

Chapter 6

Shifting the Epistemic Centre: Teachings from Sign Linguistics

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Abstract

This paper looks at the relation between sign language and education within the larger framework of disability studies. It shows how, by questioning disciplinary norms, new epistemologies can be established—one driven by Deaf students in the classroom. This is best achieved—the paper shows—by the process of “De/centring,” the part and parcel of the philosophy of *Integrative Difference*, which assumes difference to be the norm. Three linguistics concepts, namely, standardization, incorporation, and spatiality, are discussed in detail to reveal the operation of “SPEECHISM,” coined and defined in this paper as “the discrimination of a particular group of people based on the non-speech modality of language they employ to communicate.” However, for all this to begin taking shape, it is suggested that Deaf Studies as a field, and Deaf activism as a movement, must take a lesson or two from the framework of disability justice and come out of their individual silos.

6.1 INTRODUCTION

Some of us work in fields with well-defined disciplinary characteristics and boundaries, yet we have to continually justify our existence; linguistics is one such field. Convincing anyone—least of all governmental agencies—of a “linguistic” reason for a specific policy or training module, therefore, is even more difficult as we have to first justify the field of linguistics itself. It is not the case that linguistics is the only such unfortunate discipline that is treated such, even though it has a lot to contribute to many other disciplines. There are many others, such as logic or philosophy, which meet the same fate. Devaluation of expert knowledge in such disciplines is one of the reasons why meaningful opportunities of knowledge construction in various domains are squandered.

In this paper, I will talk about one such domain of knowledge that can be constructed using formal, theoretical linguistics tools that can not only inform but also provide significant understanding of sign languages. The potential of this knowledge being useful can be understood from the general level of ignorance that is displayed frequently in the media and in the day-to-day human interactions. A very recent journalistic piece of writing, published in *The Wire*, carries this amazing statement (italics mine)¹:

Standardization will remove *flaws* in ISL²

.... said standardization will help in the removal of *flaws* in the ISL. ... These *flaws* will lead to problems if ISL is used in higher education and other advanced needs without standardization,...

Such a statement betrays not only a knowledge of Indian Sign Language (ISL) and the deaf movement in general but also of the linguistic concept of language standardization³. Standardization in linguistics has been a vibrant topic since at least the early 1960s. For example, Garvin (1964)⁴, and more currently, Agnihotri (2014:366)⁵ have been advocating the adoption of ‘multilinguality’ as a buffer against the drive to standardize:

We do need to understand why people so desperately need the concept of ‘a language’, in fact ‘a pure standard language.’ Those in power need it for staying in power or getting more power (votes, land, property, money).

¹ The original article appeared on August 14, 2020 at: <https://thewire.in/rights/indian-sign-language-standardisation-inclusivity-rights>(visited August 14, 2020).

² This title of the section was changed later to “Standardization will absorb variations in ISL” with the following, undated note at the end the article:

“**Note:** The word ‘flaw’ was removed from Rati Misra’s description of the ISL as that was not the word she had used.”

(<https://thewire.in/rights/indian-sign-language-standardisation-inclusivity-rights> (visited October 8, 2020).

³ I organized in 2009, as a coordinator, a workshop on sign language standardization at the Equal Opportunity Cell, University of Delhi, where 24 Deaf students from Burundi, China, Nepal and Uganda participated along with the Indian Deaf students. A short report of the event written by me is available at the following, which I will refer to as Agnihotri (2009):<https://indiasigning.wordpress.com/2009/11/02/2nd-ipsl-workshop-eoc/> (visited August 14, 2020).

⁴ P. Garvin, “The standard language problem: Concepts and methods” in D. Hymes (ed.), *Language in culture and society* 521-526 (Harper and Row, New York, 1964).

⁵ R. K. Agnihotri, “Multilinguality, education and harmony” 11.3 *International Journal of Multilingualism* 364-379 (2014).

Thankfully, saner voices have also emerged from within the deaf community this time, and also recently, opposing such views as expressed in *The Wire* quote above. Sibaji Panda, the well-known Deaf activist and ISL trainer has recently commented in an article published in *Newz Hook*:⁶

The standardization process is complex and requires serious involvement of users and continuous maintenance. However, the deaf community does not have the motivation to use sign language artificially imposed on them. Doing this will complicate matters further and divert our attention to some issue which never was our problem in the first place. For instance, there may be a political battle between regional deaf groups over inclusion/exclusion of their signs from standard variety.

The above quote very clearly establishes the parallel with the existing body of knowledge on language standardization. Ignoring such established body of knowledge not only runs the risk of ending up in drafting vacuous educational policies for the deaf but also of ignoring one of the basic tenets of Disability Studies (DS), namely the motto “Nothing about us without us,” which has been a rallying cry not only in the disability movement but also in the gender and other identity-based movements. So, if deaf people themselves do not have any problem with diversity of sign language varieties, why the rush towards standardization? It does not make sense either from the perspective of linguistic studies on the subject or from the perspective of disability justice.

Therefore, when it comes to issues related to sign language, there is a greater need of raising awareness about both linguistics and DS. This will benefit not only policymakers and teachers, but also deaf people in general—a vast majority of whom are unaware of either. In fact, when it comes to DS, there is a tendency among the deaf not to associate with the disability movement or view themselves as disabled persons, leaving the deaf movement poorer for it. This point cannot be stressed enough, for working in silos leaves everyone involved in a loss–loss situation.

⁶ S. Panda, “Wish there was a specific National Education Policy for Deaf people” available at: <https://newzhook.com/story/happy-hands-school-odisha-nep-indian-sign-language-isl-standardisation-prime-minister-modi-hearing-impaired-education-accessibility-wish-there-was-a-specific-national-education-policy-for-deaf-people/> (visited 20 September, 2020).

6.2 WHAT IS DS?

The American sociologists' broad consensus in the 1950s⁷ in thinking of sickness as something that is not "normal," heralded the initial foray into thinking about disability from the perspective of management and prevention of sickness. As a result, that period of interest in disability was tainted by "disability-as-sickness" perspective and remained firmly within the realms of sociologists. For example, Goffman's (1968)⁸ celebrated work, *Stigma*. However, it was much later in the 1970s—along with other social actions across multiple fronts of social antagonisms—that disabled peoples' movement forced open the gate to thinking about disability differently. In this connection, the role of the disabled peoples' movement in Britain in organizing themselves under the banner of Union of the Physically Impaired Against Segregation (UPIAS) in the 1970s is especially important. UPIAS' push for a social constructivist view of disability was a sign of the times and quite in line with the thinking about gender, race, and class during that same period. The compelling argument that disabled people be seen as an oppressed class and disability as a social construct received a theoretical justification in the background of the writings of Michael Foucault (1975⁹ and 1979¹⁰). It was later, in 1980, that WHO (ICIDH, 1980)¹¹ recognized the social constructivist definition and made a distinction among impairment, disability, and handicap as in the following:

Impairment

In the context of health experience, an impairment is any loss or abnormality of psychological, physiological, or anatomical structure or function.

Disability

In the context of health experience, a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.

⁷ For example, T. Parsons, *The Social System*, (Routledge & Kegan Paul, London, 1951).

⁸ E. Goffman, *Stigma: Some Notes on the Management of Spoiled Identity* (Penguin, Harmondsworth, 1968).

