E.T., the well-known extra-terrestrial, learnt human language fast. His earflap opened and he listened intently. His circuits buzzed, assimilating, synthesising. Thus inspired, the language centre of his marvellous brain came fully on. Yet E.T.’s magical ability is almost matched by that of human children. As the American statesman Benjamin Franklin once said: “Teach your child to hold his tongue. He’ll learn fast enough to speak.”

Children talk so readily because they instinctively know in advance what languages are like, as in the spider’s web the outline is pre-programmed and the network is built up in a preordained sequence. The predictable way in which the language web develops will be the topic of this lecture, including how adults can help or sometimes even slow down a child’s progress.

Language has a biologically organised schedule; children everywhere follow a similar pattern. In their first few weeks babies mostly cry. As Ronald Knox once said: “A loud noise at one end and no sense of responsibility at the other.” Crying exercises the lungs and vocal chords. But crying may once have had a further evolutionary purpose. Yelling babies may have reminded parents that their offspring exist. Deaf winged doves forget about their existing brood and go off and start another.

From six weeks onwards infants coo, or even mew according to some older accounts, which sometimes compare these early gurgles to the twittering of birds. From around six months babies babble language-like sounds. “He called me mummy” is a typical squawk of a delighted new parent as a child exercises its mouth with repetitive sounds. Over interpretation by parents is why the words “mama”, “papa” and “dada” are found all over the world for “mother” and “father”, closely followed by “kaka” for excrement.

A widespread myth circulates that infants burble all sounds of every language. This is untrue. The range is in fact rather limited. The myth arose partly because some early researchers found it hard to distinguish infant gurgles and partly because children do indeed produce some sounds not found in the language they are learning. This English child is making a sound remarkably like a French “r”. But a babbling drift occurs in which children gradually veer towards the sounds found in their own language. For example Chinese babies babble single syllables with different tones. Single words - “ooh”, “da” - are produced from around the edge of a year. Good parents often play naming games with youngsters. They point to a black, fluffy blob in a book and say, “cat.” Little Bobby or Susie imitates, saying maybe “ga.” The discovery that “ga” is a name for the dark splodge comes later. Children don’t at first realise that sounds can be labels for things. Early words are tied strongly to a location and often relate to a whole scene. The word “da” for a toy duck might be for one particular duck as it
floats in a particular bath. Only later will “da” be used for a duck away from the bath, and later still extended to all ducks and maybe swans, geese and even toy boats.

The naming insight, the discovery that things have names, is a major leap forward. Children pass this milestone at various times, typically before the age of 18 months. Parents don’t usually notice it, it seems so normal, because adults expect things to have names. But for youngsters the naming discovery can come as a shock, as shown by occasional children who come to it late. Helen Keller was deaf and blind from the age of 2. Then when she was 6, her teacher held her hand under a flow of water and spelled out the word W.A.T.E.R on the other. She later wrote: “Somehow the mystery of language was revealed to me. I knew then that W.A.T.E.R meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, set it free. Everything had a name. Every object which I touched seemed to quiver with life”.

The naming insight is followed by a naming explosion. Names come popping out of children like stars out of fireworks. This eruption in vocabulary leads to word combinations: “Mummy push”, “car dolly” and so on.

CLIP: CHILD WITH MOTHER
Child: Car d’olly (dolly), car d’olly.
Mother: Car with dolly in it.

Some phrases are novel as “Bye-bye sock” or “Gone kitty”, which are unlikely to have been copied from adults. Recurring patterns are found, as with “Sand toe” - I’ve got sand in my toes; “sand eye” - I’ve got sand in my eye; and “sand hair” - I’ve got sand in my hair.” The parents were probably too busy mopping the sand off this child to admire the consistency of its language rules.

Youngsters extract their own rules from the speech around and reapply them, as shown by the wug test devised by Jean Berko Gleason in the 1950s. “Here is a wug,” she said, showing a picture of a birdlike creature. Then she showed two of them. “Now there are twooo …” “Wugs,” responded children from a very young age. Another animal was a “gutch”.

Male: This is a gutch. This is a gutch. So there are two …?
Children: Gutches!
Child: We both said it at the same time.

Children don’t always get it right first time. Two year old Sophie learned the words “broken”, “fallen” and “taken”. She wrongly concluded that English past tenses end in ‘en’. She then invented a whole range of new past tense forms such as “boughten”, “builden”, “riden”, “getten”, “cutten”, “wanten”, “touchen”, “tippen” - as in “Me tippen that over.” Sophie gradually dropped these ‘en’ forms, probably when she discovered the normal past tense for each verb. Children dislike finding two words which mean exactly the same thing and usually drop one of them.

By the age of 3 children utter long sentences, though some things, such as pronouns, still cause problems. Three year old Adam said his doll “shuts she’s eyes” instead of “shuts her eyes”.

