesh and Telangana may have reduced the number of people migrating from the Andhra region to

Hyderabad. People choose to migrate to Bangalore instead where their children may lose their language more quickly. In addition, there is a tendency for elites from both Andhra Pradesh and Telangana to migrate to the USA in search of greener pastures. In what way will these scenarios contribute to the decline of the Telugu language given that future generations of Telugu speakers will be acculturated in alien contexts? Will these scenarios need to be studied in conjunction with low birth rates? These are questions future anthropologists need to address.

Thus, future researchers need to map the co-relation between language speakers and geographical territory, and changes to a situation over time due to migration patterns, and link this to the theory of linguistic osmosis. There may be several possible scenarios, and these could include (a) Speakers of a language analogous to a geographical territory (b) Speakers of a language partly analogous to a geographical territory (c) Speakers of a language scattered across different language territories. Studies on migration would themselves be complex, and would need to take into consideration social, cultural and economic factors. These three scenarios are not rigid, and real-world situations must be analysed, and placed into a continuum. While carrying out this analysis, other factors such as the social and economic position of speakers and dialects spoken in a geography will also need to be taken into account.

Degree of Multi-lingualism

Language dynamics would also be dependent on the degree of multi-lingualism in a country or linguistic unit. We had proposed the following Twelve measures to determine if a country is truly polyglot or not, and the result would be deemed to be positive if the answer to even one of the questions is in the affirmative. Truly polyglot countries are those such as India, while countries like China may not be truly polyglot. Needless to say, the dynamics of language would operate differently in both these cases.

- (a) Does the country have one or more than one fully independent languages spoken by significant segments of the population, which are not for the purpose of our study deemed to be dialects of the other language or languages spoken in the country?
- (b) Is the linguistic distance between the most-unrelated but widely spoken languages in the country large?
- (c) Does the country comprise of speakers belonging to more than one language group? Are the speakers of languages belonging to at least two language groups significant?
- (d) Do the speakers of more than one language adopt a semblance of political power, or are demanding political autonomy with the chief objective of maintaining linguistic status quo or linguistic hegemony?
- (e) Does the country have a history of discord in protesting the linguistic power structure or the dominance of one linguistic group, and have such fissures led into demands for significant changes in power structure or autonomy?
- (f) Is the power structure of the country sufficiently decentralized to allow speakers of linguistic groups to exercise some autonomy or have a say in policy-making?
- (g) Do the speakers of the most widely spoken language in the country account for less than sixty percent of the population?
- (h) Is the total number of languages and dialects in the country, including less developed languages or

dialects, and variants of major languages, large?

(i) Do regions of the country share close economic, cultural or linguistic ties with other country, often in precedence to economic, cultural or linguistic ties with other parts of the same country?

(j) What is the Least Common Denominator of all the major linguistic groups in the country in terms of linguistic structure, shared cultural elements etc.? Is the range of the LCD insignificant to moderate?

(k) What is the Least Common Denominator of all the linguistic groups in the country including the outlying or the less important or the insignificant ones in terms of linguistic structure, shared cultural elements etc.? Is the range of the LCD very insignificant to moderate?

(l) Is the Chief integrating factor in the country something other than language, or is the role of language in this regard limited?

Language policy and Language planning

Changes in the function or use of languages which are brought about through top-down approaches, are described as language planning. Because plans often involve policy decisions, work on language planning is intertwined with language policy, and is sometimes referred to as Language Policy and Planning. It is also some times referred to as language management. (Jernudd and Neustupny 1986) A sound language policy must take into consideration not just political factors, but social and cultural factors as well, and must be determined by factors such as democratization and equal access to resources. As a result of planning decisions, a language can achieve an enhanced or desired status, or may change its status as well (Kloss 1968). A language may be formally recognized or informally accepted as an official language, like French in France or English in the United Kingdom and the United States. A language may also have official status but only on a regional basis, like Igbo, Yoruba, and Hausa in Nigeria; German in Belgium; and Telugu in Andhra Pradesh in India. A language may be promoted by the government or some agency, or may not be promoted at all.

The establishment of a standard language has many implications for its promotion. Governmental policies often represent two contrasting types of language ideologies: some ideologies conceive of language as a resource, problem, or right and other ideologies conceive of language as pluralistic phenomena. Any real-world policies are however, a compromise between these two types of ideologies. Languages may also be ideologically encumbered or unencumbered in different contexts, and these would in turn determine language policy. Examples of the former are the use of Hindi in Tamilnadu, and English in France.

Corpus planning seeks to develop a variety of a language, or a standardized form, through the formation of official bodies such as the Academie Francaise of 1635 so that it can serve different functions in society. Consequently, corpus planning may involve such matters as the development of an orthography, new sources of vocabulary, dictionaries, and a literature, to use it in formal and official situations. Such endeavors are often associated with nation-building and nationalistic pride. Language planning also includes acquisition planning, in addition to corpus and status planning, and this deals with methods of teaching the language. (Cooper 1988)

Bottom-up approaches to language planning are also steadily gathering steam. For example, Tonga speakers in Zimbabwe have lobbied for the promotion and development of Tonga as a language of instruction in all Tonga-speaking areas. Similar approaches were used in Nyati-Ramahobo in Botswana and by groups in Cameroon. However, bottom up approaches to language planning are novel and still relatively very rare. Another related concept is that of linguistic empowerment. Here, languages are consciously empowered by making them languages of learning or power. This can manifest itself in many ways. For example, many Indian states now mandate the teaching of the local language, and even its display on signboards and business establishments. On the other hand, India's central government does not empower other Indian languages the way it promotes Hindi. This may have led to strange consequences and promoted English even more. Therefore, enforced multilingualism in India (which ensures that people can access information in their native language in diverse contexts) may actually promote Indian languages more, and reduce the need for learning English in many contexts.

Group dynamics

As per the interlocutor and group preference theory, a speaker prefers to use the language the other person or people in the conversation are familiar with, so as to make them feel comfortable. This may appear to be a trivial issue on the face of it, but must not be taken lightly. This is an extremely complex issue where a large number of speakers are available, and communicate with each other either face to face or indirectly, often through social media. Speakers may be homogeneous, heterogeneous, speak a single language, different dialects of the same language, or multiple languages. They may be located in their native environments, alien environments, or in multiple environments. Decisions are often made sub-consciously, spontaneously, informally, and without much ado. Factors impacting this sub-conscious decision-making process can be many, and are presented in various parts of this paper. This factor must be analysed with the attention it demands and deserves, and will play a major role in its own right in driving the popularity of languages given that it is based on human interaction patterns. For a language to be successful, both parties must be comfortable using it, and it must also be the language both the parties are most comfortable using. Thus, a language along with grammar and syntax is called a code in sociolinguistics, and speakers may have the option of using one or more codes.

As per the theory of mutual consensus, two individuals agree upon a language through mutual consensus during the course of an interaction. Often, this may be a sub-conscious process. Thus, a Nepali language speaker who marries a Bengali language speaker opts for either English or Hindi as their language of communication. This must be aggregated to understand its impact on the dynamics of language spread. As per the theory of mutual comfort, two individuals speak the language they are most comfortable in. Thus, a Nepali language speaker who marries a Bengali language speaker opts for Hindi over English as their language of oral communication, bypassing English which may be restricted for more formal situations. In this case, both parties must be reasonably comfortable in the chosen language. The language usually chosen would be a subset of the 'Least Common denominator' of the linguistic repertoire of both the parties. This factor must be aggregated to understand its impact on the dynamics of language spread. Another interesting variant of this would be two speakers of different dialects of the same language speaking a different language because the dialects vary somewhat widely.

The Author has personally witnessed such scenarios among Telugu speakers residing in Tamilnadu and North India.

In many cases, an interlocutor for a given language must be present or be readily available. In the absence of interlocutors, languages are likely to fall gradually out of use. Thus, speakers of different languages must be identified in different geographical and cultural contexts, and their interaction patterns must be assessed and formally modelled, with future scenarios predicted. This will determine the future success of any language, and must be assessed along with the Interlocutor preference theory.

Contact may also happen between different members of different cultures and this also produces hybridity, an example being contact between people of colonizer and colonized nations. Hybridity often produces new and meaningful paradigms, and endows a culture and its languages with a new vitality. This would lead to the emergence of multi-culturalism and multi-lingualism in the given society, and impact cultural dynamics in a wider context as well. Understanding language in society requires that one also has to understand the social networks in which language is used. A social network describes a speech community in terms of relations between individual members in a community. A network could be loose or tight depending on how often or deeply members interact with each other. An office or factory may be a tight community because all members interact with each other on a constant and a continuous basis. On the other hand, in some neighbourhoods, members may live on the same street, but seldom interact.

Networks can also be distinguished in terms of the nature of relationships between individuals. That is, if the network tie between two individuals is based only on one relationship, this tie is called a uniplex network. A multiplex social network is one where people are tied together in more than one way. A social network may apply to the macro level of a country or a city, but also to the interpersonal level of neighbourhoods or a single family. In addition, Jenny Cheshire (1982) and Penny Eckert (2000) classified people into members who were central to the network (core members) and those who were less integrated into it (peripheral and secondary members). Social networks have also proliferated on the Internet in the recent past, through online chat rooms, Whatsapp, Facebook groups, and online matrimonial services.

Some work on intercultural communication has tried to group societies according to how individualistic or how collectivist they are. Examples of highly individualistic societies are Australia or the US. In societies with collectivist values, such as Japan, Thailand and China, social order, and requirements for polite behavior are important. In this context, the importance of social behaviour appropriate to the social situation is important. Even individualistic cultures may become tightly integrated in due course due to an increase in horizontal and lateral forces of integration. Integration may also be aided by economic development, socio-cultural ascendancy, and technology. Integration may also often be characterized by a convergence of attitudes.

The term audience design classifies the behaviour (the speaker proactively designs his speech to suit the needs of his audience) and encapsulates the presumed motive for the behaviour (who is the speaker's audience). Bell also distinguished between several kinds of audience that a speaker considers while speaking. He suggested that a person the speaker is directly talking to i.e. the addressee has the greatest

impact on how we talk. But there could be 'auditors', 'overhearers' and 'eavesdroppers' who have less influence on the speaker's speech. Bell also proposed that style-shifting derives from social differences.

Social identity theory (SIT) is a theory of intergroup relations which states that language is one of many symbols that individuals use when maintaining boundaries between groups. The theory was proposed by Henri Tajfel who understood the social and psychological processes operating between members of different groups. Tajfel (1978) distinguishes between identities which are personal and identities which are principally associated with a group. Social Identity Theory recognizes that people identify with many personas at different times which include personal or group identity; when a personal identity is dominant, behaviour is more likely to be determined by idiosyncratic aspects of personality, and there would be more variability. On the other hand, the theory predicts that if group identities are dominant, the way we talk will be based on normal or typical way of talking for a member of that group. Tajfel suggested that personal and group interactions fell at the opposite ends of a scale or continuum, though this was only an idealization, and purely personal identities may not really exist and they would be influenced by group norms.

This phenomenon of alternating between varieties of language is called code switching. When code switching is constrained by the speaker's location, it is called domain-based or situational code switching. When it is constrained by who a speaker is talking to, it is called addressee-based code-switching. Code-switching is common in multi-lingual societies, and draws on the syntax and grammar of different languages. In addition, speakers of different languages may also resort to code-mixing, either in a creative way, or in line with informal norms.

Choice of code or language may also depend on several factors and may be based on several perspectives which include societal perspective (domains); language perspective (diglossia); the speaker's perspective (decision tree); interactional perspective (accommodation); and functional perspective (functional or specialization). (Appel and Muysken 1987)

Miki Makihara's work on Rapa Nui or Easter Island which is a part of Chilean territory discusses the way in which a mixed code has been emerging there since the 1970s or 1980s. This indigenous interactional code is now used by both children and adults. It involves extensive mixing of Rapa Nui (a Polynesian language) and Spanish. According to Makihara, this mixed variety functions as an important marker of an sense of Rapa Nui solidarity and identity, and probably first emerged in informal conversations; There are switches between Rapa Nui and Spanish in many contexts, and Spanish is often used more in a wider political context, and less in a cultural context.

Group dynamics may also operate under three different kinds of scenarios. In the first scenario, communication would be unconstrained and be characterized by the absence of any constraints. It would also be associated with free bargaining and communicative power. In the second scenario, there would be constraints imposed by the cultural context or situation that could include cultural norms, etiquette or regulation. This can again be sub-divided into the micro-environment and the macro-environment. In the third case, communication would be influenced by external paradigms. Examples of

the last scenario could include the three-language formula of the Indian government influencing group dynamics in Mumbai, and upping the ante in favour of Hindi. Another example of this kind of a scenario could be the introduction of European languages in North America over the past five hundred years impacting communications among different American tribes.