⁹ M. Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, (Vantage Books, New York, 1975).

¹⁰ M. Foucault, *Discipline and Punish: The Birth of the Prison*, Translated from the French by A. Sheridan, (Penguin, Harmondsworth, 1979).

¹¹ International Classification of Impairments, Disabilities, and Handicaps. (World Health Organization, 1980).

Handicap

In the context of health experience, a handicap is a disadvantage for a given individual, resulting from an impairment or a disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual.

Note that it is only in the third definition, using the pejorative term “handicap,” that the social constructivist view of disability emerges. These definitions were all improved upon but the point that I wish to emphasize is that the social constructive spirit of the 1970s arising within an essential humanist philosophy had its impact on the disability movement and gave rise to the DS paradigm. This paradigm shift (Goodley, 2001)¹² from “disability as personal predicament to disability as social pathology” is the hallmark of DS.

Deafhood¹³ from the point of view of DS implies that it becomes a disability in a majoritarian hearing society. The oft-repeated Beauvoir quote, “one is not born, one becomes a woman” can be recast in the context of Deafhood as “one is not born, one becomes deaf.” Such a statement establishes the essential social constructivist character of Deafhood as a disability that is constructed by the majoritarian hearing population.

This is not a novel idea, it was clear even as early as 1835, when John Robertson Burnet¹⁴, an American author and poet, who became deaf at the age of eight, wrote (italics as in the original):

Of all the long catalogue of infirmities which flesh is heir to, deafness is the one which is least apparent at first sight, and which least affects, directly, the vigor of the bodily or mental faculties, and yet there is no other infirmity, short of the deprivation of the reason, which so completely shuts its unfortunate subject out of the Society of his fellows. Yet this is not because the deaf are deprived of a single sense; but because the language of the hearing world is a language of sounds. Their misfortune is not that *they* are deaf and dumb, but that *hear* and *speak*. Were the established communication among men, by a language addressed, not to the *ear*, but to the *eye*, the present inferiority of the deaf would entirely vanish; (47)

¹² D. Goodley, *Disability Studies: An Interdisciplinary Introduction* (Sage, London, 2011).

¹³ Deafhood was coined by Paddy Ladd (2003: xviii) – *Infra* note 15 – to define the existential state of Deaf ‘being-in-the-world’, a process by which Deaf individuals construct their identity, it is a process of becoming. The medical term deafness is therefore avoided in Deaf Studies literature in general.

¹⁴ J. B. Burnet, *Tales of the Deaf and Dumb: With Miscellaneous Poems* (B. Olds, Newark, 1835).

6.2.1 The place of sign language within disability studies

Within the larger discipline of DS, my focus has been on sign language and education. In this paper, I bring both these sub-areas of DS, and discuss education of the deaf/Deaf through sign language. Before I begin, the denotations of “deaf” versus “Deaf” need to be stated.

6.2.1.1 Deaf/deaf

The fact that Deafhood is a social construction is, in fact, *inscribed* on the body of the Deaf Studies convention of distinguishing “Deaf” from “deaf.” It is an important distinction that has been a part of the history of the Deaf Studies discipline right from the time of its inception in the early 1980s. However, it is far from the case that every author retains this distinction consistently, and there is often an overlap of use. It is, nonetheless, a significant distinction that defines much of the principles behind Deaf activism.

The lowercase version, that is “deaf” in this convention, refers more to the audiological condition and experience. So, in some ways anyone who has an audiological condition of deafness (I am using the medical term here, see note 13) is a deaf person. However, since the term “deaf” is used for those individuals who have lost some or all of their hearing early or late in life, it cannot be used for all individuals with the audiological condition of not hearing. In fact, it is to be noted that this term is reserved for those unwilling to associate with the sign-using Deaf communities; rather, they prefer to go along with the majority hearing population. Obviously, a whole lot of baggage is associated with such an identification. The most striking among the associated implications that an identification with the majority obtains is the clear refusal to engage politically with the rights of a minority population, since the minority, as such, has magically disappeared from the scene. Or, so it is thought. Have they really disappeared, though? What about the discriminatory practices that a hearing population obviously inflicts upon the deaf? By refusing to identify with a deaf minority, they have abrogated their rights to entitlements.

Out of the total number of people with “hearing impairment” (5% of the world’s population), a large number become hearing impaired in their adult life—those who are conventionally identified as “hard of hearing.” There are also a few who lose their hearing completely during their adult life. The general umbrella term used in such cases is “hearing-impaired.” Such loss of hearing is generally accompanied by a loss of status and opportunity in the mainstream society, which they so willingly adopt as their own.

However, the sense of loss pertains and in fact, is intensified by their non-association with a minority culture.

The term “Deaf” (with a capital “D” even when the word appears in the middle of a sentence) on the other hand is reserved for those who identify with the Deaf community, the community of deaf people using only sign language for communication. It refers to individuals who are born Deaf or became Deaf in early/late childhood, which is different from losing some or all of hearing early or late in life—the basic criterion for the deaf. Most importantly, using sign languages implies an adherence to the Deaf culture—a term developed in the 1970s to indicate the alternative ways of being in the world and of navigating the world in ways that are different from the majority hearing population. This is so because of the belief that our ways of being in the world is to a large extent shaped by our language—according to the so-called “Sapir-Whorf hypothesis”—an American import from the late 18th century German Romanticism idea. However, this “hypothesis” is mostly discredited in modern Linguistics and hence, the force of a concept like Deaf culture would require additional justification, apart from the use of a minority language like sign language.

When it comes to establishing the historicity of the Deaf/deaf usage, it turns out that it is not easy to untangle it from the mire in which it has lain unobserved. Though Ladd (2003:33)¹⁵ mentioned it first, it was in fact, James C. Woodward who initiated the convention, “[t]hese communities have come to adopt Woodward’s (1972)¹⁶ formulation of “Deaf” with a capital “D” to refer to themselves (in English) as “culturally Deaf.”” The title of Woodward’s 1972 paper is shown in the Bibliography of Ladd (2003:494)¹⁷ and is given as “Implications for Sign Language Study among the Deaf”. This is incorrect, as the title of the published paper (in 1972 in the same journal issue) is in fact “Implications for Sociolinguistic Research among the Deaf.” On the other hand, another classical text in Deaf Studies is Padden and Humphrey’s (2005)¹⁸ book, where it is stated in the first page that the convention Deaf/deaf that they are going to retain was initiated by James

¹⁵ P. Ladd, *Understanding Deaf Culture: In Search of Deafhood* (Multilingual Matters, Clevedon, 2003).

¹⁶ J. C. Woodward, “Implications for Sociolinguistic Research among the Deaf” *1 Sign Language Studies* 1-7 (1972).

¹⁷ Ladd, *supra* note 15.

¹⁸ C. Padden and T. Humphries, *Inside deaf culture* (Harvard University Press, Cambridge, MA, 2005).

Woodward. However, the text they mentioned in the note (p. 183) is Woodward (1982)¹⁹, which has a chapter by the same title as the book title. In Ladd (2003: 494)²⁰, the same title and author appear as that published in 1989²¹, since the aforementioned chapter was republished in another collection in 1989. Since Woodward (1972)²² does not actually mention this usage, it has to be understood that he be credited with initiating the Deaf/deaf usage not in 1972, but in 1982.

