Lec 38: Successive bilingualism among children

Welcome back. We will start with Lecture 3 today. In lecture 2, we discussed simultaneous bilingualism. We are looking into childhood bilingualism. So, in the case of simultaneous bilinguals, children start to learn both languages at the same time. So, they learn two languages simultaneously. So, it is not technically a second language, but this is another kind of language acquisition that is often seen in the case of children who have more than one language in their environment. Now, we will look at successive bilingualism, or what is technically childhood SLA. Now, childhood SLA is, of course, opposed to simultaneous bilingualism; here, there is a first language. In the case of simultaneous bilinguals, there was no first language and second language; both were first languages.

But now, because we are talking about SLA, there is a first language and a second language; we have both. So the first language is the native language, as we have already seen. First language is a native language, the language of home, the dominant, more frequently used, and the stronger language. In the case of a bilingual, this is typically how the definition will be, because even though it is technically possible for someone to be a balanced bilingual where both languages are equally strong. That does not always happen.

So, most of the time, the first language is the more dominant one, and the second language is less dominant. So, it is also less frequently used, and it is weaker too. So, technically, successive bilingualism includes both children and adults. So, that is why we have a differentiation between adult SLA and child SLA. So, we are talking about childhood SLA now.

But there are significant differences in terms of childhood SLA and adult SLA because of various factors; age is, of course, one important factor. So, the issues related to successive

bilingualism or second language acquisition include age as a very important factor, and that has been studied quite at length, actually, with many studies taking place that consider age as an important variable in learning a language, whether it is the first or second language. And also within SLA, because childhood and adult SLA are both possible, age becomes a very important pointer or indicator of the differences that you might see in the final outcome. Because, if you remember, we talked about the final state of a bilingual, it is relevant only in the case of SLA. So, ultimately it is called UA ultimate attainment.

So, the ultimate attainment of second language proficiency also depends on age. So, there are these theories, and there are the debates. So, the cognitive and neural basis of learning language is what deals with the CPH we talked about before; the critical period hypothesis. We will just go over this very briefly, just to brush up your memory. So, Lenneberg proposed all the way back in 1967 that the automatic acquisition of language in a natural setting can take place only within a particular time frame.

And this entire logic was based on various factors, one of which is that any innate faculty, any kind of innate quality of any animal has a particular time window. So, whether you look at the animal world, you will see that everywhere. So, because language was already understood to be an innate faculty, it also has a particular time window that is one. Secondly, another important idea that Lenneberg introduced was the maturational stage of the brain, and the idea was that brain maturation ends at puberty; hence, all the innate things that a child is supposed to grow and acquire should be done by that time, including language. So, that was the critical period hypothesis for us.

So, this was used for first language acquisition, but later on, it was applied to SLA research as well. So, after this period, language learning becomes slow and hence often less successful. So, the ideas, if you go one by one, are that if you delay, then there are issues of constraints regarding brain development and brain maturation. So, what does it mean, and what are we trying to arrive at with respect to brain development? maturation, and lateralization both. So, what does lateralization mean? Lateralization is the functional specialization of different brain regions for various purposes.

So language also has areas in the brain, and those lateralizations will be complete by the time the child reaches puberty. Hence, it is important that you learn your language before then. So, brain maturation and lateralization. So, the endpoint of CPH signals puberty when brain lateralization is thought to be complete. At that time, this is how it was understood.

So, the experimental studies initially had supported CPH, and the outcomes were typically supportive of CPH. But later studies were not always in tune with the theory, and they

started to question the hypothesis. For example, studies compared children and adult second language learners on learning speed and ultimate attainment, which is the final, you know, the ultimate level, the final level of proficiency that you can achieve in your L2; based on this, they checked. So, one of the first such studies was carried out all the way back; it is a very important study. They looked at native speakers of English who spent a year in the Netherlands learning Dutch.