Any analysis of group dynamics must take into account factors such as the following:

1. Available and preferred communication channels and the nature of infrastructure available for communication including mass media etc.
2. Extent and distribution of literacy across various social, cultural and ethnic groups
3. Communicative competence, both oral and written, or various groups
4. Social classes and social distances
5. Economic classes and wealth distribution
6. Degree and distribution patterns of social, cultural and technological awareness

The theory of group dynamics may explain several real-world situations. For example, it could explain the concept of dialects, and the emergence of pidgins and creoles which is a process involving superstrate languages and substrate languages. (Bakker 2008, Versteegh 2008). This would be tied to the low proficiency of speakers in any given language. It could also be used to explain, in conjunction with other factors, why English cannot become the language of the masses in India, and will always be restricted to the elites. It can also additionally be used to explain why heteroglossic languages may either get standardized, or wither away with the passage of time.

Accommodation theory is also related to social identity theory: accommodation theory contains principles that characterize the strategies speakers use to establish relationships through talk. This was proposed by Howard Giles (1973) focused on speech behaviours alone, but was later expanded to include non-verbal communication as well. The field is, sometimes referred to as speech accommodation theory or communication accommodation theory. Accommodation theory rests on attunement which states that we all tailor, or attune, our behaviours according to the interaction, and the situation.

The German linguist Karl Buhler developed a field theory of language in his *Sprachtheorie* in 1934 [Buhler, 1990] which was subsequently used for mathematicians, linguists and social scientists. According to Buhler, language consisted of four elements: speaker, hearer, sign and object; and three functions: the expressive (coordinating sign and speaker), the appeal (coordinating sign and hearer), the referential (correlating sign and objects). Claude Shannon and Warren Weaver of the Bell Telephone Laboratories developed a mathematical model of communication, [Shannon and Weaver, 1949] which contained six elements: a source, an encoder, a message, a channel, a decoder and a receiver.

The process by which speakers attune or adapt their linguistic behaviour in light of circumstances may be a conscious or unconscious process. This process encompasses both convergence with, or divergence from interlocutors' norms. Convergence involves a speaker altering the way they talk so that it approaches the norms of their interlocutor. On the other hand, divergence involves accentuating

differences between the speaker and their addressee, to foster positive feeling about his own group. Speakers may consciously or sub-consciously undertake either strategy, based on the situation or the attributes of the speaker.

In any contact situation, there is a power dynamic, or a power equation, whether it is a teacher-student or employee-customer equation, this power dynamic results in a hierarchical differentiation between languages, and defines how they interact and behave with each other through the use of language, and even what language they choose in a given set of circumstances. As French sociologist Pierre Bourdieu states in this connection, "Linguistic exchanges invoke a complex network of power relations in which the producer, by producing an utterance or text, makes a bid for social authority, and the recipient or audience decides to what degree to recognize that claim to authority."

A related field is the ethnography of communication or the ethnography of speaking, is the analysis of communication within the wider context of the social and cultural practices and beliefs of the members of a particular culture or society. Various factors such as the setting and scene (S), Participants (P), Ends (E), Act sequence (A), Key (K), Instrumentalities (I), Norms of interaction and interpretation (N), and Genre (G) must also be taken into account in any study. This is known as the SPEAKING model.

Social dialectology, the term used to refer to this branch of linguistic study, examine how ways of speaking are linked to social differences within a particular region. Variations within a language are also sometimes referred to as heteroglossia. Linguistic variables may vary across social groups, the two scenarios being fine or broad stratification. In the first scenarios, differences are subtle and graduated, while in the case of the latter, they are major. Differences in usage of language by different social groups were ratified through studies in Charmey (Switzerland), the Martha's Vineyard study in the USA, and other studies in the USA.

Another concept is that of social class membership. This is difficult to classify, as in many societies there are no strict guidelines, and terms such as 'middle class' are hazy. In extreme cases, language can be viewed not as simply a reflection of social order but as something which helps establish social hierarchies. (Heller 2010)

Registers refer to sets of language items associated with discrete occupational or social groups. According to Agha (Agha 2006) a register as 'a linguistic repertoire that is associated, culture-internally, with particular social practices and with persons who engage in such practices'. Biber and Conrad (Biber and Conrad 2003) distinguish work on registers from other analyses of discourse, saying that they focus on the situational parameters defining the communicative situation. Speakers learn different registers through socialization in different cultural groups within their society. This concept is closely related to the 'Field of discourse' of a language, which is the area of operation of a language activity. This may include or exclude fields such as history, politics, religion and international relations. Other aspects to be borne in mind are modes of discourse which refer to the medium of language activity, and style of discourse which refers to the relations among participants, impacting the style of usage, viz colloquial or formal.

Language may also emanate from social position. Joseph Errington demonstrated how the Javanese priyayi, whose ancestors served at the Javanese royal courts, became associated with highly refined speech. Similarly, Paul Kroskrity showed that speech forms originating in the Tewa kiva or underground ceremonial space formed the dominant model for all Tewa speech of the Arizonan Indians, and the second example is a variation of the theme of status or context-driven usage.

There are many other studies dealing with language usage in social contexts, but these must be treated as idiographic. In another study of language socialization practices in Dominica, it was revealed that local ideas of personhood, status, and authority were associated with the usage of Patwa and English in the course of the adult-child interaction. The use of Patwa by children was discouraged by adults due to a perception that it would inhibit the acquisition of English and restrict social mobility. However, children often utilize it to defy authority. There are therefore, two opposing ideologies pertaining to the usage of Patwa in Dominica: one which encourages a shift away from Patwa usage; and another which contributes to its maintenance.

Another principle we propose is the principle of mediocrity which states that when speakers who are more competent in a language or use a more sophisticated version of the language come in regular contact with people who are less proficient in a language or those who possess inferior linguistic skills, standards of language and linguistic proficiency in the society will inevitably and invariably fall. This is because it is easier to acquire communicative competence in a simpler version of the language, than in a more complex one. This idea can be extended to non-grammatical variants of a language as well, and could explain the falling standards in both native and foreign languages in different parts of the world, but must be studied along with other factors. This factor would also drive the simplification of languages, role-based stratification, and extinction of complex or impractical languages in the long-term.

Thus, two factors play a role here:

- (a) Presence of Socioeconomic contacts among speakers
- (b) Wide divergence in linguistic skills among a population

Thus, the spread and eventual universalization may increase a basic level of linguistic proficiency among all sections of society, but it may lead to a fall in linguistic proficiency in the society as a whole in many situations especially when the less proficient occupy the corridors of power. As racist as this may sound, this is true in many contexts and situations, even though there may be bonafide and legitimate exceptions. Thus, the universalization of education may see an initial fall in linguistic standards as people whose enculturation patterns were different, rise through the ranks.

Scholars have noted that cultural contacts promote the development of new linguistic forms that draw on diverse languages and ideologies. According to Miki Makihara and Bambi Schieffelin, during times of cultural contact, speakers negotiate language ideologies to consciously reflect on language use, leading to better paradigms. In addition, cross-cultural communication patterns can also impact language dynamics, and these could include:

- Patterns of cross-cultural communication and how people communicate across cultures

- Preferred geographies: determined by commerce, trade, cultural similarities, economic factors and technological factors
- Patterns of communication between speakers of different languages of the same group
- Patterns of communication between speakers of different languages belonging to different groups
- Patterns of communication between speakers of different geographical dialects
- Patterns of communication between speakers of different social dialects
- Patterns of communication between speakers of economic classes

Group dynamics impact language dynamics when recursive communication patterns are formed, and aggregated to a community level or to a higher level. Thus, early communication patterns in a novel context become trendsetters for subsequent interactions, and may eventually become cultural norms, examples being the use of a certain lingua franca in a certain geography and a certain cultural context, or the extent of code-switching preferred. These would bring about attendant changes in the roles and usage patterns of a language in a given context. In order to bridge the gap between group dynamics and language dynamics, it is also necessary to identify cultural patterns of communication, in relation to their contexts of use, and map them to diverse uses of languages in a society.

Communities of practice

One view of social groups is the idea that speakers participate in various communities of practice. Eckert and McConnell-Ginet (1998, 490) define a community of practice as ‘an aggregate of people who come together around mutual engagements in some common endeavor. This could include ways of doing things, ways of talking, beliefs, values, power relations. Thus, new practices emerge in the course of their joint activity around that endeavor.’

Thus, a community of practice is a specific kind of social network. Communities of practice are characterized by mutual engagement, a jointly negotiated enterprise, and a shared repertoire. Mutual engagement refers to a direct personal contact. The requirement for mutual engagement is often a requirement of community of practice. However, social network may at times also include individual members who have no direct contact with each other. A ‘shared repertoire’ may be speech styles, way or pronouncing words or other kinds of social practices.

Theories of Geographical dispersion and movement

The theory of Geographical dispersion states that all other things being equal, languages that are spoken over a wider geographical region tend to establish themselves more easily than languages that are less geographically widespread, but subject to some terms and conditions. This is related to the principle of linguistic osmosis, and the principles mooted in that section also apply. In this analysis, the patterns of interaction between speakers in different geographical regions, the linguistic distance between different dialects, and the economic clout enjoyed by different region, and speakers must also be taken into account.

Sometimes, changes to language dynamics can also be triggered due to changes of significant number of native speakers of a language from one geographical region to another. For example, the migration of Hindi speakers to Bangalore and Mumbai in the decades following India’s independence, led to new

kinds of contact-based scenarios, and led to Hindi being implanted in these regions. Hindi speakers have also moved to Chennai, but they have been thus far unable to seed their language there as a language of mass acceptance. Speakers of several Indian languages have likewise emigrated to the USA from India, but their languages have almost always been overwhelmed by English in due course. Thus, immigrants bring their language to a region, impacting the language dynamics in that region. This gives the language a toehold in that region which enables it to spread its wings even further.

In this connection, it may become necessary to co-relate the geographical movement of speakers along with their social and cultural characteristics and the underlying properties of languages involved with the linguistic changes occurring in a region. Thus, a study of changes, patterns and frequency of usage of dominant languages, dominated languages, native languages, alien or imported languages, as well as other aspects such as the emergence of hybridized languages, pidgins, creoles, koines, interlanguages and lingua francas must also be studied in different contexts, and co-related with movements of speakers into corresponding regions.

Social Aspirations

There is a complex two-way relationship between social identity and social aspirations. Studies, by William Labov in the 1960s, and by others, have shown that social aspirations and class aspirations influence speech patterns. Individuals who want to be associated with upper class and upper middle class people and wish to climb up the socio-economic ladder, and become a part of an elite club, adjust their speech patterns to sound like them, and strive to improve the grammar or pick up sophisticated words. However, they may hypercorrect or feign accents, and even introduce new errors. Middle class people likewise strive to emulate the wealthy, and show that they are upwardly-mobile. As a result, they are on the lookout either consciously or unconsciously for any social markers that will suggest that they have made it to the top. This would result in a change in educational status, impact learning strategies and outcomes, and even determine the languages and the dialects learnt. This process often requires a yardstick, which may either be determined through government policy, or chosen sub-consciously by society.

Social decline

The same is true for individuals who have moved down the socio-economic status unwittingly, though such situations are relatively rare. Individuals may then adopt the speech of the new class in order to make themselves more homely, and acceptable to the status quo. This may also be accompanied by resultant changes in behaviour. This sometimes manifests itself at an individual level, and more rarely at a group level. Sometimes societies may themselves move towards total anarchy, and collapse. All such scenarios and situations would impact language learning in different ways, may lead to the emergence of vulgar forms of a language, and put an end to its formal use. Many dominant societies have gone through social decline, –examples of these include the Mayan civilization, the Indus Valley civilization, and the Roman Empire.

The freedom to learn and use language in different ways

The freedom to learn and use language in different ways in different cultures and social contexts will also impact language change, and language dynamics. Basil Bernstein, a British socio-linguist, proposed in his book, 'Elaborated and restricted codes: their social origins and some consequences,' a method for categorizing language codes according to emphases on verbal and extra verbal communication. He claimed that factors like family orientation, social control, verbal feedback, and social class contributed to the development of two different codes: elaborated and restricted.⁶⁴

The restricted code exemplified the predominance of extra verbal communication, with an emphasis on interpersonal connection over individual expression. This code is used within environments that operate according to established social structures with rigid roles. Basil Bernstein defined 'elaborated code' according to its emphasis on verbal communication over extra verbal communication. This code is typical in environments where a variety of social roles are available to the individual, chosen based on disposition and temperament. Bernstein explains differences in language development in children depending on the two codes. A child exposed solely to restricted code learns extra verbal communication over verbal, and therefore may have a less extensive vocabulary than a child raised with exposure to both codes.