Nonetheless, the definite and strong allegiance to such a community, which shares using of signs as the only mode of communication, engenders various cultural practices that go on to make up something like a Deaf culture. However, as Ladd (2003, xvii)²³ correctly points out, much more research is needed to firmly establish the concept of a Deaf. In spite of the somewhat slippery nature of the concept of “Deaf culture,” the identification with a community of signers immediately gives rise to the strong and powerful politics of rights and entitlements, unlike for the deaf who fail to define a community.

This difference in the possibilities of politics (of using D/d) paves the way for an obviously political and contested social arena of education to enter—whether a D/deaf person is to be educated through sign language or not. The deaf population, in erasing their own identity, loses the right to be educated through any other means but the mainstream ways, whereas by identifying with the minority of sign language users, the Deaf can retain the possibility of being taught in their mother tongue, namely sign language. In short, one could say that the importance of deaf education through sign language has been recognized through this writing convention.

6.2.2 Deaf activism and the Disability Justice framework

In spite of several works within Deaf Studies looking at the history of the Deaf movement or its sociological ramifications (see, for example, Branson

¹⁹ J. C. Woodward, *How You Gonna Get to Heaven if You Can't Talk with Jesus: On Depathologizing Deafness* (T. J. Publishers, Silver Spring, MD, 1982).

²⁰ Ladd, *Supra* note 15.

²¹ J. C. Woodward, “How you gonna get to Heaven if you can't talk with Jesus? The educational establishment vs. the Deaf Community” in S. Wilcox (ed.) *American Deaf Culture: An Anthology* (Linstok Press, Silver Spring, MD, 1989).

²² Woodward, *Supra* note 16.

²³ Ladd, *Supra* note 15.

and Miller, 2002²⁴), there are very few studies that directly address the concern raised here in this section, namely, the relation between the Deaf movement/Studies and DS. Remaining aloof from each other makes each of the movements/disciplines, poorer. In fact, I would like to make the stronger point that Deaf Studies have much more to lose in this arrangement than DS in general. The Deaf movement and therefore, Deaf Studies are likely to become more marginalized as a result of such a possible isolation.

This issue of deaf people not identifying themselves as disabled persons, highlights a damaging trend that afflicts not only DS but many academic disciplines that end up creating their own silos. As a result, the cultural paraphernalia associated with a field also remains almost entirely discipline-specific to the extent that it prevents outsiders from entering it without paying a price; sometimes, it completely bars others from entering it all.

After half-a-century of disability activism, there is now a growing trend among the leading disability activists crying out against working in silos. In fact, within DS, none other than the most recent addition of Disability Justice (see in particular, Berne *et al.*, 2018²⁵), brings this point home so powerfully. The framework of Disability Justice (DJ) out of the unease felt by especially disabled queer trans people of color with mainstream disability activism, fueled as it is historically through DS tenets, in terms of how it has managed to neglect and lay by the wayside disabled persons of color and of varied gender identities. One of the 10 principles of DJ is *commitment to cross-disability solidarity*, which ensures valuing and honoring the insights and participation of all community members. This, DJ believes, breaks isolation because “isolation ultimately undermines collective liberation”; collective liberation being the final principle that envisions liberation of all.

I think, therefore, Deaf Studies as a field and Deaf activism as a movement, must take a lesson or two from DJ, and come out of their silos.

²⁴ J. Branson and D. Miller, *Damned for Their Difference: The Cultural Construction of Deaf People as Disabled: A Sociological History*(Gallaudet University Press, Washington, D.C.,2002).

²⁵ Patricia Berne, Aurora Levins Morales, David Langstaff, Sins Invalid, “Ten Principles of Disability Justice” 4.1 & 2*Women’s Studies Quarterly* 227-230 (2018).

6.3 EDUCATION AND SIGN LANGUAGE/DEAFHOOD

The importance of education and Deafhood can be simply understood from the following excerpt from a famous book by the well-known Deaf author Paddy Ladd:

... across the world for the last 120 years, Deaf children and their parents have been subjugated to an all-encompassing set of policies and discourses aimed at preventing them from learning or using sign languages to communicate, Deaf teachers were first removed and then effectively banned from working with Deaf children. ... as a consequence, Deaf children have left schools for over a century with a reading age averaging eight – enough only to comprehend the headlines of a tabloid newspaper, ...

Ladd (2003:7)²⁶

However, I also want to make a new point in the course of the paper. So far, it seems like looking at sign language through a linguistics lens will result in a better and more scientific understanding of sign language itself, which in turn, may lead to newer ways of imparting education through sign language. So, as noted earlier, a linguistic understanding of sign language can help us design better policies and training modules to impart education of Deaf students more effectively.

However, this is only a partial picture of what I am going to say in this paper. We must also remember that linguistics as a scientific discipline was constructed from evidence obtained from spoken languages; predominantly, the first few decades from Germanic and Romance languages spoken in Europe²⁷, but later in the 1980's from languages from other language families and regions, including Africa and Asia, as well. In this paper, I will try to make the point that if we attempt to change the “center” of linguistics knowledge from spoken languages to sign languages, a different system of knowledge emerges—many concepts become redundant and many new concepts become necessary.

²⁶ Ladd, *Supra* note 15.

²⁷ Romance and Germanic are two major language groups within the family of Indo-European languages (the appellation ‘Indo’ because Indo-Aryan, that is, majority of the languages spoken in the North and West of India, is another major language group within Indo-European) that consists of languages like French, Italian, Spanish, etc. and English, German, Icelandic, Norwegian, etc., respectively.

6.3.1 De/centering

This shifting of the epistemic center (that is, the center of knowledge production) has been the theme of my work on inclusion for the last decade (see Bhattacharya 2014a²⁸, 2014b²⁹, 2014c³⁰ for details), and the possibility of a linguistics based on sign language is a confirmation of the philosophy of De/centering knowledge that my work proposes. The current paper is thus about what we can learn about linguistics as a discipline if indeed we construct knowledge of language *from* the perspective of sign languages³¹. In Bhattacharya (2017a)³², I use the title “Shifting the Epistemic Centre: Teaching Sign Linguistics,” where the subtitle (“Teaching Sign Linguistics”) really means teachings *from* sign languages (and therefore the title of the present paper).

The De/centering philosophy begins from the question that bothers (or should bother) all educationists: What is an ideal classroom? There can be various kinds of answers that will highlight or exercise the activities that take place in a classroom—teacher quality, teacher training, and teacher preparedness, etc. Here, however, I am more interested in exploring the representation of the classroom itself—an ideal classroom represents the real-world diversity status. Monolingualism or monoculturalism is a myth. There is no society that is purely monolingual (a speech community speaking in one language) or purely monocultural (all members of the community share the same culture); rather, diversity and difference is the norm. However, maintaining a diverse classroom is not easy, especially in

²⁸ Tanmoy Bhattacharya, “Centring knowledge as education for ALL” Keynote address at the workshop on Learning and Learnability Issues of SC/ST Children, Jadavpur University, Kolkata, (July, 2014a).

²⁹ Tanmoy Bhattacharya, “‘Indo-Mongoloids’ and the Idea of a Composite Indian Culture in Suniti Kumar Chatterji’s KIRATA-JANA-KRITI” Suniti Kumar Chatterji’s 125th birth Anniversary, Indira Gandhi National Centre for Arts, New Delhi. (November, 2014b).