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Adam: When she lies down, she shuts she’s eyes.
Mother: She does.

At around three and a half children talk freely. By this time, they have acquired most of the constructions used by adults. This is true of monolingual children and also bilingual ones. A few gaps still exist for all children up to the age of around 10 and word learning goes on throughout life.

This predictable sequence of events is typical of biologically scheduled behaviour, as pointed out by Eric Lenneberg, a pioneer in this field. His book Biological Foundations of Language, published in 1967, was a major landmark. Before then natural behaviour, as seals naturally swim, was usually separated from nurtured or learned behaviour as seals can be taught to jump through hoops. Lenneberg showed that this divide is over simple. Most natural behaviour requires some learning. Pigeons naturally fly, but they have to spend time learning how to stay in the air. Conversely, learning would be impossible if it did not build on natural talents. Pigeons can be trained to distinguish between letters of the alphabet, but only because they already have acute eyesight.

Language is an example of maturationally controlled behaviour, Lenneberg pointed out - behaviour which is pre-programmed to emerge at a particular stage in an individual’s life, providing the surrounding environment is normal. Walking and sexual behaviour are clear examples. Such behaviour emerges before it’s critically needed, yet can’t be forced to appear before it’s scheduled. Some learning is required but the learning can’t be significantly speeded up by coaching. No external event or conscious decision causes it and a regular sequence of milestones can be charted.

An ability to cope with language structure is largely separate from general intelligence. In recent years several so-called “cocktail party chatterers” have been discovered - children who have a non-verbal IQ so low that they may not even know their own age, but who speak fluently. As at cocktail parties, they talk for the sake of talking and their speech may not make sense. Take Laura, an American teenager. “I was 16 last year and now I’m 19 this year,” or “It was no regular school. It was just good old no buses.” Such chatterbox children aren’t just repeating set phrases because they make grammatical mistakes which they’re unlikely to have heard, as in Laura’s statement that: “Three tickets were gave out by a police last year.”

Just as bees learn fast to distinguish flowers from say balloons or bus-stops, so human children are preset by nature to pick out natural language sounds. They don’t get distracted by barking dogs or quacking ducks. Their learning is innately guided; inbuilt signposts direct youngsters, so they instinctively pay attention to certain linguistic features such as stressed vowels and word order. Children’s main task is to discover which of these features have priority in the language or languages they are acquiring, just as bees have to learn whether to look for heather, roses or lilies.

A biological time clock ordains the sequence in which the language web is woven, though not the exact dates. But no-one’s quite sure when the clock starts ticking and when it stops. According to Lenneberg, a critical period is set aside by nature between
the ages of 2 and 13. After that, the acquisition of language is difficult, he assumed. Lenneberg turns out to be partially wrong and partially right. He’s wrong about the start point. Language acquisition begins well before the age of 2. Babies only a few days old can pick out their own language according to some French research, as shown by increased sucking movements when familiar sounds are played to them. So infants still in the womb may become accustomed to the rhythms of the language spoken around them. And language development does not come to a shuddering halt at adolescence, as Lenneberg assumed. Vocabulary even undergoes a spurt at this time. So the idea of a fixed critical period is now disputed.

Yet most people find it easier to learn languages when they’re young, so a sensitive period may exist - a time early in life when acquiring language is easiest and which tails off gradually, though never entirely. A natural sieve hypothesis is one idea put forward to explain this: very young children may extract only certain limited features from what they hear and may automatically filter out many complexities. Later learners may have lost this inbuilt filter and be less able to cope as everything pounds in on them simultaneously.

A tuning in hypothesis is another possibility. At each age a child is naturally attuned to some particular aspect of language. Infants may be tuned into the sounds, older children to the syntax, and from around 10 onwards the vocabulary becomes a major concern. Selective attention of this type fits in well with what we know about biologically programmed behaviour.

The outlines of the language web are therefore preordained. Acquiring language involves weaving in the network details of one’s own native tongue with particular portions scheduled to be filled in at particular ages. Japanese, Welsh or Samoan - children handle all languages with equal efficiency. The American linguist Noam Chomsky has suggested that children might be innately endowed with advanced information on the main ways in which languages can vary, so a child may have to discover whether it’s dealing with an English type language, which puts verbs in front of its objects, or a Turkish type one which does the reverse. Once the decision is made the child metaphorically sets a switch with multiple repercussions. It’s as if the child was sitting in a linguistic bath and watching which way water swirled down the plughole - clockwise or anti-clockwise. Once the youngster had found this out, then it would automatically know the linguistic equivalent of whether it was in the northern or southern hemisphere and whether days got warmer to the north or to the south.