Cultural osmosis determining linguistic osmosis

We have discussed the process of Cultural osmosis in great detail in an earlier paper, and referred to this as the symbiotic approach to socio-cultural change. This kind of an ethno-convergence would only be partial, with individual cultures retaining their unique defining characteristics. This kind of ethno-convergence need not always propagate ideal values, but may be a manifestation of the power of dominant cultural systems. This may manifest itself either in the form of hard power, soft power or grey power. The process of cultural osmosis is primarily non-linguistic. However, its implications protrude greatly into the linguistic domain. In addition to the process of linguistic osmosis which is a bonafide process by itself, the process of cultural osmosis can impact linguistic osmosis separately, predominantly through soft power, as similar cultures interact with each other more closely, and produce similar paradigms. In many case, cultural distance between speakers of two different languages may also impact language dynamics, as speakers of a language may choose languages which are associated with a similar culture.

Theory of Win-Win Paradigms

The Theory of Win-Win Paradigms which we had proposed in an earlier paper would operate as follows. According to 'The Theory of Win-win propositions' which is diametrically opposed to the principle of Unnatural Control, it would stand to reason that within a given set of circumstances or scenarios, languages tend to spread in such a way that they provide, to the extent possible, win-win propositions to all parties and stakeholders, and any paradigm which results in a win-lose proposition would either fail or throw up some kind of a counter-reaction. It would also stand to reason that all language interactions are based on the theory of win-win paradigms. Therefore, the usage patterns of languages

⁶⁴ Class, codes and Control, Basil Bernstein, Routledge, 2003

in different situations (based on contexts and roles) must lead to some kind of a gain to different parties involved in the interaction.

There can be bonafide exceptions to the theory of win-win paradigms, and in such a case, the paradigm satisfying the conditions of this theory the most will prevail over other paradigms satisfying the conditions of this theory to a lesser extent or not satisfying the conditions of this theory at all. This principle must be analysed and studied in conjunction with all other principles of language spread. Language interactions need to be studied after taking into consideration specifics of a region and the roles played by different languages in that region and the contexts of use as well.

Proposals to address discrimination may be classified into 'Intrinsic bargains' and 'Non-intrinsic bargains' as discussed in this paper. In case language interactions are based on win-lose paradigms, they may be successful only under a specific set of conditions and must be studied along with other principles of language spread. If this principle is not met, a break-up of the linguistic unit may result. For example, the disintegration of USSR, Pakistan and civil war Sri Lanka could be attributed to this. Alternatively, dissatisfaction may result, and the festering wounds may lead to more severe consequences in the long-term.

In some cases, the principles of the Theory of win-win paradigm may lead to some kind of loss to one or more parties. In this case, the losing party would attempt to adopt the 'minimum loss' approach by adopting the next best scenario. We have also discussed the 'Doctrine of Insubordination' in this paper. In many other cases, linguistic paradigms lead to some kind of a loss to a specific set of users, and these may have other intended consequences, such as the extinction of languages. We have discussed this in another section of the paper under the 'Net benefits approach'. However, this may not necessarily be a violation of this theory, as will be discussed.

While it is unlikely that systematic violations of this principle can happen, we would like exceptions to this theory, if any, to be formally documented and assessed by other scholars to preclude any possible confirmation bias. One exception we can think of is acculturation or enculturation, and a marginalization of, or a total disregard for speakers of a language, but this is typically a very slow process. We would like such scenarios to be evaluated on a case to case basis. Even if the Theory of Win-Win paradigms has bonafide exceptions, few would deny that planners need to evaluate all proposals against this paradigm, in the interests of short to medium term communal harmony as violations of this principle can cause unintended consequences in the long term.

Let us now explain this through examples. Mumbai is the commercial capital of India, and one of the most important cities in the world. Pune is the second largest city in the state, and is famed for its IT and automotive sectors. The language of the state of Maharashtra is Marathi. Like Hindi, Marathi belongs to the Indo-Aryan family of languages. It is one of the oldest languages of the Indo-Aryan group of languages with roots going back to the 10th Century AD. It is written in the Devanagari script, like Hindi, though another script called the Modi script was formerly used. Mumbai has always been a cosmopolitan city. In the 1930's, Bombay was home to a large number of Parsis, Gujaratis, and some

North Indians and South Indians as well. Maharashtra did not resist India's post-independence language policy the way South Indian states did. This was probably due to Marathi's similarity to Hindi.

However, English has entrenched itself as the language of business and commerce, and most people nowadays send their children to schools where English is the medium of instruction. Marathi is the administrative language of the state, and state government offices use Marathi, in addition to English. However, Hindi is not commonly used in administration. The state government runs most of its schools in Marathi with some Non-Marathi schools for linguistic minorities. However, Hindi is used as a spoken entry-level lingua franca in Mumbai because the city is home to a large migrant population who have not taken learnt Marathi, the language of the state. There are now only a few Marathi bastions and strongholds in Mumbai left such as Shivaji Park. English is too elitist to be used as an entry-level spoken language due to the fact that only a small number of people are fluent in the language. However, the use of Hindi as a formal, written language is low, given the fact that most people prefer English schools. Thus, we say a triangular fight exists between Marathi, Hindi and English in the state. Marathi speakers raise concerns about the marginalization of their language in Mumbai city where native Marathi speakers constitute a minority.

Let us now analyse what this situation entails for Hindi speakers. This is a bonanza for them, as it would appear to validate their cultural superiority and numerical strength, and ratify the case of Hindi as a national or a link language. There are no downsides for them either. The benefit of this for citizens for whom neither Hindi nor Marathi is their native language is an ease of communication and the fact that their target audience may not be comfortable in English either. Such an individual normally makes an effort to learn basic Hindi (and usually not Marathi) after staying in Mumbai over a period in time. However, such a speaker would rarely make an attempt to learn Hindi perfectly, and usually does not learn written Hindi at all. This results in a win-win situation, but only within a limited realm. For Marathi speakers, Hindi would at first prove to be a total loss, and would infringe on their identity. It only provides some other marginal benefits such as their entry into Central government jobs, their ability to communicate at a Pan-India level easily and exposure to the Hindi entertainment industry. However, the demand for a Marathi-speaking state was strong in the 1950's and lobbying ensured that their efforts bore fruit. Therefore, India's language policy is a source of friction in the state as it is in other Non-Hindi states. The Shiv Sena Party's and the Maharashtra Navnirman Sena's attacks on North Indians in 2008 illustrates this well. Some time later, Abu Azmi, a legislator, who was a native Hindi speaker was prevented from taking his oath in Hindi in the Maharashtra assembly.

Another important consequence of India's language policy is that it appears to have cemented the role of English in India as a language of power, aided in no small measure by the demand for it across the world. Another consequence of unnatural language policies could be political breakup, national disintegration or the loss of its dynamic stability, but India's language policy was inherently inconsistent and was exploited by different people in different ways. This is one of the reasons why English is now entrenched as the language of business and commerce. English provides a win-win paradigm for almost everyone in this role due to its popularity within and outside India. However, English creates a chasm across social lines due to the elitist nature of the language. This is something Hindi supporters have always projected. Hindi states also neglected the learning of English due to their Rajbhasha

complacency, which often bordered on delusion. The support for Hindi by the business sector can also be controversial due to possible objections from minorities, and their knowledge of their linguistic rights. In this setting, English is the only viable alternative. Experience in India and other parts of the world has shown that a neutral language or a language that is not native to any ethnic group within the society has many advantages in becoming the lingua franca of that society. Sanskrit, Persian and English have played these roles in different periods in Indian history to differing extents.

The Theory of Win-win propositions may have also worked in colonial times rather well. The English rulers promoted the English through clever strategizing and planning. English was seen as a tool for career advancement by Indian clerks in the East India Company and other Indians who wanted to be seen as being sub-servient to the British, or wanted favours from them. This principle was undoubtedly applied in other English and French colonies also, and the colonized elites were given a carrot-and-stick approach by the colonialists. Another strategy adopted by the colonialists, was to privilege Indian elites and divide them from non-elites for whom language policy may have mattered little, and to again divide Indians on linguistic, ethnic and cultural lines after a study of their cultural preferences. This was also known as the 'Divide and rule' strategy. Therefore Imperial language policies involved some amount of strategizing and thought.

Even the elites of the Indus Valley Civilization which flourished in the north-west of India between 2600 BC and 1900 BC, showed a tacit respect for the principles of 'Unity in Diversity' and strove to maintain communal equilibrium in their multi-ethnic and polyglot society. In this case, the polyglot nature of the IVC may have been acknowledged by the society's planners and architects. Thus, the non-linguistic component of the logo-syllabic Indus script and other non-linguistic cultural icons may have been chosen as tools of cultural integration. Post-Independent India's language policy initially emphasized religious harmony over harmony among speakers of various languages to prevent the partition of the sub-continent, but this policy was hijacked by people with vested interests too, and groups who may not even have had the larger interests of the nation in mind. Thus, we can even argue that India's language policy has been biased and structurally flawed all along, and this has been producing interesting counter-reactions.

Win-win propositions must be intrinsic or built into the structure of the paradigm itself, as opposed to non-intrinsic propositions. Therefore, agreements involving reservations for non-Hindi speakers to compensate them from perceived losses may not work as these will not address a wide variety of scenarios. While Karl Marx may not have spoken about such linguistic paradigms, such policies clearly drew inspiration from Soviet-style communist constructs and were opposed to the plurality of India. One can even go to the extent of arguing that India's Indus Valley ancestors were endowed with more practical common sense than those who conceptualized the Rajbhasha policy. One other reason for this could be the over-reliance on Stalinist models, as opposed to practical, field work driven methods. Of course, language dynamics as a science did not exist then.

The doctrine of insubordination comes into play when the speakers of a language or a group of languages eventually accept the hegemony of another language despite a historical track record of opposition towards it. This may be a bona fide exception to the Theory of Win-win propositions. While

such an equation may not lead to the decimation of the dominated language in the short or a medium term, the speakers of the oppressed language group may tend to accept the inevitable and may grudgingly accept the supremacy of the other language either on some real or perceived basis. This must however, take into consideration other factors operating in multi-lingual societies. Examples of such cases include gradual acceptance of English in elitist circles in France as the world's leading lingua franca. Many Tamils have also of late shown an interest in acquiring a basic level of proficiency in Hindi for the limited purpose of inter-state communication and government jobs. However, English is a neutralizing factor here, given that the potential for linguistic domination by one group in a single country or a political entity may be far more severe than it can be at a global level given that there may be fewer checks and balances in the former scenario. We may invoke the 'Theory of Linguistic Osmosis here'. Even so, most French speakers may have begun to learn English for self-advancement, or to make the best use of a situation in which they have virtually no control, and even France now grudgingly acknowledges English to be a vehicle of globalization. Likewise, although Hindi may have lost the race to English, Hindi speakers are on parity with other language speakers in the competition for jobs, and English has greatly benefitted Hindi elites too. Thus, the complete subjugation of one linguistic group by the other may be relatively rare, and a time-consuming process given that all parties would try to make best use of any given situation. This may also involve a change in status quo, which by itself may not be an easy process.

For such a language policy to work the language that seeks domination or its speakers must possess a high degree of clout or goodwill, and no other roadblocks or impediments must exist. As such, such cases are relatively rare in the real world, and this explains why Hindi failed to replace English in India. There may be a few exceptions here, such as the co-existence and linguistic subordination of Tulu and Konkani speakers in Karnataka, the reasons for which are historical factors and the long history of the dominance of Kannada in the region, and the fact that these languages possess no scripts. This is analogous to the spread of Standard English throughout the United Kingdom. However, the spread of English throughout the United Kingdom may have been a result by that language's prestige and its use as an international lingua franca as well. We recommend that exceptions be studied separately, put an onus on those providing differing viewpoints to provide empirical evidence and some kind of rationalization. Horton and Hunt have pointed out that assimilation and acculturation are usually two-way processes involving some amount of give-and-take, and exceptions to this principle may be relatively rare. However, the Doctrine of Insubordination does often imply that the subordinating language is not on even keel with the subordinated languages, and this scenario is synonymous with a language hierarchy.

The Rajabhasha policy would have therefore led to a win-lose proposition, by benefitting only the speakers of one language. In the case, they were many inconsistencies in policy between central and state governments as well. The policy therefore not only failed but may have encouraged English even more, by making all Indian languages subservient to English. English also may be based on a win-lose paradigm as it may benefit a small number of speakers proficient in English at the expense of the Non-English speaking majority. This would serve to restrict the use of English to specific roles and contexts, and unwittingly promote another language or sets of languages in other roles and contexts.

As a consequence of such paradigms, most Non-Hindi speakers in India would lose interest in Hindi altogether after acquiring a certain degree of fluency in English, and their increased fluency in English would curtail their usage of Hindi. On the other hand, Hindi speakers may have had a false sense of complacency, a kind of wishful thinking that did not ultimately work in their interests, and resultantly, economies of Hindi states stagnated after independence while the economies of Non-Hindi-speaking states took off. Parity between Hindi-speaking states and non-Hindi speaking states is being achieved now, but after a considerable delay.

