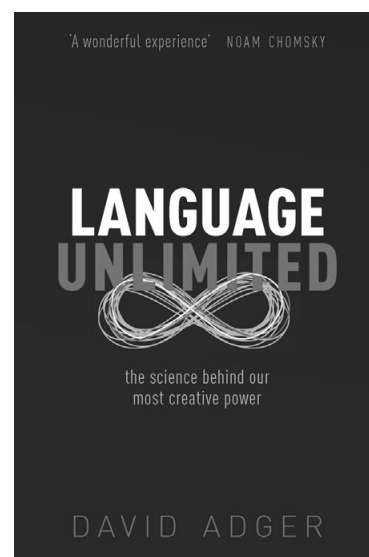


A new book spells out the magic of language

David Adger explains an unsung human superpower

- 1 In *Avengers: endgame*, a superhero blockbuster, the baddy's Infinity Gauntlet gives him the power to snuff out the universe with the snap of a finger. This may sound impressive, but – although few realise it – ordinary people possess an infinite power, too: language.
- 2 Steven Pinker, a professor of linguistics, reckons a conservative estimate of the number of grammatical, 20-word sentences a human might produce is at least a hundred million trillion – far more than the number of grains of sand on Earth. Most can easily be made longer. In theory, the only thing preventing this power from being literally infinite is the human lifespan: some possible sentences would be too long to say even in threescore years and ten.
- 3 This awesome talent is the subject of a new book, *Language Unlimited* by David Adger of Queen Mary University, the president of the Linguistics Association of Great Britain. Mr Adger does not just celebrate language's infinity. He maintains that it is the distinct result of a unique capacity.
- 4 The book's first, and strongest, claim is that human language is different from animal communication not just in scope, but in kind. Most important, it is hierarchical and nested in structure. Mr Adger embraces the theory that only humans possess a mental function in which two components may be joined to a larger one that can then be operated on by the mind's grammar-processor. A highly trained bonobo called Kanzi can obey commands such as 'Give water [to] Rose'. But Kanzi does no better than random chance when told to 'Give water and lighter to Rose'. **13**, a two-year-old child tested alongside Kanzi quickly intuits that two nouns can make up a noun phrase, tucked as a direct object into a verb phrase, which in turn is part of a sentence. This 'recursive' structure is key to syntax.
- 5 The second claim is that language is innate, not merely an extension of general human intelligence. Fascinating evidence comes from children who are deprived of it. Deaf pupils at a school in Nicaragua, having never shared a language with anyone before, created a grammatically ornate sign language on their own. A few deaf children in a Mexican family devised a rich sign system with complex grammatical features found in spoken tongues: in their 'homesign', nouns are preceded by a 'classifier', a sign indicating their type, just as they sometimes are in Chinese. It seems the human mind simply cannot help but deal in grammar.



- 6 A more controversial claim is that all human languages share a 'universal grammar'. This proposition has taken some hard knocks, because the universals that hold up best are negative. There are many sensible things languages could do, but don't. Notably, their grammars do not make use of 'continuous' features, such as the length of vowels. For instance, a past-tense verb could be pronounced for a longer time to indicate how long ago the action occurred – perfectly logical, but no language does this. Whether this is proof of universality is a matter of opinion.
- 7 Still, Mr Adger's tour of linguistics is entertaining and accessible. His book is a handy introduction to a vexed debate on the infinite power of the finite mortal mind.

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