So these are native speakers of English; they went to the Netherlands, and they were learning Dutch. They wanted to check if the CPH holds for this kind, which is second language acquisition, and they had different age groups. They also wanted to check if the early age group was doing better or how it really works. So they had three different groups. There were older children aged 12 to 15 years and younger children in three different groups: 3 to 5, 6 to 7, and 8 to 10.

This was one of the first studies to counter the claim that older learners do not learn as well as younger ones. So, this was one of the very first ones. Similarly, one important aspect of Lenneberg's claim is brain lateralization. However, later studies found that lateralization is completed in children much earlier than puberty. This finding showed that the older children actually learned better.

So, that is how they countered it, and the lateralization studies also looked at the brain maturation stages and found that children actually do not need until puberty for the lateralization to be complete. So, it gets completed much earlier. So, that also is not going to this is also not tenable. Another important study by Johnson and Newport in 1989 was carried out on the Chinese and Korean immigrant populations in the US, and they were trying to see if age, again the same question: whether age is a variable or if there is anything else that is working there. So, the critical variable was the age of arrival in the US and other factors: duration of stay, motivation, cultural identification, and so on.

So, they actually had a kind of holistic understanding of what the possible factors and variables are. The task had something like a grammaticality judgment. So, something like this: "the farmer bought two pig at the market". "The bat flewed into our attic last night". So, these are ungrammatical sentences. So, they were trying to see if you understood the grammaticality or not. This is a simple example; they had many others. The result was a clear distinction in terms of age and performance. So, depending on the age, there were differences in performance. Now, here comes the twist. Those who arrived before age 16 had performance that was correlated with the number of years spent in the US. So, those people, so age became an important indicator in this way. So, for children who had arrived in the US before 16, the performance was correlated with the number of years spent. For those who arrived after age 16, performance varied and was found to be correlated with

other factors like motivation, etc. So, many social variables started to make sense after the age of 16. So, probably because that is the time when children socialize more, there was a correlation between various kinds of social motivation, social variables, and performance. Now, this study has brought new questions to CPH. For example, the cut-off age may not be fixed, and there are factors other than age because they found that social factors are also important. For example, motivation is an important variable. So, it is not only age but also other factors, and the less is more hypothesis was another important contribution of this study.

What is "less is more"? Less is more as in the less the well developed the cognitive capacity of the child the better probably. So this is not about brain maturation, but it is about the cognitive faculty that is still developing; that is probably the idea behind this. So, children, when they are young, are not overwhelmed by a new language as they do not overanalyze. When they are learning, they are still young; then the system is still learning. They are learning new systems in language and otherwise as well.

So, when another new thing comes in, this goes with the flow. So, they do not overanalyze, and hence they learn quickly; that is the idea of this. But older learners may suffer more from negative transfer while learning a new language because their L1 is already in place. This is in the case of the L2 with respect to CPH. Now a connected idea is that of entrenchment. This was proposed by another group of researchers. The idea here is that the more the L1 is established in the brain, the more entrenched it becomes in the system. The more resistant the system will be towards a new language representation. This is similar to the "less is more" hypothesis.

So, the more L1 is entrenched. The more the brain will be resistant to a new system because the entire network has already been established: the neural aspect, the conceptual aspect, the lexical, and the syntactic—everything. So the system has been built. It is already entrenched in the brain. So then it is difficult to learn a new system. But if it is not, then it is easy. So generalizations will also form, and so on. So, this was another important contribution with respect to learning a second language a little later in life. Then comes our unified competition model. This model was proposed in 2012. This tries to account for CPH by considering various levels of variables, so you have neural, cognitive, and social variables.

Then, this theory proposes various risk factors. For example, negative transfer. We have

already discussed negative transfer before, so we will not go over it again. Entrenchment, as we just saw.