In spite of the neutrality of the English language from the standpoint of various Indian linguistic groups, the language is biased in favour of English speaking countries, and gives them an undue advantage in fields such as science and technology. The English language is also known only to small groups of people outside English speaking countries, and is additionally biased in favour of in such countries. Native English speakers seldom see a need for learning any language other than English. However, English learners in Non-English speaking countries must not only learn English as a foreign language, but must learn other indigenous or foreign languages. It is also unlikely that elites in Non-English speaking countries can achieve the same level of proficiency in English as native English speakers can. In spite of all these factors, the dynamics of language spread in India have booted out Hindi in favour of English, despite the latter's lack of political patronage, and Hindi consequently only plays second fiddle to it.

Net benefits approach

Per the Net Benefits approach, speakers of a language subconsciously evaluate the benefits and demerits involved in using a language in a given role or context. This is a purely subconscious process, but will result in a certain outcome or decision. This approach must again be applied in tandem with the other principles laid out in this paper. For example, speakers of Kumaoni and Garwhali languages, which are all critically endangered languages, may not choose to speak it outside their native context because they are too embarrassed speaking it, not fluent in it or because they do not wish to inconvenience third parties who may not understand it. This is in spite of the intangible ethnic pride associated with speaking the language. Kumaoni and Garwhali language speakers may therefore, eventually abandon their language if the demerits such as lack of their own fluency, relative fluency in an alternative language such as Hindi, convenience, frequent discourse with linguistically heterogenous groups, outweigh the merits such as ethnic pride. Speakers of certain basilects of Telugu abandon the language sooner still because they are too embarrassed to speak it in public. They may continue to speak it with their elders for a generation and then abandon it altogether. This may lead to the death of a language in specific contexts. This is critical because languages seldom die out because all their speakers have died due to reasons such as low birth rates, decimation of populations or allied reasons. Languages more often die out because their speakers have abandoned them gradually. A language keeps ceding its roles one after the other to other languages, and then ultimately perishes. Similarly, speakers of primitive proto-languages in the Stone age (which may have been spoken in small geographical pockets) would have abandoned their languages at a certain point in time to assimilate with the larger populations of the region, as the factors promoting their linguistic assimilation would have outweighed factors working against it. Even they may have unknowingly followed the tenets of the net benefits approach.

We may represent this by means of a small example. A speaker subconsciously evaluates the benefits and demerits of using Language A and Language B (and possibly Language C and Language D as well) in a specific role and context and then takes a decision. Other factors will also need to be included in the assessment. These are Cultural factors, Social factors, ethno-biological factors, relative fluency, linguistic distance, relative ease of use, linguistic power and prestige, among other factors. This approach can have great value in modeling the decline and eventual death of languages. It can also be of great value in modeling the role-based usage and context-based usage of languages. This approach may be employed through fieldwork or interviewing, or by an external assessment. In such cases, the evaluator would be expected to have some familiarity with the culture being assessed, and understand all factors operating in the context where the assessment is being carried out.

We predict that the spread of English will continue worldwide till around the year 2050, and then gradually level off. After this English will continue to be the world's leading language. However, several other linguistic blocks will emerge, and different major languages will dominate the world. Many other less important languages will become subservient to them, but may try to compete with them. Role-based stratification of languages will increase, but English will continue to dominate in international communication, science and technology for some more time. However, the importance of other languages in science and technology will increase slowly. The number of languages will continue to fall rapidly, but will then level off. The total number of languages in the world may level off at a figure just greater than one thousand. The use of languages may eventually align themselves to maximize human creativity and productivity but there may be exceptions to this rule.

Linguistic acculturation

Acculturation is a process of social, psychological, and cultural change which arises when practitioners of one culture try to adopt themselves to another culture often known as the host culture, in the natural context of the latter. Acculturation leads to changes in many aspects of culture, including language. In some cases, the original language may continue to exist either in pristine or modified form, while in some other cases, it may simply vanish because an environment conducive to the learning of the language no longer exists. In some cases, the language of the immigrants may also influence the language of the host community. More than a hundred theories of acculturation have been developed by different researchers in different contexts. Many different acculturation strategies have also been proposed for different contexts. For example, assimilation is said to take place when individuals adopt the cultural norms of the dominant or host society. Separation occurs when individuals reject the host culture and choose to preserve their culture of origin. Integration occurs when individuals are able to adopt to the host culture while maintaining their culture of origin, leading to biculturalism. Marginalization occurs when individuals reject both the culture of origin, and the host culture. Societies may also be characterized as melting pot societies where as harmonious and homogeneous culture is promoted, or a multiculturalist society, where multiple cultures are accepted and cherished.

According to Fishman, language maintenance and language shift depend on the relationship between change or stability in habitual language use and ongoing psychological, social, and cultural processes, when populations speaking different languages are in contact with each other. According to him, this

would depend on (1) the habitual language use at more than one point in time or space under conditions of intergroup control; (2) the psychological, social and cultural processes related to stability or change in habitual language use under conditions of intergroup contact; and (3) the behavior toward language in contact setting. (Fishman 1966) Weinreich discusses the outcome of bilingualism in language contact situations and considers both linguistic and non-linguistic factors that may cause changes to usage patterns of different languages involved. Some of the factors are speaker's proficiency in each language, manner of learning each language, attitudes towards each language, and his capability and desire to keep languages separate. He also discussed the role of socio-cultural settings of language contact stating, "when a language contact situation is examined in detail, the interrelation of socio-cultural conditions and linguistic phenomena is apparent." (Weinreich 1974) Winford examined different types of language contact and suggested that the different outcomes stemmed from different social situations. In other words, language contact phenomena could be categorized and better understood by considering situations under which they are formed. The different contact outcomes were language maintenance, language shift, and language creation and these outcomes would be dependent on patterns of interaction. (Winford 2003) Linguistic acculturation would also be dependent on the ability and the desire to acquire a second language.

Masgoret and Gardner (2003) argue that the factors influencing second language acquisition are integrativeness, or the desire to be connected to the minority-language community, attitudes toward the learning situation, motivation, integrative orientation and instrumental orientation. Thus, attitudes toward the second language have an indirect effect on learning by influencing motivation. Language use of immigrants is much more role-based than native language speakers, and patterns of acculturation vary based on several factors such as the relative strength and prestige of different languages. According to Nishimura (1997) language choices of second generation Japanese immigrants living in Toronto depended on context. They spoke Japanese to native Japanese, English to locals and some immigrants of Japanese origin, and a mixture of Japanese and English to mixed groups. However, their Japanese contained some English words when they did not know the Japanese equivalents and their English made use of Japanese phrases and sentences symbolizing the speaker's identity. Dweik studied language loyalties among the Yemenites of Lackawanna in New York, and showed that language was primarily maintained as a result of religious factors, internal marriages and community sentiment. (Dweik 1998) What will happen after a couple of generations in all these cases remains to be seen. Better theories on linguistic assimilation patterns can probably come about as fieldwork-driven data expands and a robust mechanism to derive generalizations from such studies is put into place.

Second language acquisition

The circumstances under which second languages are acquired vary widely from context to context. While some children are raised in a multilingual environment, most do not learn second languages until much later. In the case of most individuals, skills in the second language are inferior to their skills in their first language, and definitely inferior to the skills of the native speakers of that language. However, in countries like India, a small number of elite students are unnaturally proficient in an alien language like English. A distinction must also be made between language acquisition and learning. Acquisition refers to the gradual acquisition of a language in a natural setting. However, second languages are

normally learnt consciously and with some degree of effort, often formally like Physics, Mathematics or Chemistry. Second languages are often learnt imperfectly. For example, Joseph Conrad, the famed English writer of Polish origin, became an accomplished novelist, but retained a strong Polish accent.

According to our hypothesis, the dynamics of language spread would be influenced by the ability or the inability of speakers of one or more languages in a region to learn the other more dominant languages in the region, or a wider region. This would determine the spread of languages in a region, both in totality and by role. As Fishman, Conrad and Rubal-Lopez have pointed out, acquiring a new language also often requires changes attitudes of speakers, and an enhanced level of awareness. According to Cooper, a new language requires awareness, evaluation, awareness and use, and such changes typically take time. Political awareness can play a role too, as well as an awareness of the principles of the science of language dynamics.

Various measures have also been proposed to assess the speed and efficacy of second language acquisition, such as the Input hypothesis and monitor model of Stephen Krashen, Michael Long's interaction hypothesis, Merrill Swain's output hypothesis, Richard Smith's noticing hypothesis, Elizabeth Bate's competition model, the model proposed by Chiswick and Miller, though there are variations in the approaches and assumptions behind these methods.

During the process of second language acquisition, an interlanguage is often employed and interlanguages may themselves become fossilized in the long-run or morph into a parallel language system. For example, attempts have been made to develop norms for Indian English, and West African English, though these have largely been unsuccessful. Interlanguage pragmatics is a new field of study which studies how non-native speakers acquire a second language, or features of a second-language through the use of interlanguage. Much research on interlanguage has been carried out by Larry Selinker, and Uriel Weinreich, with further inputs from Charles Carpenter Fries, Robert Lado and others.

The success of second language acquisition would depend on the nature of the language being learnt, the nature of the learner's language and the distance between them. It would also depend on the learner's preferences, attitudes and other factors such as the need to know. For a lingua franca or a second language to be successful, it must be easy to learn by speakers in different cultural, social and cultural contexts, and must also be as culture-neutral as possible. We believe that second language acquisition patterns must be evaluated based on fieldwork in different contexts, and existing second-language acquisition theories have tended to be somewhat Eurocentric. This will further proficiency of people in different languages, and impact language dynamics.

Transmission of language from generation to generation

The success of a language may also depend on the ability to transmit a language from generation to generation. Changes can also take place due to transmission of language from generation to generation. A generation may transmit additional words or expressions to the next generation which are more in tune with the times, or place additional emphasis on them, and choose to leave out certain other words which are no longer in widespread use. The frequency of usage of words or expressions may also change from generation to generation, and changes in pronunciation and grammar as also associated

with inter-generational transfer. Transmission of language becomes more complex in contexts where the native language is studied only as a second language, and in such contexts, standards of the language may fall precipitously after a few generations. Transmission of a language may also be impacted where a standardized form of the language is chosen for promotion and teaching in schools. Language transmission must be studied in all these scenarios, and patterns of variation in transmission assessed. This idea must also be linked with the concept of linguistic mindspace and attitudes towards languages. In some other cases, native language speakers mix with non-native speakers to create new patterns of transmission. This scenario may also be associated with a fall in the standard of a language in some cases. Thus, language transmission may be studied in both in native and alien contexts, and the two scenarios are referred to as enculturation and acculturation respectively. Language transmission may also be classified into purely vertical language transmission, and vertical language transmission in conjunction with horizontal and lateral factors. Many different factors can impact language transmission, and these may be the ability to formalize grammar and diction as well. Patterns of language transmission, and patterns of language learning will therefore play a crucial role in language dynamics.

In complex societies, languages must also be taught formally, and the pedagogical techniques used and the properties of the language taught are also important. Cultural transmission is the way a group of people or animals within a society or culture learn and pass on information to subsequent generations. Learning styles are greatly influenced by how a culture socializes with its children and young people. Research has primarily focused on differences between Eastern and Western cultures (Chang, et al., 2010). Some scholars believe that cultural learning differences may be responses to the physical environment in the areas in which a culture was initially founded (Chang, et al., 2010). These environmental differences include climate, migration patterns, war, agricultural suitability, and endemic pathogens. Cultural evolution, upon which cultural learning is built, is believed to be a product of only the past 10,000 years and to hold little connection to genetics (Chang, et al., 2010). It must be emphasized here that cultural transmission here may not only consist of linguistic skills, but also attitudes and loyalties which are key to language learning, and the survival of languages in different contexts.

The pedagogical techniques and language teaching methods employed in a particular region, as well as the importance given to teaching in the mother tongue can also have a vital influence on language dynamics. Whenever the medium of instruction is an alien language, it would impact language dynamics differently. Pedagogy refers to the practice of teaching and the theory of learning, and is inextricably tied with linguistics. Language pedagogy encompasses theories and practices related to the teaching of first, second or foreign languages, and must be studied in diverse situations and scenarios. In addition to general theories and principles, pedagogical methods must be evaluated in relation to society, cultural and linguistic preferences and attributes of a language. The field is still evolving, but this is a critical metric for the success of teaching of a language, and its transmission for posterity.