³⁰ Tanmoy Bhattacharya, “Sign Iconicity and New Epistemologies” in T. Bhattacharya, N. Grover *et al.* (eds.) *The Sign Language(s) of India*, Orient BlackSwan, Delhi (2014c).

³¹ I introduced this theme of shifting the centre of knowledge in linguistics knowledge to both a linguistics audience in Bhattacharya (2017a) [*Infra* note 32] and to Deaf audience in Bhattacharya (2017b), “Sign Linguistics as decentring linguistic knowledge making”, Plenary talk at *Empowering Deaf Through Indian Sign Language* national conference organized by the Indian Sign Language Research and Training Centre, Govt. of India, [March]; this paper is loosely based on these talks.

³² Tanmoy Bhattacharya, “Shifting the Epistemic Centre: Teaching Sign Linguistics”, workshop on ‘Grammar in the Classroom’ Indo-Norwegian Cooperation Project, University of Delhi, (February, 2017a).

a situation like ours, where all kinds of pressures from the school authorities, from parents, and sometimes even from the teachers themselves, in terms of management issues, in terms of financial issues, etc., are experienced. So, maintaining a diverse classroom remains quite a challenge. As a result, the artefacts of this schooling system—and the education system in general—like syllabus, textbooks, and examinations make sure that diversity really goes out the window and at the end of the regimental training, that is schooling, a student is prepared into a homogeneous mass where all children are expected to behave alike.

From this perspective, therefore, it is not easy to decenter knowledge, dominated as it is by centuries of practice and conventions. I have proposed before (Bhattacharya, 2021³³) that there maybe three ways of decentering, namely through empathy, by rights, and by questioning normativity. However, philosophically it can be shown that empathy is no different from sympathy, which carries the baggage of charity with it. Affecting change through rights, where all our disability activism is based, has been the only mode of claiming entitlements. However, I show that from a broader perspective of education, rights-based activism achieves only partial, sectorial advantages; it cannot radically alter the ways in which we think about education. Additionally, as has been repeatedly shown that, at the end of the day, the Acts and policies remain unimplemented. Instead, I advocate for change to be brought about by questioning normativity—be it from the perspective of a Dalit or a religious, linguistic, gender, economic, or disabled minority. A forging of multiple sectorial challenges, continuously molding the center of knowledge production and thereby changing it, will afford a radical transformation of education delivery and reception.

6.3.2 Questioning Normativity

How do we question normativity, though? Well, here DS becomes an ideal tool. Before I discuss this, consider that one prerequisite of questioning normativity is the existence of diversity, which is there in various forms in all societies. In some societies, such as ours, diversity is very prominent. For example, if you look at any classroom and if you listen to the voices, as

³³ Tanmoy Bhattacharya, "Are We All Alike? Questioning the Pathologies of the 'Normate'" in R. K. Agnihotri, V. Gupta et al. (eds.), *Modern Transformations and the Challenges of Inequalities in Education in India*, (Orient Blackswan Hyderabad, 2021).

discussed in the previous section, you will find that diversity is the norm.

Disablism, at par with sexism and racism, is a set of assumptions that promotes the practice of unequal treatment on the basis of actual or presumed disabilities. The word “presumed” here is important because lots of discrimination at workplaces happen because of presumed disabilities, especially in countries where the legal system is powerful and effective, where an employee can take the employer to the Court and demand compensation for things that happened (for example, accidents) during work. So, before hiring, many of employers deny a candidate on the basis of the fact that s/he is likely to develop a disability. Such questions are asked very openly and routinely in some cases (even for college admission in the US) about the likelihood of developing a condition, or whether there is a family history of any condition, etc.

As we can imagine, disablism has been the basis of much activism since the 1970s, when the disability rights movement started in the UK and elsewhere. However, more and more instances show that demanding rights amounts to highlighting the disability aspect of a person rather than questioning normativity. So, more recently, the focus (at least in DS) has shifted to looking at this notion of ableism, where the relationship as well as the focus is fully reversed, and a question in fact is raised about the concept of “normal.” For example, who is considered to be a successful person? One who has a certain kind of job or one who owns a certain kind of property? Or nearer to our concern right now, a question like what does it mean for a student to be considered the best student in the class? Answering these kinds of questions shows us that normativity has many established parameters that we take for granted; nobody teaches us this, but we take them for granted. On the basis of this, a certain pathology of non-disablement or normativity, which is to be assumed, is constructed. This “shifting of the ontological gaze” requires one to question non-disablement or normativity. Once that is done, the whole ontological frame will change. According to Campbell (2009:4)³⁴, “[t]he challenge is to reverse, to invert this approach and shift our gaze to production, operation and maintenance of ableism” and to study the “pathologies of non-disablement” or “normality-which-is-to-be-assumed.” Once this is done, the whole basis of our understanding of disability will undergo a shift as well.

³⁴ F. K. Campbell, *Contours of Ableism: The Production of Disability and Aabledness* (Palgrave Macmillan, Basingstoke, 2009).

6.3.3 Disciplinary Normatives

We can now translate this strategy to questioning the normative of a discipline, any discipline, and we will discover a set of “signifier norms,” for various disciplines, a set of things that are discipline-defining or normal or ideal. For example, the species-typical body in science in general and medicine in particular, is considered the norm and any departure from such a norm is considered to be abnormal or defective, and the whole medical approach is to fix that. Then, in political theory, we have the notion of the normative citizen, i.e. the ideal citizen. Again, any departure from the expected loyalty to state is considered ground enough for punitive actions by the state, by institutions, by other “law-abiding” citizens and by society in general. In law, there is the notion of a reasonable man (Campbell, 2009:6)³⁵, who is a hypothetical person, i.e. who is not a typical or average person but a person who possesses the composite character ascribed by the community as to such a person’s typical behavior in situations that may pose harm to public.

I will talk here about linguistics as we can say that the spoken language is the signifier norm. So, all the four core areas of formal linguistics, namely phonetics (the study of sound systems of the languages), morphology (the study of word formation), syntax (the study of sentence structure), and semantics (the study of meaning), all assume spoken languages as the objects of study. This is also true for the so-called non-formal areas of linguistics, namely sociolinguistics, applied linguistics, psycholinguistics, discourse, etc.

Once we start questioning this norm, we may see the appearance of a new kind of knowledge and the dominant constructs of linguistics falling by the wayside or being considered irrelevant for sign language users. In the history of sign linguistics, which is often not a curriculum shaped by native signers but rather by practicing linguists specializing in sign language, we often see the dominance of concepts and terminology from linguistics that are not all relevant to sign languages. Hence, their forcible implementation for the study of sign languages often border on language oppression or disciplinary imposition.

For example, in an introductory textbook of linguistics, Radford *et al.* (2009:25)³⁶ in their book *Linguistics: An Introduction*, state that:

³⁵ *Id.*

³⁶ A. Radford, M. Atkinson, *et al.* *Linguistics: An Introduction* (Cambridge University Press, Cambridge, 2nd edition, 2009).

Sign Languages are extremely interesting, exhibiting all the complexities of spoken languages, but their serious study requires the introduction of a considerable amount of specialised terminology for which we do not have space in an introductory book of this kind.