Chomsky makes acquiring language sound like turning on a light - more instantaneous than it really is - but his theory rightly emphasises that any language holds together in a network of implications. If a language has one type of construction, others are predictable from it. If, as in English, a language has verbs before its objects, as in “climb the tree”, then it will also probably have prepositions before nouns as in “up the tree”. A language such as Hindi or Turkish would have the reverse and say as it were “the tree climb” and “the tree up”.

But natural web spinning can be both helped and sometimes hindered by the speech of those around. Early research talked of Motherese, mother’s speech. This left out fathers and friends, so Caretaker speech became the fashionable term - later amended to Caregiver speech and, in academic publications, to CDU, Child Directed
Utterances. I’ll leave it at Caregivers. Another term “baby talk” is best avoided because it usually refers to “gee-gee”, “puff-puff”, “moo-cow” type words, so puzzlingly widespread in England when talking to babies or sending Valentines. Caregiver speech can be odd. Some parents are more concerned with truth than with language. The ill-formed “Daddy hat on” might meet with approval. “Yes, that’s right” if daddy was wearing a hat. But the well formed “Daddy’s got a hat on” might meet with disapproval. “No, that’s wrong” if daddy wasn’t wearing a hat. You might expect children to grow up telling the truth, but speaking ungrammatically as some early research has pointed out. In fact the opposite happens.

Parents also pick on etiquette - “Say please” - or swear words - “Don’t let me hear you say that word again.” Or occasional pronunciation problems - “Say Trisha, not Twisha.” If they do pick on language formation, it’s often verb endings. This may be useful if the child is tuned in at that time to learning these. If not, the correction is likely to be ignored. One much quoted conversation was about baby rabbits. “My teacher holded the baby rabbits and we patted them,” said the child. “Would you say she held them tightly?” asked mother. “Oh no, she holded them loosely,” replied her daughter.

At best, a sensitive parent provides support by being aware of structures to which the child is attuned. Mostly parents muddle along, sometimes getting it right, sometimes wrong.

CLIP: FATHER AND CHILD
Child: Daddy, Daddy sing, Daddy sing … Daddy king.
Father: Daddy King?
Child: Daddy sing, king. Daddy … king, king, king.
Father: Are they kings? He’s got a beard, so he might be a king. I don’t know, but he’s certainly wearing very fancy clothes.
Child: Daddy king, Daddy king, Daddy sing.
Father: Oh you want me to sing! I thought you were saying king.

At worst, a grumbling tone of voice can sap confidence: a child may realise that something is wrong, but not always know what. Only talk directly addressed to the youngster has an effect. Vincent, a hearing child born to deaf parents, learned to communicate with sign language. He himself could hear and he used to sit in front of the television and watch the pictures with fascination. But apparently he didn’t pay any attention to the sounds. He didn’t start to speak until he went to school where people talked to him. And a recent survey in Manchester found that television can delay speech development even in some normal children. They are riveted by the colours and flashing lights and tune out the sounds.

But even with face to face contact, the young learner sets the agenda: clear, varied utterances directly addressed to the youngster are the silken strands out of which the child builds the language web. Caregivers speech is extra useful when the same words come in more than once in different ways. Many parents do this naturally. “Now Patsy, where did you get that knife? Give the knife to mummy. Give mummy the knife. There’s a good girl.” The talk has to grab the child’s attention. Joint enterprises
are all important. Parents often find it easier to talk to girls, mainly because they involve them more often in domestic chores. “Come and help mummy with the potatoes”, mothers often say to their daughters. “But go outside and play football” they command their sons. Not surprisingly some families end up with chattering, potato-peeling girls and tongue-tied football-kicking boys. This is one reason why girls are often a step ahead of boys in their language.

But if people talk to them, all children respond well. They enjoy pit-patting the conversational ball backwards and forwards.

CLIP: FATHER AND SON
Father: Will you put your coat on, please?
Child: Why?
Father: Because we’re going out.
Child: Why?
Father: To see Aunty Mary.
Child: Why?
Father: Because Aunty Mary’s going to give us tea.
Child: Why?
Father: Because we’re hungry and we need to go to her house for some tea.
Child: Why?
Father: Well what would happen if we didn’t eat?
Child: Why?
Father: (laughs)

At this point Father realised Junior wasn’t interested in the answers, but was treating the conversation as a game, which he wanted his father to go on playing. So children build the language web by extracting what they need from the talk they hear around them. Most are efficient chatterers long before they go to school, but they still need to learn which type of speech to use when - so-called communicative competence. Babies and bank managers must be addressed in different ways, just as different clothes are required for the beach and a wedding. A doctor speaking to another doctor might talk about a “circumorbital hematoma”, but to a schoolboy it’d be a black eye.

The language web then has been mostly acquired by children by around the age of 13 apart from the mixing and matching of language styles and also vocabulary, which will be the topic of next week’s lecture.