The issue of codifiability and medium-transferability must also be brought out in this connection, given that most languages evolved as spoken languages or dialects. Thus, languages that can be formally codified and taught can be more easily be passed on from generation to generation. For example, languages that are not standardized, possess complex grammar or orthography, or exhibit diglossia as

opposed to isomorphic properties cannot be codified easily. For example, it may be difficult to codify a language like Malayalam, in comparison to a language like English or Hindi. Future researchers may wish to develop 'codifiability indices' and 'codifiability metrics' in this regard to rank and order languages on the basis of this attribute.

Enforced Monolingualism versus enforced multilingualism

Whether nations choose to promote monolingualism or multilingualism is a matter of policy, and such policy decisions would impact language dynamics greatly. Some societies go to great lengths to downgrade, even eradicate, the languages that immigrants bring with them while trying to teach other foreign languages in schools. Some countries have encouraged or even mandated the learning of the languages of immigrants in schools, either as a medium of instruction, or as a second language. Needless to say, these policies which may often be determined by politics, ideology, or cultural, social or historical factors, will impact the dynamics of language at a national or an international level. We review some examples of language policy below.

France is an example of a country which has a single national language but offers limited support to its other languages. Most inhabitants simply assume that French is the de facto national language of France and other local languages like Provencal or Breton are not popular in public awareness. Likewise, if immigrant groups to France, like Algerians or Vietnamese immigrant groups, want to preserve their languages in France, there is limited government support. The apartheid regime in South Africa finally collapsed in the 1990s, and equal rights were extended to all ethnic groups. A new constitution was drawn up and the official languages of the Republic were Sepedi, Sesotho, Setswana, Iwati, Tshivenda, Xitsonga, Afrikaans, English, Ndebele, Xhosa and Zulu. In other words, the new state was to define itself in terms of linguistic pluralities, giving equal status to eleven languages. The desire to enforce the multilingual, multicultural nature of South Africa contributed to this policy, but the historical role that language has played in oppression also played a part in the selection of languages.

Upon gaining independence, Vanuatu inscribed slightly different decisions into their Constitution than South Africa did. The national language of the Republic of Vanuatu was declared to be Bislama, while the official languages were declared to be Bislama, English and French. The functions of each language were also clearly demarcated. The principal languages of education are English and French. Additionally, different local languages that were a part of its heritage were also to be protected. The USA valued diversity in its early period, and did not attempt to deny individual liberties in language. However, in the later nineteenth century, a monolingual tradition arose, and an emphasis was placed on Standard English as a tool of integration. This had a devastating impact on native languages, and the Navajos and other Native Americans are now imparted education in English. The Cajun French dialect of Louisiana appears to have survived the onslaught of English fairly well, but is now slowly dying. This has also led to teachers and policy planners actively promoting assimilation. (Hernandez-Chavez 1978) This may have allowed English to eventually triumph in the United States with barely a whimper of protest from speakers of other languages. Australia too, has been striving to promote multi-lingualism of late by encouraging indigenous languages. (Clyne 1982 and 1986), and New Zealand has been promoting the use of Maori.

Countries like Canada, Switzerland and Belgium are also officially bilingual, and of these, the case of Switzerland is the most successful and problem-free. Canada promotes both English and French, and there are stringent French-language laws in Quebec such as the Bill 101 which was introduced in 1977. Canada also has policies to promote aboriginal and non-official languages. In Belgium, Flemish is used in addition to French and German. In all these cases, awareness, policy frameworks and implementation, legislation, the social and cultural dimensions of language, nature of relations between linguistic groups, and federal frameworks have led to different outcomes.

Cobarrubias (1983) has identified four ideologies that motivate decision-making in language planning in different countries: these are linguistic assimilation, linguistic pluralism, vernacularization, and internationalism. Linguistic assimilation is the belief that everyone, regardless of origin, should learn the dominant language of the society, and this approach was followed by France and the United States. Linguistic pluralism, the recognition of more than one language, is followed by Belgium, Canada, Singapore, South Africa, and Switzerland, and can take on many different forms. Vernacularization is the restoration of an indigenous language and its adoption as an official language, e.g., Bahasa Indonesia in Indonesia; Tok Pisin in Papua New Guinea; Hebrew in Israel; Tagalog in the Philippines; and Quechua in Peru. Internationalization is the adoption of a non-indigenous language of wider communication either as an official language or for such purposes as education or trade, e.g., English in Singapore, India, the Philippines, and Papua New Guinea.^{65 6667}

Some experts see multi-lingualism as a nuisance, while others see it as an asset. The Swann commission report of the UK (Swann 1985), for example, sees multi-lingualism as impractical in most situations. From a predominantly mono-lingual point of view, having multiple languages is considered to be a nuisance, and teaching them is a burden. (Pattanayak 1986) Other experts have recommended integration of minorities into British values, and most prefer teaching minority children in English. In many linguistic rights were fought for or bargained. For example, Rajasthani speakers fought for inclusion of their language in the Eight Schedule of the Indian constitution, and a similar campaign is underway by Bhojpuri speakers. In some cases, immigrants who fled war or famine in their own countries did not have access to learning in their own native languages in their host countries. Examples of these include Liberians in Ghana or Nigeria, Sierra Leoneans in Ghana, Somalians in Kenya, and Rwandans and Angolans in Congo who were often denied the right to be educated in their respective mother tongues.

Some countries have switched from enforced mono-lingualism to enforced multi-lingualism or the other way around. Early in its history, the USA valued diversity of language, and did not attempt to interfere with language dynamics. However, late in the Nineteenth century, the USA switched to a monolingual tradition, and English was encouraged in all spheres of activity. This naturally impacted native languages adversely, as many Native Americans were taught in the English language. Bi-cultural and multi-cultural

⁶⁵ Language Use and Language Attitudes among the Muslim Arabs of Vancouver, Canada: A Sociolinguistic Study Prof. Bader S. Dweik1, Mohammed Y. Nofal1 and Rahmeh S. Qawasmeh, International Journal of Linguistics and Communication June 2014, Vol. 2, No. 2, pp. 75-99

⁶⁶ Changing Language Loyalty and Identity: An Ethnographic Inquiry of Societal Transformation among the Javanese People in Yogyakarta, Indonesia by Lusya Marlina Nurani

⁶⁷ A SOCIOLINGUISTIC INVESTIGATION OF LANGUAGE ATTITUDES AMONG YOUTH IN MOROCCO BY BRAHIM CHAKRANI, 2010

identity has also been recently encouraged in Australia and New Zealand, with both commissioning national language policies (Lo Bianco 1987).

Bilingualism or multilingualism may be of many types. In the first hypothetical scenario, bilingualism or multilingualism may be perfect, implying equal proficiency of languages. In most cases, there would be one of more dominant language, and one or more subordinate languages. From a psycholinguistic point of view, they are divided into compound or co-ordinate, depending on whether they are integrated at a deep level of psychological organization, or stored separately. This would often be a function of the linguistic distance between the languages in question.

The Local language theory which is a part of 'Nativity versus immigrants' debate proposes that the native languages of a region must be promoted and encouraged as far as possible or practicable, and that native speakers of a region deserve better linguistic rights than immigrants. It would also stand to reason that immigrants cannot trample over the rights of the speakers of native languages in a region. This is a noble idea, but has seldom been adhered to by policy planners down the centuries.

Spoken dialects may change faster than written languages

Spoken languages are more widely used even in today's industrialized societies, and often for a much greater variety of purposes, and writing serves as a functional substitute for speech only where oral communication is less reliable and efficient. Spoken languages unaccompanied by written scripts are however, prone to 'rapid fading' and may transform themselves rapidly in the absence of a tradition posited as a frame of reference. On the other hand, spoken languages have also often been associated with tradition, as exemplified by the old English epic poem 'Beowulf', which may date before the Ninth Century. Likewise, the Rig Veda was passed on as an oral tradition since at least 1500 BC, as was codified even in the absence of a written medium, and was passed on without change, and like a tape-recording for centuries. Change of spoken languages can be impacted by cultural factors too. Bright (1960) carried out a study of linguistic change in Kannada, a Dravidian language. He examined Brahmin and Non-Brahmin dialects, both of which originated from Old Kannada. He postulated that the Brahmin dialect underwent a great deal of unconscious change. According to Bright, although conscious linguistic change originates among members of the higher social strata, unconscious change is natural in all strata where the literary factor does not intervene. Labov (1981) in another analysis of linguistic change, also talks about changes brought from below (sub-conscious changes), and changes from above (conscious changes). Thus, the channels of communication (and the oral-written medium mix) may vary widely from context to context, and must be considered in any study dealing with language dynamics.

Spoken language determines the direction of linguistic development

In this scenario, spoken language determines the direction of linguistic development. This may happen when literacy rates are low, or languages are not formally codified. This is usually associated with dialexia, a term that we had introduced in an earlier paper. i.e., Spoken vocabulary is limited, or low in co-relation to written vocabulary. Such scenarios are also sometimes associated with less developed languages. Some such languages may not possess scripts at all. Such languages may be confined to some roles and contexts, but may still propagate. However, the dynamics of spread of such languages may be

different from those of written languages, and both factors and factor weightages may be different. As such linguists would be advised to make a clear demarcation between the two scenarios. An interesting manifestation of this is the spread of language through mass media. For instance, many Non-Hindi speaking Indians have picked up spoken Hindi through radio and television and not through personal contact. Many are even functionally illiterate in the language. i.e., their other words, their ability to read and write the language is minimal or non-existent.

Written language dictates the dynamics of language

In this scenario, innovation primarily happens through the written medium. This may be due to increased literacy, or in some cases, universal literacy. An example of this is the USA, which achieved universal literacy in the late 1800's. India is moving in this direction, but increased literacy is compounded by multi-lingualism and the fact that many Indians are not proficient in any one language. This is also combined with the marginalization of Indian languages. Another related idea is that of the democratization of written language, and commonly occurs in tandem with the wide spread of literacy. For example, the Italian poet Dante Alighieri (1265 to 1321) wrote "Divina Commedia", the most important poem of the Middle Ages, in a dialect of present-day Italian as opposed to Latin, and this popularized literature greatly among the masses. This is also often associated with the democratization of scripts, and a conscious effort to promote mass literacy. On the other hand, there have been movements promoting liturgical or sacerdotal tradition, and proscribing popular access to it, such as access to Vedic texts in Ancient India, and the Sanskrit language itself.

Change in script impacting language dynamics

In some cases, changes in script can also trigger changes in language dynamics by making languages more popular or less popular. They can help or hinder mass literacy, and also make languages more or less insular. Changes in script have occurred many times in the past, and examples include.

- The old German Gothic script 'fraktur' which itself replaced Schwabacher in the sixteenth century was replaced by the Roman script, and this led to an increase in literacy and cultural awareness.
- The old Marathi script ('Modi' script) which was believed to have been created by Hemadpant in the thirteenth century, or Balaji Avaji in the fifteenth century, and was replaced by the Devanagari script. This may have made it easier for Marathi speakers to learn Hindi, and may have boosted the demand for Hindi in some way as well.
- The Roman script was adopted in Malaysia and Indonesia discarding the old Jawi script which was a derivative of the Nabataean script and the Arabic script, with the latter being used only in some contexts in some Malaysian states, and in Brunei. This may have boosted literacy greatly, and made it easier for Malaysians and Indonesians to learn English, even though the Malaysian government discounted the learning of English greatly.
- The relatively simple Korean 'Hangul' alphabet was created by King Sejong the Great in the fifteenth century, and is used by both South and North Korea.

- Traditional Chinese versus simplified Chinese: Simplified Chinese characters were promoted by the Chinese government since the 1950's to increase literacy. However, traditional Chinese characters are still used in Hong Kong and Macau.
- Cuneiform was one of the world's earliest systems of writing invented by the Sumerians of Ancient Mesopotamia. It is characterized by wedge-shaped marks on clay tablets, made though a reed or a stylus. However, Cuneiform was considered difficult, and was only used by small groups of people.

Langue de Culture versus Linguiculture

A langue de culture (French), Kultursprache (German) or a language of culture is a language which is a vehicle of high culture. Such languages are associated with a high degree of cultural accomplishments, and even ethnocentricity or linguistic pride. Such languages are associated with arts, literature, theatre, drama and the fine arts. In such cases, the language acts as a medium of propagation of cultural icons and soft power, and to a smaller extent, grey power and hard power. Such languages also tend to have a high demand outside their native contexts, and are learnt by people who look up to them as ideal languages.