Parasitism on L1. So, for learning L2 leading to negative transfer, when you depend more on L1 to learn your L2, negative transfer happens, and if their systems are different, then it will hinder your learning of L2 systems and processes. And then there are also mismatched connectivity, which is an incorrect connection between processing areas in the brain; this is also important. This also goes back to our entrenchment idea that the connections are already established. So, if that connectivity gets mismatched in the case of L2, then there will be problems. So, these are the risk factors, and of course, social isolation, because we saw that for older children, social factors and social pointers become very important variables and predictors of language attainment, ultimate attainment, or the proficiency level; those are dependent on social factors as well.

So, this is the list of factors that this model gives us. So, in effect, basically what they are saying is that if we go from initial studies, it is only about age and because it is only maturation. Over time, different researchers have found that there are a number of different variables that seem to have a dynamic interplay between them. So, age, neural connectivity, and social factors all seem to interact. Hence, it is a dynamic system: a dynamic interplay between competing languages and their connections to other factors.

All of these work together, and that depends on how the interplay works out; that will determine how well the L2 will be learned. Then comes the second factor, which is very important again in terms of SLA: interaction, so age and interaction. There is a hypothesis called the interactionist hypothesis. We can trace its roots to Stephen Krashen's theory on similar lines. We have discussed Krashen's contributions before.

So, the ideas here are that the subconscious process of acquisition, if you recall, refers to the L1, and Krashen makes a distinction between L1 and L2 with respect to subconscious and conscious learning. So, conscious learning for L2 and subconscious acquisition for L1. So, with respect to L2 learning, a subconscious process occurs when the learner is focused on meaning. So, this can happen in L2 also, provided the focus is, you know, of that type. And then, receiving adequate comprehensible input, we have discussed this before as well.

The importance of simple codes involves interactions between naturalistic child and adult learners. So, if these factors are in place in terms of the interaction and interactional scenario, then L2 learning will be similar to L1 learning. So, if your input is

comprehensible, meaning that it is easy to understand, it is adequate in quantity and also naturalistic. In these cases, this works. So this actually goes all the way back to Michael Long's report on the input and interactional features of native speakers and non-native speakers in interview-type situations.

This hypothesis was based on the interaction between a native speaker and a non-native speaker. So, the idea that emerged from this interactional hypothesis, and interview was that comprehensible input is necessary; this is where Krashen comes in, and modifications to the interactional structure can actually result in better L2 performance. For example, if you have a very strict, let us put it very simply, if you have a very strict sort of interaction code between the native speaker and non-native speaker, then the chances of learning the L2 properly will be less. But if you modify that situation, if you bring in more fluidity, if you bring in more chances for negotiation on the structure, on the meaning, and all those things, then that input will be more comprehensible to the L2 learner. So, that is how input and interaction are put together in this hypothesis.

So, taking the conversation as baseline data, Long's report put forward some important pointers. So, there are input and interactional features, as we just talked about. So, input features, purely linguistic features like all the linguistic aspects, vocabulary, sentence complexity, and so on. And interactional features, he actually mentions them separately; for example, clarification requests, confirmation checks, self-repetition, and so on. So, these are interactional features; if these are allowed, then the interactional situation will be helpful for the input; that is how the work was.

So, modification to the interactional structure can prove to be critical for making the input comprehensible. Later on, the other researchers also contributed; for example, Teri Pica is one. So, experimental designs were created to test the interaction hypothesis, and they found that the results seem to support it. But not only did this research carry forward the previous findings, it also emphasized the importance of social relationships between participants as a determinant of interactions. Typically, we are talking about SLA in second language acquisition, and often it happens in a formal setup.

So, the interactional setup might be unequal. So, the teacher-student hierarchy will be there. So, if that kind of unequal social relationship is there, language learning becomes slightly more difficult. So, they should behave like equivalents; that is what Pica's research pointed out: if they behave like equivalents as conversation participants, because when you are talking and discussing, and both are part of a conversation, then they are just conversation partners, not teacher and student or native speaker and non-native speaker; that kind of hierarchy should not be utilized. If that is the case, then that will ensure success;

that is what was put forward. More recently, there were many studies that looked at those interactional features, for example, checking for clarification or clarification requests, and the kind of strategies children use.

