

1 Language and mind rethought

This is a book about language, and about its relationship with thought and the mind. It is also a book about how we acquire language, and why different languages are so diverse in their sound systems, vocabularies and grammars. Language is central to our lives, and is arguably the cultural tool that sets humans, us, apart from any other species. And on some accounts, language is *the* symbolic behaviour that allowed human singularities – art, religion and science – to occur.¹ In her Nobel Prize acceptance speech, the celebrated African-American writer, Toni Morrison, put things this way: “We die. That may be the meaning of life. But we do language. That may be the measure of our lives.”² Language is clearly a big deal.

This book addresses a controversy that has raged in the behavioural and brain sciences since the middle of the last century: is language innate, something we are born with? Or does language emerge from use, based on more general mental skills and abilities? The dominant view, until recently, has been the former: we come into the world hard-wired with the rudiments of language. But this view now looks to be on increasingly shaky ground.

But what might it mean to claim that language is innate? Clearly our species, *Homo sapiens*, is biologically pre-prepared to acquire language in a way no other species is: we have evolved the articulatory capabilities to produce a complex set of distinct and discrete sound units – and these sound units vary from language to language; we have the musculature to control and facilitate the production of these sounds; we have the memory capabilities to produce and recall sequences of sounds in order to facilitate well-formed strings of sounds, making grammatically well-formed sentences; and we have complex statistical processing abilities allowing us both to perceive and to recognise sequences of

sounds. Crucially, we recognise fellow humans as being intentional agents, and, hence, are predisposed to interpret their sound sequences as meaningful. And, most significant of all, any given speech community has *agreed* a bewilderingly complex set of linguistic conventions – a language is nothing more than a set of linguistic conventions – allowing us to transmit and comprehend complex ideas: in English we agree that the sound units that make up the word *cat* represent the idea that is associated with the sound segments that in French are signalled orthographically as *chat*, or in Hindi as *billi*.

Conventional wisdom has maintained, over and above this physiological pre-preparedness for language, that we are born with a set of grammatical rules (universal knowledge structures), stored somewhere in our minds, that allow us to acquire grammar almost effortlessly. The idea is that the grammar that underlies all of the 7,000 or so of the world's languages is essentially the same. In short, our species has evolved a specialised grammar module, embedded in our brains, and genetically encoded. And this provides us with the ability to acquire language in the first place: our grammar faculty is in place at birth.

This idea is often referred to as Universal Grammar: all human languages, no matter the variety we happen to end up speaking, are essentially the same. Whether someone learns English, Japanese, Swahili, Tongan or whatever, when you get down to it, they are all alike. Sure, each of these languages has different vocabularies. And each language makes use of a different, although partially overlapping, set of sounds. But underneath it all, the essential ingredient of language – our grammar – is pre-programmed in the human genome: we are all born to produce language because of our common genetic heritage, our Universal Grammar. Just as all of us grow distinctively human organs – brains, livers, hearts and kidneys – so too we develop language: a consequence of our grammar organ, which grows in the human brain, and which no other species possesses. And it is this innately specified knowledge of grammar that underpins our ability to develop and acquire language – any language – in the first place.

This book, and the range of ideas I cover, are presented from the perspective of linguistics – the scientific study of language – my home discipline. While linguistics covers many more areas and sub-disciplines than are represented here, I’ve chosen the range of topics on show, in the chapters to follow, for a very specific reason. The majority of the evidence, viewed with objective eyes, now appears to show that language is not innate in the way just outlined.

In a nutshell, I aim to convince you of the following: language *doesn’t* arise from innately programmed knowledge of human grammar, a so-called ‘Universal Grammar’. I will argue that language reflects and builds upon general properties and abilities of the human mind – specifically our species-specific cultural intelligence; it reflects human pro-social inclinations for inter-subjective communication. I will seek to persuade you that when we acquire language in infancy, we do so by acquiring the language of our parents and caregivers, painstakingly, and by making many mistakes in the process. Language is not something that emerges automatically, and effortlessly. It arises primarily from the language input we are exposed to, from which we construct our mother tongue. Moreover, human infants, I will show, are not empty vessels that come empty-handed to the language learning process. We come ready-equipped with a battery of various general learning mechanisms that make us adept at acquiring our mother tongue(s).