You might expect parents to cheer as their offspring became competent language users and give them, say, a reward of a telephone on their 13th birthday, but the acquisition story is not yet over. At this age language suddenly becomes a mud-slinging match between generations, at least in England. Teenagers want to talk like their pals, but parents disapprove. A father was shocked when his daughter informed him that she didn’t dare talk in her posh home voice at school; she’d lose her friends. Teenage stroppiness is partly to blame with predictable kicks at convention, though this is normally a temporary phase. Teenagers’ language usually gets less extreme as they approach adult life. But changing speech styles also tangle people up. These days formal speech, like a top hat, is used on fewer occasions. Informal speech, like an open-necked shirt, is felt to be friendly. In this easygoing atmosphere “being proper” is often regarded as less important than being “matey”.

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Matiness and casualness are sometimes emphasised by swearing. F-words swarm like bees in some recent literature and buzz about freely in conversation. Today’s swear words are undergoing a bleaching process, a fading of meaning that happens in all semantic change. In the last century oaths using the name of God were widely disapproved of. Then they gradually lost their power to shock. These days F-words and S-words no longer horrify so many people. Their meaning has weakened as the original connection with sex and excrement fades.

Perhaps a new linguistic anxiety is taking over for those who aren’t bothered by four-letter words. Political correctness may be the replacement worry. Some people would rather say an F-word than label anyone mentally deficient or retarded. They’d prefer “mentally challenged” or “developmentally inconvenienced”. This increased sensitivity to others is a useful trend even though these new PC words may sound somewhat bureaucratic.

But the war of words between the generations is also entwined with the usual cobweb of worries which surround language change. Parents want their offspring to use so-called Standard English. What exactly they mean by this is a question which has long ensnared people in its sticky and dusty threads. The word “standard” is ambiguous. It can mean either a value which has to be met, as in a high standard, or it can be uniform practice as in standard behaviour. These two meanings of standard have long been confused. For example, in 1836 a treatise which offered “principles of remedy for defects of utterance” commented that “the common standard dialect is that in which all marks of a particular place of birth and residence are lost and nothing appears to indicate any other habits of intercourse than with the well-bred and well-informed wherever they may be found”. So Standard English came to be thought of as the speech of the educated. This was often assumed to be the language of Oxford, so-called Oxford English, and of the big public schools. So the word “standard” moved from meaning general usage to that of a specific group to be emulated.

But it’s important to distinguish between accent, which describes pronunciation, and dialect which involves grammar. As a recent survey commissioned by the National Curriculum Council pointed out, spoken Standard English is not an accent. Pronunciation has always varied and Standard English includes a variety of accents. Different accents are a sign of identity, a badge of one’s area. They’re a problem only if they’re hard to understand. Meanwhile, the grammar of English is fairly similar across the British Isles. Standard spoken English is usually defined as the grammatical forms used in formal public contexts, and they don’t vary very much.

But language is always changing and a few fluctuating forms cause a disproportionate amount of anxiety. The phrase “for you and I” in place of the presumed correct form “for you and me” came out top of the complaints in letters written to the BBC about language. Yet several well-known figures have used it in public quite recently, including Oxford-educated Lady Thatcher who commented that: “It’s not for you and I to condemn the Milawi economy.” There’s a surprising mismatch between what people condemn and the condemned forms they use without noticing. Let’s hope that the next generation will shake itself free of this cobweb of pseudo worries.

As this lecture has pointed out, the language web, like a spider’s web, is woven in a preordained way. As with spiders, a lot of time and effort has to go into the weaving
process. But humans, unlike spiders, can think about the webs they have woven. This sometimes gives rise to a superfluous cobweb of worries. Ideally the final layers of a child’s web-building would be supplemented by two extra conscious strands: tolerance of minor variations and an interest in each other’s speech.

In Bernard Shaw’s play Pygmalion, performed in 1916, the character Henry Higgins refers to the flower girl Eliza Doolittle as a “squashed cabbage leaf”, complaining that “a woman who utters such depressing and disgusting sounds has no right to be anywhere, no right to live”. This narrow-minded view is luckily disappearing. Increasingly, people are beginning to realise that variety is the spice of linguistic life.

In John Agard’s poem Listen Mr Oxford Don, the West Indian speaker claims to be bashing up the language:

Listen Mr Oxford Don
I’m a man on de run
and a man on de run
is a dangerous one

I have no gun
I have no knife
But mugging de Queen’s English
is the story of my life

I’m not a violent man, Mr Oxford Don
I only armed wit human breath
but human breath
is a dangerous weapon

But he’s not blowing the Queen’s English down. Nor is he breathing germs over it. Quite the contrary: with his skilled word-weaving, he’s breathing extra life into the language.