In addition, we propose the term linguiculture (as opposed to the term linguaculture which refers to the cultural aspects of language) which may refer to a culture where language plays a major role in formation of cultural identity and personal or group identity. In such cases, linguistic identity normally overrides religious, biological, national identity, or any other cultural icon. Examples of linguiculture from our perspective may be France and Tamilnadu. Linguicultures may also possess unique attributes and views of the world which set them apart from other languages, though this may not always be the case. Linguicultures may also be associated with linguicism, and the characteristics of linguicism could include:

- Importance given to native language in culture particularly in formal and educational contexts
- Degree of entrenchment of a language in a society
- The presence of political institutions promoting or safeguarding the language
- The presence of a corpus of art, literature and its association with mass media
- Advancement and promotion of the language abroad
- Importance given to linguistic accomplishment in general
- The impingement of language on all other aspects of culture
- A high degree of awareness of linguistic rights

In such a case, language is inextricably intertwined with society and can only be studied in relation to society, its mores, norms, rules etc. The Sapir Whorf hypothesis may have some implications for language dynamics too, as it may impact verbal intelligence, and the success of a language in the global marketplace. This hypothesis is a form of linguistic determinism and simply states that speakers of a language which lacks a word for say 'snow' may not be able to conceive it, visualize it, or express it. The Hopi Indians of Arizona may also perceive the world differently from Europeans due to differences in language, and the latter was called Standard Average European for the purposes of this study. However, this hypothesis may have its limitations, and was criticized by Pinker, Deutscher and others. For example, words can easily be imported to fill in lexical gaps. Similarly, ideas can be expressed in many

different ways, using many different words and expressions, instead of just one. This would constitute a form of a workaround, and we propose to call this a linguistic workaround. This may have other advantages to as languages with lexical simplicity are less demanding, and may spread faster. We therefore introduce the principle of 'econolexia' here. Per this principle, a language where the greatest number of thoughts and ideas can be expressed with the minimum number of words and expressions often using linguistic workarounds would tend to be more popular. This factor must also be assessed along with a language's grammatical simplicity and ease of use. A distinction must also be made between spoken and literary forms of a language, and usually only the active spoken vocabulary will be reckoned for an analysis.

Languages may also be used in different ways and in different roles by different speakers, and languages may be highly differentiated based on levels of competence of speakers. Speakers may easily shift to more widely used languages over a period in time. This may be especially true of elites who are the most influential group in a society. Sampson (1980) and others have also provided a criticism of the Sapir-Whorf hypothesis. For example, *La pierre, or the stone*, is feminine in French, but most Frenchmen don't believe it to be feminine at all. This is true of all nouns in French, and languages like Hindi as well. Thus, languages may also be associated with High-culture and low-culture. Additionally, some cultures exhibit a feeling of Cultural superiority, while others exhibit a feeling of cultural inferiority, and may exhibit a strong desire to merge with speakers of other languages. This should put to rest any proposal championing the idea of the absolute equality of languages.

Linguistic activism

As defined by Florey, Penfield and Tucker, language activism is energetic action focussed towards preserving languages and promoting linguistic diversity. Linguistic activism is usually preceded by generation of awareness which usually begins with elites or intellectuals. This may then be followed by political mobilization. Linguistic activism is tied to the idea of resistance identity, and may also be directly proportional to the level of awareness in a society. Linguistic activism may often manifest itself after periods of dormancy, and in theory the only other alternative to linguistic activism is acquiesced subjugation. In other words, linguistic activism would manifest itself sooner or latter, unless the group in question has reconciled itself to the hegemony of another group. Linguistic activism has often led to policy changes such as the retention of English as the official language in India in 1965. Dravidian language activists have also championed the rights of Non-Hindi speakers in India, and have successfully reversed many policy decisions of the Indian Government. Other language activists fought for linguistic states in India. For example, Potti Sriramulu's fast-unto-death led to the formation of the Telugu-speaking state of Andhra Pradesh in 1956, setting the stage for many other states to follow suit. Language activism has also been witnessed in many different parts of the world. For example, Zimbabwean minority language groups have resorted to activism to promote their languages in many spheres.

Linguistic activism may be driven by a genuine fear of persecution or may be driven by vested interests, and whenever vested interests are involved, groups will make the best effort to thwart or quash the paradigm in question. Thus, a conscious effort may need to be made to identify all the vested interests

involved in a given context or linguistic unit, and predict how they will react, or position themselves in a given situation. Awareness and knowledge of international law may also play a crucial role here, and some cultures are linguistically more aware than others. This has been demonstrated even in a country like India, where Tamil language speakers are linguistically more conscious than Malayalam language speakers. Speakers of Bhojpuri and Mythili have also reconciled themselves to the hegemony of Hindi much more easily, as had some ethnic minorities in the erstwhile USSR, but a case by case study may be warranted to identify preferences and behaviour among different groups.

Linguistic Human rights

The idea of human rights goes back several centuries, and is closely related to social and cultural rights. Linguistic rights are the human and civil rights concerning an individual's right to maintain his or her language, and choose the appropriate for private or public discourse, and linguistic human rights are a combination of linguistic rights and human rights. Treaties signed after the conclusion of the First World War attempted to ensure recognition for many minority groups in Europe. Since 1945, many universal declarations, and declarations of linguistic rights have been made. Article 27 of the International Covenant on Civil and Political Rights (1966) declares: "In those states in which ethnic, religious, or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with other members of the group, to enjoy their own culture, to profess and practice their own religion, or to use their own language". This article also imposes on states the requirement to actively promote minority languages. The UN charter also calls on nations to outlaw linguistic discrimination. A major study by the UN in 1979 studied the de jure and de facto treatment of linguistic minorities, and concluded that they were in need of greater legal protection.

Dimensions of language rights can be classified based on the degree of overtness (from overt to covert), the degree of promotion (from prohibition of language, toleration of it, non-description prescription, permission to use it, to promotion of it). Several European parliament resolutions such as the Kuipers Resolution of 1987 recommend that regional minority languages should be taught in official curricula from nursery to university. The European Community supports the promotion of lesser used European languages, while the Conference on Security and Co-operation in Europe, also seeks to guarantee the rights of linguistic minorities. Calls for support for endangered languages have been made by the Council of Europe's proposed European Charter for Regional or Minority languages, the UN (Draft Universal Declaration on indigenous Rights) and UNESCO which is also committed to the Universal Declaration of Linguistic Human Rights. Collaboration between linguists, legal experts, human right specialists and planners was formerly weak, but is now increasing. (Pupier and Woehrling 1989) A more recent declaration is the Universal Declaration of Linguistic rights of 1996, also known as the Barcelona declaration. Even though many linguists and human right activists are working in this field, very little headway has been made due to individual nations' sovereign rights, and their tendency to interpret international guidelines differently and subjectively.

Artificial languages and language dynamics

Artificial languages are also known as constructed languages, planned languages, invented languages or conlangs, and their vocabulary syntax and diction are developed through artificial processes, and often at a point in time. For example, Esperanto is a constructed international auxiliary language. It was created by the Polish ophthalmologist L L Zamenhof in 1887, who hoped it would be easy and flexible to learn. It used the Latin script, but was not very successful. However, less than ten thousand speakers of Esperanto can be found in Europe and North America, and many conferences on Esperanto have been organized in different parts of the world. Most Artificial languages reflect the whims of their inventors, and have been far removed from reality. For example, Esperanto, though far easier to learn than languages like French, was largely modelled on European languages, and may have been difficult for people from other parts of the world to learn. Such languages also failed to achieve a nexus with political or cultural power. Consequently, most have failed, and have scarcely impacted language dynamics. Large states in this regard “The very number of artificial languages invented indicates a deeply-felt need, at least among the linguistically inclined, to impose order and rationality on the haphazard instruments which have evolved for human communication. Points of syntax are disputed endlessly, yet there is very little debate about the way in which the international auxiliary or the world language would actually be chosen and implemented. Perhaps this is not very surprising: it is a shame to sully the intellectual discussion of language with the grubby facts of political reality. If supporters of an international language are to win credibility, however, reality, no matter how unpleasant, must be confronted”. (Large 1983)

Many languages are also a cross between natural languages and artificial languages. Examples of codified languages are codified Sanskrit and codified Tamil, and such languages often have prescriptive grammars. Many languages are artificial to some degree, with some invented vocabulary and word-borrowings from languages that may not be ideal in a given context. Some aspects of most languages are established by convention, and examples of these are the borrowings from Sanskrit into most Indian languages, a process that may have been kick-started by the development of literary works in these languages.

Attempts to revive dead languages

The revival of Hebrew took place in Palestine and Europe towards the end of the Nineteenth century, and the Twentieth century. The language changed from a sacred language in Judaism to a spoken and written language used in daily life in Israel. This process was kick-started when a process of synthesis between the pre-existing (and by then Arabic-speaking) Jews of Israel began to interact with newly arriving Jews from other parts of the world. Thus, Hebrew became the linguistic common denominator for all Jews around the world, and therefore, the preferred lingua franca. This was also accompanied by a revival of Hebrew as a liturgical language in Europe. This remains the most successful attempt to revive a dead deed language till date. Other than Hebrew, languages that have been revitalized with a fair degree of success are Irish, Welsh, Hawaiian, Cherokee and Navajo. In Mexico, there are attempts to revive the Mixtex language, and similar efforts are underway in Easter Island with Rapa Nui. The wisdom of language revival is contested. Some support the idea of language revival as a key to salvaging humanity’s linguistic heritage, while linguists such as John McWhorte and Kenan Malik remain sceptical of the wisdom of such moves.

Heritage language maintenance is also popular in many parts of the world, and is being increasingly attempted across different contexts. (Van Deusen-Scholl 2000) It is difficult to arrive at a consensus on what a heritage language is, but it may be likened to a legacy language, and is central to the identity or heritage of the ethnic group. Its interpretation may also vary from context to context. For example, Spanish may be viewed as a heritage language in the USA, but not in Mexico or in Spain.

Linguistic anarchy

Linguistic anarchy arises when the government or educational authorities are unable to reach a compromise or work out a solution that is acceptable to all linguistic groups. Alternatively, the government may be unable to force its writ within its own jurisdiction due to various factors. In other cases, there may be very little by way of a formal and structured education system, and society may itself be tottering in the brink or collapse or failure. In some other cases, contradictory trends, or several sets of contradictory trends may operate, (including contradictory policy prescriptions) and there may be no formal mechanism for reconciliation. In such cases language dynamics may operate differently, but in accordance with various principles mooted in this paper. Per our analysis, the Indian state of Andhra Pradesh may be moving from illiteracy to linguistic anarchy. This is because there is a new thrust on English schools, but teachers have not been trained to teach properly in English, and neither are they proficient in it. Given the absence of an English speaking environment in the state, and potential differences in policy recommendations of different political parties in the state, students may become proficient in neither English nor Telugu.

Linguistic autarchy

Linguistic autarchy arises from a situation of complete isolation. An example of a society practicing cultural, and consequently linguistic autarchy is North Korea, whose Korean has diverged from that of South Korea and is marked by a complete absence of English words. Michael Montgomery (2000: 44–45) discusses several types of isolation that may have a linguistic impact. Isolation can be due to factors such as:

1. Physical, or geographic (i.e. the remoteness of a community)
2. Sociological (types of contact with other communities)
3. Economic (The quantum of external exchange of goods, ideas, etc.)
4. Psychological (how open a community is to others communities and what attachments exist with its own culture)
5. Cultural (distinctive practices and beliefs of a community)
6. Technological (technological contact with other societies)

Staging area and zone of influence

The concept of staging area and zone of influence come into play, when a language is in a position to influence or dominate other languages in a wide variety of ways. A language is usually more influential if it occupies a pre-eminent position geographically, but this must be studied in conjunction with other factors such as political factors and cultural factors which may or may not emanate from geographical factors. Historical factors such as a linguistic or a political unit's irredentas must also be taken into

consideration. An example of an influential language is Sanskrit which operated from an influential geographical position in North India, and was in a better position to influence Dravidian languages than the other way around. This is a factor that must always be taken into account while modelling language dynamics and would lay to rest assertions of Dravidian nationalists that the commonalities between Sanskrit and Tamil were a result of Dravidian loan words borrowed into Sanskrit. Sanskrit also enjoyed a wide geographical zone of influence due to its cultural dominance than Tamil did, and this type of a geographical zone of influence at different points in time can be mapped methodically for different languages. Such models can be ratified with different factors such as the results arising from etymological studies.

Modelling Predatory languages and identifying their potential victims

A predator refers to an animal that naturally preys on others or to a person who normally exploits others. A predatory language is a language that tends to destroy, or gobble up small languages, or prove a danger to their existence. In many cases, that may encroach upon them slowly, and undermine their functions. Most major languages have predatory tendencies, however innocuous they may seem. Thus, it is imperative to identify predator languages in different parts of the world, as well as their potential victims, as this will have a bearing on the survival of languages, and consequently, language dynamics. This is summed up by Thomas de Quincey assessment of English as a predatory language, “English is travelling fast towards the fulfilment of its destiny, running forward towards its ultimate mission of eating up like Aaron’s rod, all other languages.”