But why should this discussion matter at all? Why should we care? The study of language, for perhaps obvious reasons, is central to a great many other disciplines; after all, if language is the hallmark of what it means to be human, if it is the measure of our lives, then this stands to reason. And because of the centrality of language to all else, it is crucial our understanding of it is accurate. It is also critical that we understand how language relates to other aspects of mental function and social life. And perhaps more than this: language is an index of our very humanity. What would Shakespeare be without his ability to invent, and re-invent the human psyche through language? Language is more

than the paradigm example of cultural behaviour, one that sets us apart from any other species on the planet. We all have a vested interest in it: it makes us who we are, and allows us to explore ourselves: our emotional highs and lows. We should all care about language, even when we take it for granted, for without it we are barely human.

And here is the *really* important part. While I, and a great many other professional linguists, now think the old view is wrong, nevertheless, the old view – Universal Grammar: the eponymous ‘language myth’ – still lingers; despite being *completely* wrong, it is alive and kicking. I have written this book to demonstrate exactly why the old view is a myth; and to show what the reality is. This book is thus a users’ manual for all language users, and for all thinking people. And, it is also, I hope, a reasonably accessible overview of the way language really works.

This book surveys discoveries from a broad array of disciplines; these include linguistics, psychology, philosophy, neurobiology, primatology, ethology and cognitive anthropology. And these discoveries – which have emerged since the mid-1980s – have thrown into relief long-held assumptions about the nature and structure of language, as well as the mind, and the way we acquire our native tongue(s). In this book, I present the emerging reality.



Linguistics is a relatively new discipline compared to others, especially compared to long-established subjects such as philosophy and rhetoric, or even more recent sciences such as astronomy and medicine. Its founding father is often taken to be the eminent Swiss linguist, Ferdinand de Saussure, whose *Course in General Linguistics* (2013) was published posthumously in 1916. The Zeitgeist for much of the second half of the twentieth century, however, was an extreme form of rationalism, which assumed that language is an instinct, something wholly unrelated to any other form of non-human communication. This language myth assumed that all human languages are governed by a single set of

universals buried in the recesses of the human mind, with which we are born.

The reasons for taking this sort of perspective were based on a number of assumptions about the nature of language, in most cases before actual detailed research had been carried out. But today, we now know a vast amount about the diversity exhibited by the languages of the world – although acknowledging that we still only know something about a fraction of the world's 7,000 or so languages. We also know a vast amount about how children acquire language, much more than we did when the *language-as-instinct thesis*, as I shall call the language myth, was formulated, originally in the 1950s and 1960s. Indeed, the preponderance of evidence now leads a great many linguists, myself included, to the incontrovertible conclusion that language reflects, in important ways, more general, and generalizable, properties of mind. And, importantly, we learn language from our parents and caregivers, through painstaking practice and use. This, for ease, I refer to as the *language-as-use thesis*. In contrast, the language-as-instinct thesis, I will seek to persuade you, is a myth; and, it is made up of a number of component sub-myths.

Taking stock of language

Before moving on, let's get a preliminary sense of what language is for, and how it is organised. Language is integral to our lives. We use it to buy groceries in the supermarket, to get a job, to hire or fire an employee, to buy train tickets, and to compose an email. We use it to make a telephone call, to flirt, to invite someone out on a date, to propose marriage, to get married, to quarrel, and to make up afterwards. Language allows us to make friends, and enemies, to pass the time of day, and so on. In our everyday lives, we produce and comprehend language with such apparent ease that we take it for granted. Yet the ease with which we use language belies a level of complexity of immense proportions. You might not know a preposition from an adverb, or the

difference between the passive voice and the indicative, nor what the double object construction is. You might also be at a loss if I asked you how to conjugate the copula in English, or what perfective aspect is. Yet like around 400 million other native speakers of English around the world, you and I deploy the copula and successfully conjugate it countless times every day. In other words, our knowledge of language is implicit rather than explicit. While you might not be able to explain to a foreigner, should they ask, how to conjugate the copula without the aid of a book of English grammar, you can do it with your hands tied behind your back. Each of us carries around in our heads a ‘mental grammar’ far more impressive than any written grammar. In short, you or I don’t have to know that the verb *be* is the copula to know how to use it.

