Language is a hallmark capacity of our species, entwined intimately with human intelligence. However, understanding the hidden nexus between language and cognition remains a formidable puzzle. In this talk I explore some of the latest approaches that linguists are pursuing to shed new light on language and the mind. I follow a thread that begins from some of the most beautiful instances of linguistic complexity, which endure in languages across millennia. We are then led via new sparks of creativity ignited in each generation, past minute-to-minute dilemmas of choosing the right word (is it ‘dived’ or ‘dove’?), to arrive at provocative questions about human cognition itself and the role of an evolutionary toolkit of split-second mental manoeuvres that enables us to outshine even the most spectacular of current artificial intelligence. As I weave these threads together, I speculate on how a small yet potent cognitive shortcut might be central to the existence and historical tenacity of what linguists call ‘inflection classes’ — a marvel of language complexity and variation found in language after language around the world.