Although Hindi has naturally failed to replace English, it has contributed to the slow decimation of minor languages across North India. Some one hundred and fifty dialects were once spoken in the united Provinces alone, and most of these are now dying. The opposition towards the imposition of Hindi in Tamilnadu began in 1937, and were led by Periyar and other Dravidian nationalists, due to attempts to make the learning of Hindi mandatory in the Madras presidency. Anti-Hindi agitations resurfaced in 1965 when an attempt was made to make Hindi the sole official language after a fifteen year time period. There were minor Anti-Hindi agitations in other parts of India such as the Sambalpur agitation of Odisha. Some Bengali and Telugu people likewise opposed the promotion of Hindi at the cost of other Indian languages or the mandatory study of Hindi. However, anti-Hindi sentiment was strong in Tamilnadu as it was coupled with the Dravidian ideology there.

English is now by far the most important language in the world, and has emerged as the world’s premier lingua franca across all continents. It is popular as a language of science, communication and the internet. However, it has also emerged as a great leveller of minor tongues, both in the UK, and beyond. Minor tongues in Wales, Scotland and Ireland are now disappearing. Many native languages of North America have already perished, or are likely to perish in due course. It has already disempowered and disenfranchised many languages of India, which also additionally, in some cases, face the onslaught of Hindi. The staging area of English is global. Only a few pockets across the world remain entirely unaffected by it, although in many regions its influence is only marginal or peripheral.

Few would consider Telugu to be a predatory language, given that it has never been associated with any ideology: However, Telugu has threatened the existence of several minor languages in the North-East of the state in the Araku region, and is slowly destroying languages like Chenchu as well. It is also encroaching on the languages of ethnic minorities in Telangana, such as those of the Raj Gonds of Adilabad. Therefore, a complete repository of predatory languages from different regions along with a study of the effects they have on other languages would be required for predicting future language scenarios.

Sinhala is an Indo-Aryan language spoken by the Sinhalese people of Sri Lanka, who make up the majority of the people in the Island nation, and is similar to the Divehi language. It is also understood by most people living in the island including many Tamils. The oldest Sinhalese Prakrit inscriptions date from the second and third centuries BC, while Sinhala broke out into a full-fledged literary language in the ninth century. The ancestors of the present-day Sinhalese are believed to have migrated from the Orissa coast a few centuries before the Christian era. Given that the migrations could have at best been small, a vast majority of inhabitants of the island must have been autochthonous in origin. This would imply that the language was predatory from an early stage, unlike Sanskrit of India which killed itself, and the indigenous tribes of the Island, many Veddahs and others included, must have adopted the language of the immigrants. However, the development of Sinhala may have been a two-way process, with many indigenous languages contributing to the process of development of the language. The language has now begun to encroach on the languages of the Veddahs and others, and now, four million Non-Sinhalas use the language on a daily basis. Since the 1950's, Sinhala chauvinism has manifested itself in many forms, with the blessings of hardliner groups such as the Bodha Bala Sena, but it remains to be seen how this type of chauvinism can successfully promote the language. Instead, it appears to have bred Tamil chauvinism and secessionism. The Bengali language movement of East Pakistan was a linguistic movement which sought some rights for the Bengali language in a united Pakistan such as its usage in media, administration, education and politics. After the declaration of Muhammad Ali Jinnah in 1948, selecting Urdu as the sole national language, protests broke out in East Pakistan. This led to extensive protests in East Bengal, in the University of Dhaka and other places, and the government was forced to ban rallies and public meetings. This was one of the factors, leading to the independence of Bangladesh in 1971. In Bangladesh, 21st February is observed as the language movement day, and the Shaheed Minar movement was constructed in memory of victims of the Bengali language movement.

Thus, the relationship between predator languages and their potential victims must be examined in diverse contexts, also taking into consideration other principles in this paper, as they will have a bearing on language dynamics in the long-term. Examples of such studies would be the relationship between English and other languages of the UK, the relationship between Hindi and other languages in India, through both space and time.

Lingua Francas and study on use of lingua francas

People who speak different languages and are in contact with each other must find some way of communicating, and such a language is called a lingua franca. UNESCO defined a lingua franca as 'a language which is used habitually by people whose mother tongues are different in order to facilitate

communication between them' (Barotchi 1994: 2211). According to the Makarere report issued at a conference in Uganda in 1961, a lingua franca is "Any language which is widely used, or taught in schools in the country, but which is not the mother tongue of all." A lingua franca could be an internationally used language of communication like English, one of the languages of two or more groups, any other external language, or an artificially created language. The study of the use and spread of lingua francas can be used to model language dynamics, though the field is in its infancy. At one time or another, Greek koine and Vulgar Latin were in use as lingua francas in the Mediterranean world and Europe. Elsewhere, Arabic, Mandarin, Hindi, and Swahili have served as lingua francas. Of these, Arabic is a lingua franca associated with the spread of Islam. Today, English is used in very many places and for very many purposes as a lingua franca, for example, in travel, business, technology, and international relations. A lingua franca can be spoken in a variety of ways. Not only are they spoken differently in different places, but individual speakers vary widely in their ability to use the languages. Swahili is a lingua franca of East Africa spoken on the coast, primarily in Kenya and Tanzania but also as far north as Somalia and as far south as Mozambique, where it has been spoken as a native language (Polomé 1967). However, it also spread as a lingua franca inland and it is used in education in Tanzania, Kenya, Uganda, Rwanda, and Burundi; it is also widely used in politics and other public venues through the Great Lakes region (Kishe 2003). A region's lingua franca may also change from time to time. For example, French is no longer a dominant lingua franca in Belgian Congo, and has largely ceded this role to four other languages which have emerged as vehicles of inter-ethnic communication.

Lessons learnt from declining languages

Lessons can also be learnt from declining languages, and causes for the death of languages must be analysed from diverse contexts. Data has shown that language mostly die not due to political or historical reasons, but because people simply stop using them. Languages whose use falls below a critical mass, fall out of favour, and are seen as irreversible. In some cases, languages die because old forms are replaced by new forms, and this is akin to pseudo-extinction in Physical Anthropology. Of out the seven thousand languages spoken worldwide, over ninety per cent may eventually perish, and the question is not if but when.

For example, Irish is now seen as a declining language, with low regular usage, even in the Gaeltacht, but the Irish have used it for most of their recorded history. However, this language is now taught throughout Ireland, and has some institutional support. An interesting preliminary outcome of a study is that Irish spoken in urban areas is diverging from Gaeltacht Irish, even to the point of becoming unintelligible with it. Causes for the decline for French, and causes for the decline of Latin can also be analysed from a historical perspective, and the concepts mooted in this paper such as the 'Theory of linguistic osmosis', can also be put to useful effect. Many other examples of dying languages can be found in Europe. For example, Scottish Gaelic which is a Goedelic language, an offshoot of Old Irish, and a member of the Indo-European language family, is in retreat, and is listed as a threatened language by the Endangered Languages Project and the UNESCO. The Welsh are also becoming bi-lingual, and the Welsh language, a Brittonic language of the Celtic language family, is in retreat with only one out of five people being able to speak it proficiently.

In Brittany or Bretagne, Standardized French is replacing Breton which is a south-western Brittonic language of the Celtic language family, a group of related languages believed to have been derived from Proto-Celtic. This language is thought to have been brought from Britain in the Early Middle ages, and may eventually follow the Gaulish language into extinction. Some other members of the Celtic language family like Galatian are already extinct.

The Andamanese languages comprise two languages spoken by the aborigines of Andaman and Nicobar islands. This includes the language of the Sentinelese which is unknown. These languages were first studied by Alexander John Ellis in the Nineteenth Century. Once proud languages like Great Andamanese are now on the brink of extinction, and only a few speakers survive. The younger generation speaks dominant and widely-spoken Indian languages, and many indigenous languages of the region are unlikely to survive the present century. The Ongan language survives because of the relative hostility towards outsiders, and lack of interaction. In addition to the Seninelese, the Jarawas have also shunned contact with outsiders. Other groups like the Jangil are now extinct, and nothing is known about their language. The Shompen languages are languages spoken by the Shompen people, who appear to be biologically different from other tribes in the region. Even well-entrenched languages may eventually perish. Boa Senior, one of the last speakers of Bo, one of the ten Great Andamanese languages died in 2000, and the language is now dead as the younger generation has no fluency in it. Other examples of dying languages include the Kiyimchak language spoken in Crimea, Tsakonin in Greece and Hertevin in Turkey. A famous extinct language was the old Gaulish language of France and other parts of Europe during the period of the Old Roman Empire. This language was an old Celtic language, and used the Old Italian script.

Thus, the death or decline of languages must be systematically modelled, often in conjunction with other factors such as political or historical factors. In 1500 BC, the Sumerian language disappeared from everyday use, and was replaced by Akkadian, because the people of that area were conquered by Akkadian people. Some generations may have been bilingual, but more and more functions may have been ceded to Akkadian. This again must be studied using a multi-disciplinary approach co-relating it with results from fields other than linguistics. This would entail collaboration with historians, anthropologists, and archaeologists as well. Similarly, English became a universal language in Cornwall only in the Eighteenth century, having displaced Cornish, a Celtic language related to Welsh, and a descendant of Brythonic Cornish. The last known fluent native speaker of Cornish was an old lady who died in 1777. However, there have been attempts to revitalize the language ever since along with other aspects of the culture, and the major one occurred in the middle of the Twentieth century.

Lessons learnt from successful and rapidly spreading languages

In many cases, lessons can be learnt from the spread of successful languages either in a region, or across the globe. Salutary lessons can therefore be drawn from such case studies. For example, the causes for the spread of English, French and Spanish across different parts of the world, and the spread of languages such as Hindi and Swahili in non-native contexts can also be analysed. Languages such as Mandarin, Korean, Japanese and German are also widely seen as languages of success. The spread of these languages must be assessed in the context of diverse factors such as political, economic, cultural

and pedagogical factors. In addition, their usage in diverse cultural and economic contexts must also be assessed.

Language and Identity

Identity is often a people's source of meaning and experience. (Castells, 2010) Identity can be either purely personal identity, or collective identity in relation to society. The former is an interplay between the self and a vertical or inter-generational database of information, while the latter is an interplay between the self and society. Children first form their personal identities from family values and nurture their social identity through the schooling system. Identities are the traits and characteristics, social relations, roles, and social group memberships that define who one is. (Oyserman 2012)

The issues of self and identity are used in Symbolic-interactionist theories which were formulated by sociologists such as Herbert Blumer, G H Mead and C H Cooley and were based on ground work carried out by the American psychologist John Dewey. According to these theories, 'self reflects society' or 'society shapes self' and this in turn shapes social behaviour. This school of thought states that human behaviour must be understood in relation to the environment and this would therefore be a bi-directional approach. Berger and Gluckmann have called this relationship a "dialectic operation" (1967). Cooley also spoke about "Looking glass self" (Individual shaped by his views about himself) and through his interactions with Social groups such as Primary and Secondary groups, a concept he introduced in 1909 in his book 'Social Organization: Human Nature and Social Order'. (Cooley 1909; Mead 1934; Blumer 1969) However, we must bear in mind the fact that society itself is highly differentiated on the basis of social class, gender, ethnicity, age, religion etc, and all these dimensions may impact a person's identity to varying degrees.

Language is therefore, a strong component of identity, even though the importance given to language varies from context to context. In some cases, language forms the most important component of identity, while in some other cases, it may not. Fasold declares, "Language is used to make a statement about the identity of the speaker in relation to the listener in a social situation created and defined by language itself. (Fasold 1984) According to Thornborrow, "Language is one of the most fundamental ways we have of establishing our identity, and of shaping other people's views of who we are, is through the use of language". (Thornborrow 2004) Kroskrity states, 'Identity is defined as the linguistic construction of membership in one or more social groups or categories'. (Kroskrity 2000, 111) In his "Language and Identity: National, Ethnic, Religious", John Joseph attempts to show that language and identity are inseparable. He states "Thinking about language and identity ought to improve our understanding of who we are in our own eyes and in other people's, and consequently it should deepen our comprehension of social interaction. Each of us, after all, is engaged with language in a lifelong project of constructing who we are, and who everyone is that we meet, or whose utterances we simply hear or read." (Joseph 2004a: 13, 14) Steven Pinker argues that "Language is a biological adaptation which is hard-wired into our minds by evolution, and so tightly interwoven into the human experience, that it is scarcely possible to imagine human life without it". (Pinker 1994)

In many cases, there is a one-to-one co-relation between linguistic identity and other forms of identity such as national identity. In many other cases, there is no such co-relation, and the whole issue becomes much more complex. Much of work in linguistic anthropology investigates questions of sociocultural identity from a linguistic standpoint. Don Kulick has carried out a study on language and identity, in a village called Gapun in Papua New Guinea, a country where some eight hundred languages are spoken. He explored how the use of two languages with children in Gapun village: the traditional language (Taiap), not spoken anywhere but in their own village and representative of Gapuner identity, and Tok Pisin, the official language of New Guinea. The Taiap language is associated with one identity: not only local but "Backward" and also an identity based on the display of "hed" or personal autonomy. To speak Tok Pisin is to index a modern, Christian (Catholic) identity based on co-operation with larger groups. This feeling is shared by many Papua new Guineans, and Tok Pisin continues to marginalize other languages of the country: twelve are extinct, and many more are endangered.