This quotation above implies that studying sign languages require an entirely new set of terminologies and are not really essential for an introduction to linguistics. This leads to a type of disciplinary segregation.

Within the core areas of linguistics listed above, we find that smaller the unit of the particular study, less useful it is for sign language; for example, the subdiscipline of phonetics, which is the descriptive study of the production, transmission, and perception of a sound or a phone of a language—the smallest possible unit of a language. This kind of study has also spawned several new specializations like articulatory phonetics (how speech sound is produced), acoustic phonetics (transmission of sound), auditory phonetics (how sound waves are converted to meaningful units). However, much of this is not relevant for sign language or sign linguistics. For example, the whole literature on vowel length or sounds forming a continuum rather than discrete units, is of no consequence to sign language. In this connection, note that even the Wikipedia³⁷ entry on phonetics is heavily biased in imposing spoken language linguistics terminology as in the following (italics are mine):

Many sign languages such as Auslan have a manual-visual modality and produce *speech* manually (using the hands) and perceive *speech* visually (using the eyes)

Why should Auslan, or any other sign language for that matter, be forced to say that they produce *speech* and that perceive *speech*? Is this not spoken language imperialism?

The more abstract field of phonology (which studies the organization of the sound system based on contrast and similarity rather than a physical description of sound that phonetics is mostly involved with), on the other hand, has found more relevance in sign language studies. Abstraction, and not specific description, has saved the day for phonology as opposed to phonetics. For example, the more abstract concept of a phoneme (and not a phone), which marks the smallest meaningful distinguishing unit of a language, can be posited for a sign as well as for syllable structure. So, the

³⁷ <https://en.wikipedia.org/wiki/Phonetics>(visited 30 August 2020).

abstract concept of phoneme or a syllable—proper objects of study in phonology—find echoes in sign language.

6.3.4 Speechism or questioning linguistic concepts

In this section, I will take up one concept from linguistics—introduced already in the Introduction (see section 6.1)—that when treated under the “questioning normativity” methodology, as outlined above, reveal blatant spoken language bias, which I will term as “SPEECHISM”, defined as follows³⁸:

The discrimination of a particular group of people based on the non-speech modality of language they employ to communicate.

Note that the dominant mode of communication in sign languages is signing, which is visual and not aural. So, the modality of sign languages is fundamentally different from spoken languages, making a large number of central concepts of linguistics quite irrelevant or unusable for studying sign languages.

6.3.4.1 Standardization

All linguistics students of the sub-discipline of sociolinguistics know about the concept of language standardization, which is said to involve the following four stages, according to Haugen (1966)³⁹:

- (i) Selection
- (ii) Codification
- (iii) Elaboration
- (iv) Dissemination

The concept of standardization has been given further impetus and strength by studies conducted at different parts of the world with different speech communities since the 1960s. The seminal works of

³⁸ The unofficial ‘Urban Dictionary’ has a definition of this word from 2006 as follows: The discrimination of a particular group of people based on the way in which they speak, otherwise known as vernacular or dialect. available at: <https://www.urbandictionary.com/define.php?term=speechism> (visited October 7, 2020).

However, this definition is rather limited and fails to bring out the full potential of the word; I have therefore redefined it as above.

³⁹ E. Haugen, “Dialect, Language, Nation” 68*American Anthropologist*922-935(1966).

Ferguson (1962)⁴⁰ and Fishman (1964)⁴¹, along with Haugen, have remained classics and trendsetters.

As a part of the process of “Selection,” one variety is chosen to represent the language. According to Agnihotri (2009)⁴², this is also the point where the politics of standardization enters into the picture. It is the powerful who are in a position to select a particular variety. This is obviously not the ideal situation because, as linguists and human beings, we would like to believe that all languages or all varieties are equal.

The second stage of “Codification” involves the process of writing up dictionaries and grammars of the variety chosen as the standard. Codification implies bringing into existence real objects like dictionaries and grammars, although—and this is the important part—all languages and varieties have “dictionaries” and “grammars”⁴³ since lexicon (or a list of words) and syntax (knowledge of making sentences in a language) are part of knowing a language. Thus, knowing a language means knowing the dictionary and grammar of that language. Furthermore, language comes first and dictionaries and grammars come later.

The third stage of the process of “Elaboration” involves producing various texts and corpuses in the chosen variety. This is also a stage where discrimination on the basis of the variety one speaks (or signs) may become associated, where the chosen variety (and therefore its users) attains a certain amount of power.

The fourth stage of “Dissemination” involves spreading the chosen variety among the masses through education and other means. According to Agnihotri (2009)⁴⁴ this implies that sometimes there is a conscious effort to not disseminate the chosen variety among the masses by changing the variety in such a way that the masses will never be able to catch up with the

⁴⁰ C. A. Ferguson, “The language factor in national development” 4.1 *Anthropological Linguistics* 23- 27 (1962).

⁴¹ J. A. Fishman, “Language maintenance – language shift as a field of inquiry” 9*Linguistics* 32-70 (1964).

⁴² *Supra* note 3 and accompanying text.

⁴³ The terms dictionaries and grammars here are meant to indicate the extended use they are often put to in the generative grammar tradition initiated by more than half-a-century ago by Noam Chomsky, starting with the publication by him of the book manuscript *Syntactic Structures* in 1957 (Mouton: The Hague) till the *Minimalist Program* in 1995 (The MIT Press, Cambridge, MA), in addition to a series of important papers in between and till the present. In this tradition, a dictionary is an abstract lexicon possessed by a native speaker of a language consisting of lexemes (words or part-words), various features and grammatical categories; a grammar in this tradition is the knowledge of language a native speaker possesses that s/he constantly makes use of while talking, reading, and thinking.

⁴⁴ *Supra* note 3 and accompanying text.

so-called standard variety. This seems like something that is more likely to happen within a chosen variety, that is, class-based differences start appearing once the variety has been chosen as a standard.

The impression given is that standardization unifies, but actually it separates people. In addition, it produces attitudes where one starts loving the standard (by now the so-called “high” variety) and hating the non-standard (by now the so-called “low” variety). This is how a norm gets established.

According to Agnihotri (2009)⁴⁵, language is a continuum and there is a model that helps make standardization inclusive and not exclusive. This is the model of multilingualism, which has been successfully employed in many countries.

However, if we carefully look at some of the very important work in the domain—for example, Haugen (1972:246)⁴⁶—we would discover the true nature of the normative:

it is a significant and probably crucial requirement for a standard language that it be written.

This is so because, according to these authors, the written form helps determine the frameworks that enable and shape the process of language planning and production. In fact, Scaglione (1984:13-14)⁴⁷ goes as far as saying that “spoken standard norms are established on the basis of the written model.” According to Haugen, the contact between speech and written language would eventually lead to the emergence of “new [spoken] norms ... that are an amalgamation of speech and writing.” (Haugen, 1972:247)⁴⁸.

So, it seems that the linguistically-established standard process of standardization is largely determined on the basis of speech and writing. With respect to the standardization of ISL, which is being addressed by the new center set up by the Ministry of Social Justice and Empowerment, the

⁴⁵ *Supra* note 3 and accompanying text.

⁴⁶ E. Haugen, *The Ecology of Language* (Stanford University Press, Stanford, 1972).