Based on these factors, they even compared children and adult learners of a second language to find out whether they were using the same kind of strategy or different strategies. So, there have been many studies on this topic. For example, some of them found that children negotiate for meaning using a wide range of strategies. So, clarification requests, confirmation checks, comprehension checks, and repetition; confirmation and comprehension checks both and repetition. However, children seem to use fewer comprehension checks than adults in some cases; some studies also found that.

And similarly, there has been an update on Long's hypothesis as well, the interaction hypothesis. He pointed out that children need not only positive evidence of what is possible in L2, but they also need negative evidence. We have seen this in the case of L1 acquisition as well. So, there is negative evidence in the environment; sometimes there is, and sometimes there is not, and this is the same kind of finding that Long also talks about: that there is positive evidence, but negative evidence is also important. So, over a period of time, this is a domain that has, as I have told before, a long history.

So, as with every new theory, with every new finding and new data supporting either this theory or that theory, they have all been used in pedagogical strategies over time. So, depending on what Krashen's theory says, the language teaching methodologies use those strategies; similarly, all other theories as well. So, they all have implication for language teaching mechanisms because we are talking about second language acquisition which happens in formal setup often. Then, there are some other studies that looked at a combination of input and interaction. So, differences have been found in the L2 ultimate attainment of younger and older child L2 learners based on longitudinal studies.

Differences in UA may be accounted for by the language preference of two groups of children. So, this particular study was carried out in 2003. The study lasted over 3 years in an English as a second language setting, involving Chinese L1 children: 6 young children and 4 adolescents. So, these are the two age groups: 5 to 9 and 12 to 16. These are Chinese students learning English, and they are divided into two groups: the younger group and the slightly older group.

And they noticed that differences in UA may be accounted for by the language preferences of the two children, two groups of children. While the younger children switched their preference to English in the first year, the older learners maintained a preference for Chinese even after three years. We can actually explain this through our idea of

entrenchment because by the time they were 12 years old, as you can see, the group was aged 12 to 16; the adolescents were 12 years old by the time the study started. So, by that time, the entrenchment in their L1 was complete. It was the entire network; the entire system was set for L1, which was Chinese, and as a result, they probably showed a preference for Chinese only; their preferences did not shift from Chinese to English.

But the younger the children, their preference shifted to English quicker, and as a result, their performance also improved. Similarly, we have different kinds of settings depending on second language and foreign language contexts. The foreign language setting typically has L2 as a foreign language in a classroom with no access to that language outside the classroom, but L2 can also be accessible outside the classroom. The foreign language setting we will discuss in detail later is similar in some ways to a second language but also different. Also, there have been some recent proposals to use, or let us say include, children as   researchers   themselves.

For example, a particular study by Pinter claimed that it is necessary for children to be part of the research, that they should have a more active role in it, and proposed that researchers should consider children as co-researchers. So, basically what they want to do is typical research; the researchers will be looking at children as subjects, collecting data from them and giving, you know, whatever understanding we derive from them. It is entirely from our perspective, not from the child's perspective. So that is where this is a new idea: what if it will not happen with very small children, of course, but we can use this method for slightly older children, asking them about their viewpoint, their learning situation, motivation, changes in learning strategies, and so on, as is often done with adult learners That can be used with children as well, which might give us a better idea about these things. So, a general finding from such work is that children are capable of reflecting on their own development, and hence, because they are capable, we might as well incorporate those things   in   the   research   with   respect   to   childhood   SLA.

So, this is where we complete our Lecture 3. In lecture 4, we will move on to adult SLA, which is when learning a second language in adulthood, not in childhood, at a later stage of life, and discuss the differences and important variables. Thank you.