Another sobering fact about spoken – and indeed signed – language is this: unlike other forms of cultural behaviour, it is blind to demographics, socioeconomics and ethnic difference.³ I, you and every other cognitively normal human being in the world uses (or comes to use) language with the apparent ease that we take for granted. Put another way, it doesn’t matter whether you are rich or poor, black or white or what the colour of your eyes are. You are destined to acquire at least one language – although the majority of the world’s nearly 7 billion people grow up speaking two or more languages. In this, the pattern of monolingualism amongst English-speaking populations is not the norm. And, by around 4 years of age, each normally developing human child is a linguistic genius. Nevertheless, we carry on ‘learning’ our mother tongue, throughout our lives. This is the case not least because the language we speak changes and evolves, often in quite short periods of time.

In virtually all of the situations in which we find ourselves in our daily lives, language allows quick and effective expression, and provides a well-developed means of encoding and transmitting complex and subtle ideas. Language does this by fulfilling two key functions, functions that underpin linguistic communication.

The first is that language enables us to express our wishes, feelings, likes, dislikes and ideas. This language achieves by encoding

and externalising our thoughts. To do this, language uses symbols. Symbols are meaningful bits of language. These include sub-parts of words, such as *un-* and *-ed* in *uninterested*, whole words like *walk*, *yesterday* and *knickers* or groups of words which form clauses, such as *behind the sofa*, and groups of clauses which form sentences, like *She left her knickers behind the sofa*.

The symbols that make up English, or any language, consist of two parts, a form and a meaning. Forms may be spoken, written or signed – as in British Sign Language, the sign language of the British deaf community – while the meanings are the ideas, or concepts, that are conventionally associated with them. For instance, in spoken English, the word *cat* is made up of the three distinct sound segments, technically known as phonemes /k/, /æ/ and /t/ which combine to give the form /kæt/. The meaning unit conventionally paired with this form constitutes the stable knowledge that you and I have relating to cats: that they have four legs, whiskers, a tail, make sounds of particular sorts, exhibit quirky, cat-like behaviour of particular kinds, and so on.

However, for language to function effectively as a means of communication, it is not enough that it employs symbols in order to associate forms and meanings. In addition, these form-meaning pairings must be recognised by, and accessible to, others in our community. After all, we use language in order to get our ideas across: to communicate. This involves a process of transmission by the speaker, and decoding and interpretation by the hearer. In short, language fulfils a symbolic or communicative function.

But in addition, the messages we choose to encode symbolically in language invariably perform an interactive and hence social role – the second function of language. For instance, we can use language to change the way the world is. When a member of the clergy makes the utterance: *I now pronounce you husband and wife*, in an appropriate setting, and addressed to two consenting adults, the utterance changes an aspect of the world in a rather special way. From the moment the utterance has been made, the legal, social and moral status holding between the two individuals is irrevocably altered. The newly created husband and wife have obligations

and potential claims towards and against each other that they didn't have prior to the utterance of these words. In some countries, even their tax status is altered. In short, language can be used to perform *actions* which have consequences in the real world.

But one doesn't need the special status of a member of the clergy, a Prime Minister or a sovereign to be able to alter aspects of the world through language. An everyday expression such as *Shut that door on the way out!* also represents an action performed through language – in this, language bestows complete equality: we can all do it. This expression is an attempt to have someone do something, thereby altering an aspect of the world to suit our own wishes or desires.