⁴⁷ A. Scaglione, “The Rise of National Languages: East and West” in A. Scaglione (ed.), *The Emergence of National Languages* 9–49 (Longo Editore, Ravenna, 1984).

⁴⁸ *Supra* note 46.

ISLRTC⁴⁹, is in the process of looking at standardization of the language because there are well-known varieties of ISL from Delhi, Bangalore, Kolkata, and Mumbai that are based on vocabulary differences. There is a process of standardization that will happen, but the question remains on whether we can take the model of standardization that is available based on the spoken language which emphasizes writing for sign language, or whether we should come up with our own methodology based on the fact that “writing” for a sign language is completely meaningless. Although there is a sign-writing convention, its codification is a completely useless activity, since sign languages do not have any writing because they do not *need* one. Do we then just replace it by video or replace it by something else? How does the Deaf population decide? Whatever be the methodology that ultimately one settles down on, it seems that much of the great literature on standardization that we have been teaching and studying as linguists is actually not very relevant.

This is an issue that has not been emphasized enough in the existing literature on sign linguistics. This is because it is still mostly authored by hearing scholars, employing terms and concepts based on research on spoken languages. The issue is that at the “center” of sign language research is spoken language. I would, in fact, term this state of affairs as “misappropriation” in two senses of the term. The first is the expected meaning of what the English word means, namely stealing. That is to say stealing or appropriating a whole field of study, namely sign linguistics, and choking it up with terms and concepts produced by research on spoken language. Secondly, in this context, I want the word misappropriation to also mean taking up the study of sign languages and making it inappropriate for the users of sign language.

This unacceptable situation is due to the operation of SPEECHISM as defined above (see subsection 6.3.4). In fact, a radical overhauling is necessary so that the dominant forces of SPEECHISM can be defeated by “decentering” sign language research—by replacing its center by sign language. Once that is done, the rest of the discipline (and not just sign linguistics) can employ the new potentials thrown up by such a renewed sign linguistics and thereby, hope to enrich the discipline itself—this is what I turn to next.

⁴⁹ The Indian Sign Language research and Training Centre was a set up as a Society under the Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment in September 2015.

6.3.5 New Epistemology: Centring Sign Language

In this section, I discuss one aspect of de/centering sign language studies that can herald a reanimation of linguistics as a scientific discipline and thus, initiate new epistemologies or sites of knowledge generation. This, I claim, can only happen if we place sign languages at the center of studying languages.

One undeniable aspect of sign language that immediately separates it from spoken language is—as stated above—its modality. It is a visual rather than an aural language. Its modality is, therefore, dominantly spatial and not temporal. Thus, while we can perform multiple linguistically meaningful tasks simultaneously while signing, we cannot do that most of the times while speaking.

6.3.5.1 Incorporation

Let me take an example to illustrate this point in detail. For example, if I were to say “keep the mug on the table” in spoken language, I would have to pronounce each word at a particular time-chunk. In fact, to be accurate, each sound at a time. So, the sequence of sounds for this particular expression will be [ki:p ðə məg ɔn ðə teɪbl]⁵⁰ and each of these sounds will be uttered in a temporal sequence, so that if the sound [k] of the word *keep* is produced at time t_1 , the sound [m] of *mug* will be uttered at time t_6 , and so on.

However, the same sequence in sign language will have an entirely different set of characteristics. To start with, the phrase cannot be easily chunked into separate and discrete units (signs) like words. This is because ISL does not mark articles (to mark in/definiteness) or adposition (to mark locations). So, the two instances of *the* and one *on* are immediately gone⁵¹. Since these sets of information are an integral part of the meaning of the phrase, we might wonder, how sign languages denote definiteness and location. Since sign languages are visual, the mere visibility and pointing (indexing) takes care of definiteness, and indefiniteness is simply marked by number. Locations, on the other hand, are marked by indexing (pointing) and/or by the initial

⁵⁰ Here [ð] is the single sound produced by ‘th’ in the word ‘the’, [ə] is a central vowel as in as in the vowel sound of letter ‘u’ in the word ‘mug’, whereas [ɔ] and [ɛ] are open back and front vowels respectively, according to the IPA (International Phonetic Association) chart produced by the International Phonetic Association. See <http://www.internationalphoneticassociation.org/content/ipa-chart> for further details.

⁵¹ Although ISL has a sign for ‘on’, it cannot be used here in isolation.

and terminal points of movement/direction. Thus, locations can be *incorporated* with either the sign for the predicate (its initial/terminal point) or the location/object. In fact, it can be more complicated, thus for our example, the location is incorporated into the sign for the location *table* as well as into the terminal point of the motion predicate *keep*. Therefore, very economically, the whole phrase *Keep the mug on the table* can be signed with only two composite signs—one showing the table surface, and a composite sign of keeping mug on the table surface:

[TABLE+ON]	[MUG+KEEP+ON]
sign 1	sign 2

Note that in sign₂, not only is the preposition *on* incorporated, but also the object *mug* is incorporated into the predicate (or verb) *keep*. While the ON incorporation can be determined only at the end of the motion predicate, the MUG incorporation is visible throughout the sign for KEEP. The incorporation of the sign for MUG is done through making an iconic classifier handshape for holding a cup at the start of the motion predicate *keep*.

Incorporation is a ubiquitous phenomenon in sign language. Not only do adpositions and nouns incorporate into verbs, adverbs widely incorporate into the verb. Many such instances from the ISL are discussed in detail from the perspective of linguistics in Hidam (2011)⁵² and (2015)⁵³. Note that being a visual system, sign language *naturally* exploits the phenomenon of incorporation in order to drive home one of the resounding findings of modern linguistics, namely the concept of economy in grammar/language (most clearly presented in Chomsky, 1995⁵⁴). Since economy is a central concept in grammar in the mind⁵⁵, its formalization can be fortified once it is infused with the findings from processes, such as incorporation in sign languages.

6.3.5.2 Spatiality

Such a modality-specific aspect of sign language like incorporation, as discussed above, can inform mainstream studies of languages in general. Such aspects are chanced upon naturally in sign language studies once they

⁵² G. S. Hidam, *Incorporation in Indo-Pakistani Sign Language* (2011) (Unpublished M.Phil. dissertation, University of Delhi).

⁵³ G. S. Hidam, *The Syntax of Word Order in Indo-Pakistani Sign Language* (2015) (Unpublished Ph.D. dissertation, University of Delhi).

⁵⁴ N. Chomsky, *Minimalist Program* (Cambridge: MA, MIT Press, 1995).

⁵⁵ See note43.

are investigated carefully. These can be tapped into in order to discover the novel aspects of the existing concepts/principles (for example, the role of incorporation in economy) and uncover newer insights for natural languages in general.

One such insight is obtained in trying to understand how time is treated in sign languages. For example, in a joint work with Hidam Gaurashyam Singh in 2010⁵⁶, where we looked at how time expressions are (per)formed in ISL, we concluded that time is seen as a space. This can be shown as in Figure 1, where Hidam is signing various time expressions in ISL as noted.