Emile Benveniste, Mary Bucholtz and Kira Hall, Benjamin Lee, Paul Kockelman, and Stanton Wortham, and other scholars have also contributed to the study of identity as "intersubjectivity" or the psychological relations between people as opposed to solipsistic individual experience, by examining the ways it is discursively constructed. This work draws heavily on the work of Jurgen Habermas, and would also have a bearing on linguistics and the group dynamics of language.

In addition, the following are the types of identity associated with Manuel Castell's framework, and this would have some bearing on the process of identity formation. Identity can also have a bearing on political movements, and most political movements have historically centered on the issue of identity and belonging (Calhoun 1994) (Yuval-Davis 2010). As Jeffrey Prager notes in this regard, "identity politics is a cognitive map for actor to orient themselves towards others." (Prager 2009):⁶⁸ ⁶⁹

Legitimizing identity: This type of identity is the identity associated with a dominant group in a society. These identities often try to maintain religious, caste or communal harmony through implicit self or power or by maintaining their domination. However, such identities may be insensitive or neutral to the feelings of resistance identities and may oppose project identities. In India, this identity is associated with dominant caste groups, and has produced movements such as the rightwing Hindutva movement. Such identities however sometimes produce effects that are beneficial to society and may be associated with the build-up of patriotic, religious or nationalistic sentiments given their general access to education, knowledge and technology vis-à-vis other social groups, and their propensity for homogenization.

Resistance identities: These types of identities are created by individuals who are devalued, stigmatized in a society, and whose identity and ethnic or cultural pride has been suppressed, often for a long time. Such identities often rebel against the status quo, and seek to establish a new social order. This group may use popular discontentment as a vehicle for promotion and exhibit aggressiveness and rebelliousness. Examples of such identities were that of Dalits in India, and Blacks and coloreds in

⁶⁸ Psychology and Life, Golden Edition, Phillip G. Zimbardo, Harper Collins, 1985

⁶⁹ The Information Age: Economy, Society or Culture, Manuel Castells, 1997

Apartheid-era South Africa, all of which produced popular emancipatory movements and a transformation from 'serie' to 'groups en fusion'. This is similar to the Marxist concept of 'class-in-itself' to 'class-for-itself'. Another example is the anti-Tamil pogrom of Sri Lanka of 1983 which led to the emergence of the LTTE under Velupillai Prabhakaran, and other similar militant groups: similar movements of this kind often manifest themselves in different parts of the world. This kind of identity is therefore associated with indignation, and a desire for action and change as opposed to resignation and the acceptance of status quo. Some such movements are also linked to the belief of a mythical lost world or a golden age of the past. Examples of this are the idea of Lemuria advocated by Dravidian nationalists and the idea of a Sudra Indus Valley civilization. Identities may sometimes begin as resistance identities or later transform into Legitimizing identities. (Castells, 1997) (Longman, 2010)

Project identities: This type of identity arises when a new kind of identity is sought to be forged through compromise. (Castells, 1997) This identity attempts, and in some cases, successfully achieves a change in social structure towards greater equality and freedom. These identities interface in networked societies to produce completely new paradigms. In due course, such identities may lose their power or distinctive attributes, but this may not happen quickly or easily. One outcome may be a "Yoyo type change" which was discussed in our paper. For resistance identities, this may proceed from submissiveness to belligerence, and then stabilization. For legitimizing identities, it may proceed from dominance, resistance to change in status quo, acceptance of change, and readjustment.

A study of Linguistic changes due to identity was carried out by Rampton. (Rampton 1995) The participants in his research were London teenagers, whose antecedents could be traced to Pakistan or Jamaica, and also spoke other languages besides English. Within multiethnic social networks the teens use different languages and different forms of languages in various ways to project various stances and identities, participating in multiple speech communities.

Linguistic identity and racial identity

Linguistic identity is not often seen to be tightly integrated with racial identity. But it may play a role in fostering ethnic pride. For example, Blacks often speak a different dialect of English, and in many cases, have seen no desire to drop it in favour of Standard English. The multi-ethnic, multi-racial and multi-cultural nature of American society ensures that identities are shaped not only on the basis of ethnicity, gender, class and race, but also on the basis of relationships between various groups.

African-American Vernacular English also known as Black Vernacular, Black English Vernacular, Black Vernacular English, or colloquially Ebonics, is the variety of English spoken by African Americans. With its own unique accent, grammar, and vocabulary, it is used by middle-class African Americans in informal and casual situations only; in formal situations, Standard English with an African accent tends to be used. Even though Basilects have a lower chance of survival than acrolects, there is a strong tendency towards preservation and perpetuation of basilects and stigmatized varieties in some cases, and Blacks often look upto AAVE as a symbol of ethnic pride.

According to one theory, it arose from slave creole languages used by African captives, who spoke many different languages, as a common medium of expression. These developed into pidgins and creoles. Not until the time of the American Civil War did the language of the slaves become familiar to a large number of educated whites. Another theory is that AAVE did not originate from English-based creole but has always been a dialect of English. African-Americans have suffered from a push-pull syndrome, and this appears to have impacted their language as well. (Smitherman, 2006) While blacks pushed themselves towards the whites to become a part of the mainstream, they loathed their white masters, and strove to maintain their own identity, resulting in a “double consciousness”.

In addition, the Anthropological concepts of Social selection which includes endogamy and exogamy rules at various levels, Sexual selection, Pan-mixing at a global, regional or sub-regional level, ethno-biological identity and changes to ethno-biological identity must be factored into any analysis, and these will have a bearing on language dynamics. In such cases, there will be a tripartite co-relation between language, human dispersal and migration, and ethnic or biological identity. Patterns of inter-ethnic marriages can be studied in a region, and tied to language propagation. This may itself alter the dynamics of language in a region, or globally and further contribute to dominant languages, dominated languages, mixed-case scenarios, and propagation of neutral languages. Historical migrations into and out of a given geographical region must also be co-related with linguistic data gathered from the ground. In order for this to happen, historical models must improve in a two-way process: theoretical models must consider data from different parts of the world and cannot be Euro-centric or reactionary. They must also lend themselves to modification and re-examination with data collected from different parts of the world.

Linguistic identity and religious identity

Language has often spread due to religious factors. For example, Sanskrit is seen to be the language of Gods in India, and has a strong religious connotation. It is often referred to as Devbhasha, or the language of Gods. It also influenced Indian cultural, spiritual, philosophical and social systems greatly, and has influenced other Indian languages greatly including many Dravidian languages. The Hebrew language was considered dead, but religious factors played a role in its revival, and this alone perhaps made it a spectacular success story in this regard and a role model for other languages to follow. The Arabic language is also strongly associated with Islam. Even though speakers of different regional varieties of Arabic spoken in the Middle East and Africa often cannot understand one another, they are oriented toward standard Arabic because of the religious, social, historical, and political ties between the cultures in which they are spoken. The religious identity of a language may not always derive authority from a text. For example, Urdu came to be associated with Islamic culture in India, only because of the power of the dominant elite associated with this language. Even though it was never the language of religious learning, it has come to be associated with the Islamic identity in India, and is one of its most powerful symbols.

Linguistic identity and territorial identity

Linguistic identity may also be strongly identified with territorial identity, and language cannot often be conceived without relating it to a territory. Territorial identity is a common feeling that a group of people have regarding their territory. It defines how people relate to a territory, its institutions, its cultural icons, and its destiny. There are many examples to drive home this point. For example, the Telangana movement strove for the primacy of the Telangana dialect of Telugu in the Telangana region. The Maharashtra Navinirman Sena of Mumbai sought to evict Hindi speakers from Maharashtra in 2008 basing its ideology on the 'sons of the soil' theme, and minor movements such as the 'Tamilnadu for Tamils' have also been noted, though they did not snowball into political movements.

National identity is one of the most important forms of collective identity that inherits structure of beliefs, and modifies them for future use. Language has always played an important role in the formation of national character and national consciousness. Hindi nationalism in India sought to equate Hindi to the idea of India. This idea was also tied to the idea of Hindu nationalism, often in complex ways. These were often tied to the belief systems embedded in the progenitors of these ideologies, and were driven by vested interests too. These ideologies have largely failed, and English remains more entrenched than ever before in India. The idea of territory is also related to the idea of human rights and linguistic rights. For example, Tamils would logically be entitled to more rights in Northern and Eastern Sri Lanka than in the South. In case of the latter, it would be reasonable to expect that they assimilate into the local Sinhala population, or at least be more accommodating towards them.

Linked identity

In some cases, one form of identity may be linked to another form of identity. The spread of language may sometimes ride piggyback on other components of identity e.g., the spread of Urdu in Telangana may be as a result of the Islamic rule in the region due to the Delhi Sultanate, Bahmani Sultanate and the Golconda Sultanate. Urdu did not originate in Telangana. It was an import from North India, but spread after local Hindus converted to Islam in large numbers and adopted Urdu and their native and cultural language. Urdu was a derivative of Apramabhasha but drew its vocabulary heavily from Persian, as opposed to Hindi which was influenced by it to a lesser degree. According to some scholars, Urdu began as the language of the fakirs. However, the term Urdu is generally dated to 1780, and was introduced by Ghulam Hamadani Mushafi. Therefore, Indian Muslims readily identify themselves with the Urdu language in spite of their heterogeneous origins and cultures.

Another study by Lusiana Marlina Nurani among Javanese People in Yogyakarta, Indonesia in 2015 showed that inter-generational transmission of the Javanese language was weak, this was because of negative attitudes towards the language and the fact that the language was not associated with Islamic identity. The Javanese people value English, Arabic and Bahasa Indonesia more in different contexts, and this has impacted the desire among Javanese people to maintain their own language. Most daily conversation is now carried out in Bahasa Indonesia. (Lusiana Marlina Nurani 2015). In this case, both national identity and religious identity have impacted linguistic worldviews, and the desire to maintain languages.

Language and biology

All human speech originates in the brain, and there is much to suggest that humans are pre-programmed for language, and the brain, the teeth, the lips, the tongue, and the lungs serve some purpose in language. A complex network of nerves leads from one area in the dominant hemisphere to control operations in the tongue and other organs. The size and shape of the vowel tract, and the vocal cords also determine the sound. The vocal cords, varying in length and shape from one person to another, produce a fundamental tonal quality, and distinguish it from others. There could be differences in vocal cords among different groups of people. Additionally, people with thick lips are unable to pronounce certain sounds. This may have some impact on language dynamics too, as it may lead to the emergence of new versions of a language, or accentuate language variation.

The study of the emergence of language is sometimes referred to as 'The Palaeontology of language'. There is now neurolinguistic evidence that specialization of the brain for communication functions led to humans becoming bipeds and starting to use tools. Language developed when gestures and grunts were no longer enough to communicate ideas. The study on the biological origins of language is in its infancy, and models on the emergence of language can be refined as paleontological data expands. It is likely that languages emerged in different parts of the world (an idea we have strongly supported), and this idea would have a bearing on the inter-relationships between languages too. New fields such as neurolinguistics (the study of the neurological basis of language) and psycholinguistics (which is the intersection between psychology and linguistics) are beginning to take centre stage, though it remains to be seen how globalized they will be in their fieldwork and orientation. The study of the interrelationship between language and biology is vast, and outside the scope of this paper, given that it is mostly irrelevant from the point of view of language dynamics. In addition to variation in pronunciation across diverse groups, there are inter-relationships between biology, culture, language and language learnability in different situations, and these may have some bearing on language dynamics.

Conclusion

Language dynamics is an emerging field of study within linguistics, and must find its due place under the sun. The objective of this paper is to present principles of language spread as applicable to post-globalized scenarios, by expanding upon our already-published works in which had we studied different aspects of diachronic and synchronic linguistics and language dynamics. We must acknowledge the fact these principles cannot be comprehensive enough to cover aspects of language spread in all possible scenarios at this juncture. Therefore, we recommend a repository-type and a nomothetic approach to allow for principles from case studies and fieldwork from different contexts around the world to be generalized and used as applicable. Research on language dynamics must be stepped up, and must continue on an on-going basis with researchers from various cultural backgrounds contributing to prevent cultural bias. This can have many positive benefits for society, and possible uses can include language planning and policy, development of pedagogical techniques and even economic development models.