Another way in which language fulfils its interactive function is by enabling us to express our thoughts and feelings about the world. The expressions *terrorist* and *freedom fighter* might be used to describe the same individual by different people with different perspectives, and different agendas. Using language to speak of a *war on terror* or describing the campaign to criminalise abortion as *Pro-life* is more than mere wordplay. Language carries with it systems of ideas: words have concepts attached to them. Language use helps to frame, or reframe particular issues, and this framing can be both positive and negative.⁴ Language has been described as a loaded weapon: it brings with it real-world consequences.⁵

Language also plays a role in how we affect other people, and how we make others feel, achieved just by our choice of words. Expressions such as *Shut up!* versus *I'm terribly sorry to interrupt you*, while ostensibly conveying the same meaning, affect our addressee in very different ways. This is because the way in which we present our public selves is conveyed, in large part, through language. The nature of the language we choose to use signals information about our attitudes towards others, ourselves and the situations in which we find ourselves.

I've already intimated that a key function of language is social interaction. For instance, we use language to engage in gossip, to get to know someone, to conduct business, to make a purchase in a shop, to attract members of the same or opposite sex, to declare

undying love, and so forth. But how, exactly, do we make use of language in order to facilitate these social functions? We do so by engaging in culturally recognised activities in order to achieve (what are at least usually) mutually understood goals. Moreover, language use arises *in* these joint activities, which are often extremely difficult without it.

For example, imagine going to a shoe shop in order to purchase a pair of John Wayne cowboy boots. This involves a sales assistant approaching you and offering help, interacting with a sales assistant in order to have your feet measured, the assistant fetching the required cowboy boots from the stock room for you to try on, agreeing the purchase, making payment, and the assistant boxing or wrapping the boots. This service encounter is an example of a culturally recognised joint activity. And, crucially, it relies on language use in order to accomplish the desired outcome: the purchase of the boots.

But in addition to using language during the course of a service encounter of this kind, we have to build a mental representation of what is going on, in order to keep track of what stage we are at in proceedings. This involves integrating information we get from language, with information derived from other cues, such as seeing that the sales assistant has brought the wrong colour boots from the store room, or that uncomfortable feeling when the boots are too tight, as you try them on. The information which accumulates, during joint activities of this sort, is gleaned from our discourse – our use of language – and from the ongoing and ever-changing situation(s) in which we find ourselves.



Recall that I said that words consist of symbols: form–meaning pairings. Language encompasses a wide range of different types of knowledge which serve to support symbol use. One kind of knowledge concerns the individual sounds that make up a particular language, and the rules that govern the way these sounds can be combined. While there is a finite inventory of all the possible

sounds a human being can make, different languages draw on different numbers of these in producing the words that make up a language. This is why a French speaker finds it difficult to pronounce the *th* sound in English, and why a Chinese speaker often cannot pronounce the *r* sound: *fried rice* becomes *flied lice*. These sounds simply don't exist in French, or Mandarin. Indeed, English speakers often sound equally absurd when speaking other languages, as I can attest from years of mangling the French language. A number of French sounds simply don't exist in English.

Standard English consists of twelve simple vowel sounds. These include the /ɪ/ in *pit* and the /e/ in *pet*. There are, in addition, a further eight two-vowel sound sequences, known as diphthongs, such as the /eɪ/ in *day*. English also has twenty-four consonants like the /z/ in *zip* and the /ŋ/ in *ring*. This makes a total of forty-four distinct sound segments from which all English words are derived – at least in standard British Received Pronunciation (RP). This total may, on the face of it, be somewhat surprising, given that the alphabet consists of only twenty-six letters. Yet the English spelling system is, in fact, the Latin spelling system, and as applied to English is notoriously treacherous, as is made abundantly clear by the following poem by T. S. Watt:

I take it you already know
 Of tough and bough and cough and dough?
 Others may stumble but not you
 On hiccough, thorough, slough and through.
 Well done! And now you wish perhaps,
 To learn of less familiar traps?
 Beware of heard, a dreadful word
 That looks like beard and sounds like bird.
 And dead, it's said like bed, not bead
 for goodness' sake don't call it 'deed'!
 Watch out for meat and great and threat
 (they rhyme with suite and straight and debt).⁶

A second type of knowledge involves word structure. Each of us intuitively knows how simple words are combined to make complex words – and the meanings associated with the parts of