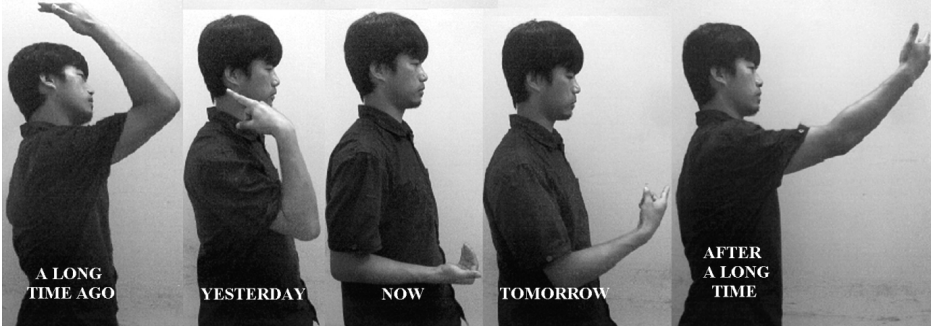


Figure 1: Hidam Gaurashyam Singh signing different time expressions in ISL

Note that at one end, in “a long time ago” the axis goes up along with the tilt of the head and at the other, “after a long time” involves moving the signing hand stretched ahead in the upward axis and away from the body without any head tilt; and other expressions (“yesterday,” “now” and “tomorrow”) are in between. As can be inferred from this demonstration, time is expressed in terms of positions of articulators and axes in space, i.e. it is the space modality that time is turned into. For this reason, we called this paper “Space-Machine” instead of the known concept of a time-machine.

Again, this is due to the visual nature of sign languages that temporality is expressed spatially. Turning to spoken languages, it has been noticed that many languages do not have the grammatical category of tense (see

⁵⁶ Tanmoy Bhattacharya and G. S. Hidam, “Space Machine” in *Proceedings of Episteme 4*, Homi Bhabha Centre for Science, Mumbai (international conference to review Research on Science, Technology and Mathematics Education, epiSTEME) (2010).

Wiklund, 2007⁵⁷ for references). However, such languages employ other ways of denoting tense and viewing time spatially, as shown above for sign languages. This may provide a novel way of understanding the phenomenon of time in natural languages in general. In fact, one of the Tibeto-Burman languages of India, Meiteilon (Manipuri), hints at such a possibility for many of its aspectual affixes.

Having looked at two linguistic phenomena of incorporation and tense through the lens of sign language, we have introduced the possibility of examining spoken languages with a new light. Once we shift the epistemic center of teaching linguistics, and alter the discipline defining signifier norm of studying only spoken language, we are forced to re-examine some very basic and general features of linguistic research involving not only standardization as examined earlier, but also tense and incorporation as well as a host of other aspects like variation, word order, questions, anaphora, agreement, etc. (see note 32 and Bhattacharya (forthcoming⁵⁸) for a detailed discussion of all these phenomena). Not all of them remain relevant (for example, word order) from the perspective of sign language. While some require much more centrality (for example, incorporation), some others redefine their operation/evaluation (standardization and variation). This shows that by including sign linguistics, linguistics can become more enriched.

6.3.6 New Classroom Dynamics

In the last section, I will consider how a new classroom dynamic can emerge in the presence of Deaf students. If a Deaf student is truly included in the classroom (see how, in Bhattacharya 2010⁵⁹), all the students (and the teachers) gain by experiencing the world through visual modalities. In addition, if a sensitive teacher taps on to the enhanced visual abilities of the Deaf children, new methods of classroom delivery and evaluation can emerge; let us discuss some of these tasks.

Does the nature of the language, sign language being a visual language, empower its users with certain image processing skills? There are some studies from the early 1990s on comparing visual imagery task performances by Deaf and hearing signers. Emmorey, Kosslyn and Bellugi

⁵⁷ A-L. Wiklund, *The syntax of tenselessness*, (de Gruyter, Berlin, 2007).

⁵⁸ Tanmoy Bhattacharya, *De/centring Knowledge* (In Press, 2022).

⁵⁹ Tanmoy Bhattacharya, "Re-examining Issue of Inclusion in Education" *Economic and Political Weekly of India*, (2010).

(1993)⁶⁰ studied ASL (American Sign Language) signers, and looked at their image generation, image maintenance, and image transformation abilities. As some of these tasks are required for visual mental imagery in general, they are also integral to sign language processing. Since sign languages makes use of visual-spatial imagery, it is likely that signers would be skilled at the mental aspects of creating and manipulating images.

In sign languages, if you want to talk about a dog, you cannot just talk about a dog, as one does in spoken languages. Rather, you have to situate the dog in your reference frame or signing space, i.e. you have to create or generate and situate an image somewhere. Once you situate the dog, the dog remains there. Even if when you want to talk about the dog later, you can just point to the dog at its referred location. Thus, the mental task of referencing (integral to meaning creation) in sign languages is also spatial and not aural. Furthermore, the referential system in sign languages can get more complicated when the signers shift their positions.

As we can guess from the above example, both image generation (generating the image of a dog) and image maintenance (committing to memory the location of the dog) are more frequent in sign language than spoken language. Thus, when a signer's position shifts, the frame of reference also shifts. This call upon the visual imagery ability of image transformation. This last aspect is more powerfully recruited by the addressee since the location of objects is always from the signer's perspective and the addressee has to mentally reverse (and shift) the visible spatial locations to understand that perspective. This can be seen in Figure 2. Here the two referents—Rani and Tomba—are to the left and the right of the signer, respectively. These positions are shown here by the darker fonts at the middle of the arc. However, when the signer shifts position and moves slightly to the left, the signing space gets reoriented and so are the relative positions of the referents, now shown in lighter fonts along with their previous indices (i and j) at the bottom of the arc.

⁶⁰ K. Emmorey, S. M. Kosslyn, and U. Bellugi, "Visual imagery and visual-spatial language: Enhanced imagery abilities in deaf and hearing ASL signers" 46 *Cognition* 139-181 (1993).

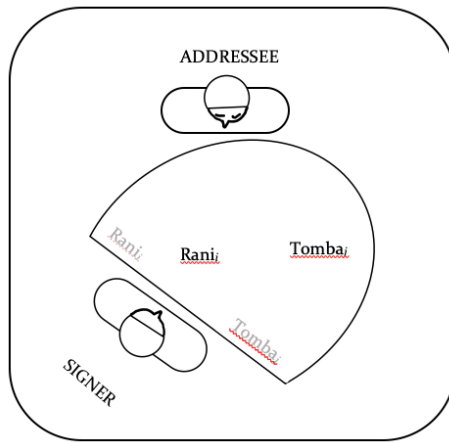


Figure 2: Signing space

These are some of the non-linguistic visual tasks that signers have to perform frequently in addition to grammatical processing to make sense. Such regular tasks equip Deaf persons with other non-linguistic abilities, such as facial recognition. Deaf signing children recognize faces with varying orientation and lighting better than hearing children (Bellugi *et al.* 1990⁶¹). For sign language users, facial expressions are important because of something known as non-manual marking in sign languages. For example, questions in ISL are accompanied by a non-manual marking (that is something not signed by the signing articulators, namely fingers and hands) of raised eyebrows, and chin or head tilt. Without such non-manual marking it is not a fully-formed (or even comprehensible) question. This requires paying extra attention to the face as well as the orientation of the body.

Based on this, Emmorey *et al.* (1993)⁶² designed some visual image-making tasks that have nothing to do with sign language to test whether signers indeed have better developed visual skills. What is particularly interesting is their demonstration that the advantages that the signers have is not due to their being Deaf, but rather because of using sign language. In other words, these advantages accrue as a result of the property of sign language.

⁶¹ U.Bellugi, L.O'Grady, *et al.*, "Enhancement of spatial cognition in deaf children" in V. Volterra and C. Erting (eds.), *From gesture to language in hearing and deaf children* 278-298 (Springer-Verlag, New York, 1990).

⁶² *Supra* note 60.

In order to reach this conclusion, the researchers selected three groups of populations, signers who are deaf from birth, hearing signers who are born to Deaf parents (CODA)⁶³, and hearing non-signers. Most deaf children are born to hearing parents and only 2% of them are born to deaf parents. The majority of deaf children born to hearing parents learn sign language as their first language, but usually a little later in their childhood. CODA also learn (and use in later life) sign language as a first language, but they also learn other languages later on; thus, they are bilingual.

For the image generation task, all the subjects were first primed with uppercase blackened simple (L, C, U, F, H) and complex (P, J, O, S, G) letters in a 4x5 grid. Following this, the subjects were shown grids of equal size (4x5) but without the grid lines and a single probe X mark inside. Subjects were asked to figure out whether or not the uppercase letter would cover the probe X. This is shown below for the simple uppercase letter H (diagrams based on Emmorey *et al.* 1993, see note 60):



Figure 3: Image generation task (based on Emmorey *et al.* 1993⁶⁴)

As far as image generation is concerned, the results showed that there was no difference in the time taken by the hearing non-signers and the Deaf signers for simple uppercase letters. However, in case of complex letters, the deaf signers were able to generate images of complex letters significantly faster than hearing non-signers. When the third group of hearing signers or CODA was added, they performed almost exactly like the Deaf signers, whose only language is sign language. This goes on to show that the faster processing of a perception task like the above is not due to the auditory condition but due to experience with sign language. One could in fact argue that this is due to the structural characteristics of sign languages in general.

⁶³ Children of Deaf Adults.

⁶⁴ *Supra* note60.

In the image maintenance task, a similar experimental setup was used by the researchers. Here, some random patterns were used instead of uppercase letters to make it more challenging to the memory since the patterns were not recognizable letters, but random. In this task, no significant difference was noticed between the hearing non-signers and the Deaf and CODA signers. Although sign language sometimes requires long-term retention of locational indices—as shown in Figure 2—this linguistic ability does not crossover to non-linguistic visual ability of image maintenance. Emmorey *et al.* (1993: 165)⁶⁵ note:

Our findings suggest that although ASL requires information about spatial location to be retained in memory during discourse, this linguistic process does not transfer to a non-linguistic visual image. The overlap between short-term linguistic and non-linguistic visual image retention does not appear to be enough to influence non-linguistic visual short-term memory.

In the final task of image rotation, two types of very complicated stimuli were used. In one, there was a partly gridded pattern with one cell blackened. The pattern was rotated three times from its rest position (0° degree) by 90° , 135° , and 180° degrees with consequent change in the shape and pattern. Every time a stimulus pair was presented where the pattern on the left was the target (the pattern is shown in Figure 4), and the one on the right was a rotated version (in any of the above degrees) of the target (not shown in the figure). The subjects were to decide whether or not the pairs were the same, irrespective of the degree of rotation. The second set of experiments consisted mirror images of the first set, which made it more difficult to decide the degree of rotation.

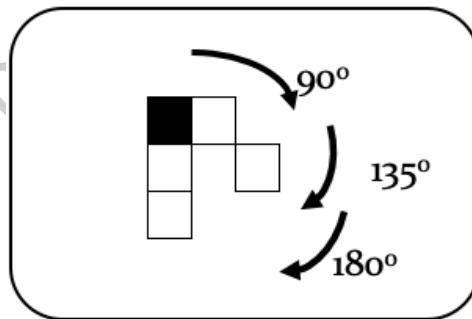


Figure 4: The target for the mental rotation task and the degrees of rotation

⁶⁵ *Supra* note60.

The result obtained was almost similar to the image-generation task, i.e. both Deaf native signers and CODA signers were faster than the hearing non-signers in detecting similarity or difference of the rotated pattern with the target pattern for both normal and mirror sets. As far as mental rotation is concerned, it seemed that the Deaf subjects were able to detect mirror images faster than the hearing non-signers. Again, the fact that CODA signers showed similar parsing time as the Deaf signers, indicated that this particular enhanced ability, like the image generation ability, was due not to any auditory condition but rather due to the nature of sign language.

This was also in keeping with the constant reversal and shift that a signer/addressee had to perform during a conversation, as shown in Figure 2. Therefore, in general, mirroring (reversal of an image) and shifting (rotation) abilities are expected to be enhanced in native signers and signers who use sign language as their first language.

Such a person in the classroom will drive new ways of constructing knowledge and new ways of teaching and learning. Based on evidence with regards to visual processing tasks, such the one shown above, designing numerous visual and non-verbal activities can go a long way in bringing about a fundamental change in the teaching/learning process for the Deaf students. In the long term, a constant exposure to sign language can bring about a fundamental change in learning and acquiring of a skill or knowledge for the majority hearing students in the classroom. This is the basic story.

6.4 CONCLUSION: THE PHILOSOPHY OF INTEGRATIVE DIFFERENCE

This is the philosophy (see notes 28 to 33 for details). The word “difference” when written as **DiFfeRencE**, encompasses the philosophy. Every letter has a different font, capitalization scheme, and style. We retain the difference because difference is the norm. This philosophy opposes the established, state-sponsored education systems geared towards levelling out any difference, since homogeneity is considered to be the norm in such systems. The central mechanism—as discussed earlier in the section on De/centering (see section 6.3.1)—is “De/centering”, a process of continuous displacement of the center of knowledge making. I have shown that the presence of Deaf signers among hearing students opens a world of possibilities in the classroom. It, however, does not have to be a Deaf person. If we have a person with disability or a person who is “different,” who is not part of forcibly superimposed

homogeneity, how do we integrate that person into our classrooms?

One could take equivalent examples of shifting the center—be it a Deaf child or a Dalit girl. A teacher can sometimes ask a tribal student to bring a simple cooking utensil from home, and that piece can be centered in that day's teaching activity—maybe talking about the various indigenous ingredients used to make food in a tribal home—and thereby centering that child. Maybe we can draw a diagram on the blackboard and talk about a science experiment, but by centering a tribal artefact we end up shifting the center in many ways. Similarly, in a multilingual classroom, one could do exactly that instead of teaching from textbooks. This was done many years ago by Rama Kant Agnihotri in a school classroom in South Africa where he “taught” how to make plural by getting children from different language background to come and write on the board the plural form of a word in their language and generate the whole class based on that.⁶⁶ This is an example of continuously shifting the center by De/centering and generating new systems of knowledge.

Once we have done that, I believe, we can not only fulfil the dream of creating a body of research that is relevant for its users, but also just. Furthermore, this paper has claimed that such De/centering will not only reveal the glorious possibilities of sign language study that will result out of righting a wrong but will also make the true potential of linguistics as a scientific discipline available by creating ever new epistemologies.

⁶⁶ A short film made of this class can be seen at: <https://www.youtube.com/watch?v=XnrDGB3uPEA> (visited on October 7, 2020).