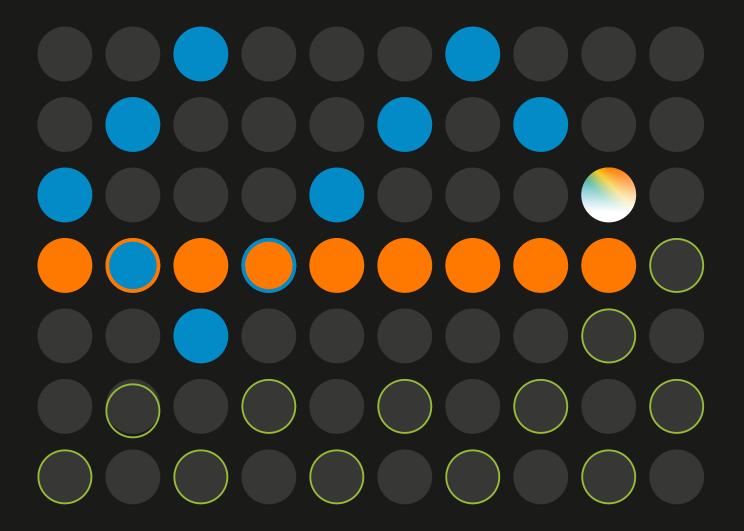


WHITEPAPER

# How Language Influences Our Thinking

Different language structures connect dots in a unique way and shape our perception.





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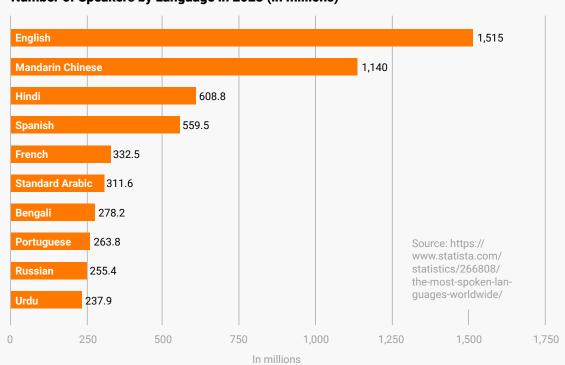
## Introduction

Language is our primary means of communication, allowing us to **express thoughts** and **emotions, share knowledge,** and **connect with others**. Around 7,000 languages are spoken globally, yet just 23 of them account for over half of the world's population. English is the most widely spoken language, followed by Mandarin and Hindi.

Approximately 40% of all languages are at risk of extinction. Minority and Indigenous languages, often spoken by small communities, are especially vulnerable. As these languages disappear, unique, untranslatable words vanish as well—words that capture concepts not easily conveyed in other languages. For instance, the German word, **Schnapsidee**, refers to an impulsive or impractical idea, often conceived under the influence of alcohol. I. In Japanese, **tsundoku** describes the habit of buying books and letting them pile up, unread. These terms are deeply embedded in the cultures that coined them, shaped by their unique histories, values, and **ways of seeing the world**—meanings that become difficult to fully capture if the language disappears.

Therefore, language is more than just a tool for communication; it embodies **culture**, **traditions**, **values**, and **perspectives**. It is fluid, evolves over time, and frequently blends with other languages. Over half the world's population speaks more than one language, offering them insights into multiple cultures—perspectives that can only truly be understood through language itself. But to what extent does language shape our thoughts? How does multilingualism influence our perception of the world? This whitepaper explores how language affects our **cognition**, **worldview**, and **daily life**. By examining linguistic structures, **multilingualism**, and the interplay between language and thought, we will uncover how language not only reflects but actively **shapes our reality**.

#### Number of Speakers by Language in 2023 (in millions)





## Multilingualism and Its Cognitive Advantages

Speaking multiple languages offers benefits that extend beyond improved job prospects and ease of travel. It also provides significant cognitive advantages that enhance perception, creativity, and social skills.

#### A. How Different Languages Shape Perception

The question of how multilingualism influences thought offers fascinating insights into human cognition. Research suggests that a multilingual person's worldview can shift depending on the language they are using. Even basic attitudes and biases can change based on the language in which a question is posed. Charlemagne famously recognized the deep impact of multilingualism, stating, "To have another language is to possess a second soul."

## B. Impact of Multilingualism on Creativity, Flexibility, and Social Skills

Multilingual individuals not only gain a "second soul" in a metaphorical sense but also display distinct neurological differences from monolingual speakers. Brain scans reveal that multilingualism enhances the brain's ability to process complex tasks. A study by the European Commission confirms that multilingualism positively affects **creativity**, **learning**, **social skills**, **mental flexibility**, and **communication abilities**. These traits broaden access to information and contribute to a richer understanding of the world.

Furthermore, multilingualism is linked to **health benefits**. Studies indicate that speaking multiple languages can **slow the progression** of neurodegenerative diseases such as dementia. The cognitive demands of learning and using different languages appear to make the brain more resilient to aging.

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To have another language is to possess a second soul.



Charlemagne (768 – 814)



### C. Value of Multilingualism in the Workplace

Multilingualism plays a crucial role in the business world, extending far beyond simple language proficiency. It encompasses the ability to **understand** and **navigate cultural differences**, which enhances collaboration with international partners and clients, an essential advantage in today's globalized economy.

Studies show that multilingual individuals are often **more empathetic**, as they can better regulate their emotions and adopt different perspectives more easily. These qualities not only **strengthen interpersonal relationships** but also contribute to a positive and inclusive work environment.

From a business perspective, multilingualism offers companies a **competitive edge**. Scientific research indicates that multilingual brains operate more efficiently, enabling **quicker problem-solving** and **innovation**.

Employees who speak multiple languages can help businesses **expand into new markets, foster creativity,** and maintain a **strong global presence**. In an interconnected world, multilingualism is a **key asset** for seizing new opportunities and overcoming challenges.



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# Linking Language and Thought: Theories and Research

Language has long been a central topic in philosophy and science. Scholars and thinkers have explored various aspects of language, including its **origins, meaning**, and **impact**. Many have also examined the complex relationship between language and thought, investigating how language shapes **cognition** and **influences human perception**.

## A. Johann Gottfried Herder: The Origin and Unity of Language and Thought

Johann Gottfried von Herder (1744-1803) was a German philosopher and writer who was closely associated with key figures in the philosophy and literature of his time, including his teacher Immanuel Kant. One of his central areas of research was the origin of language. In 1772, he published *Versuch über den Ursprung der Sprache* (*Essay on the Origin of Language*), in which he explored **why language exists** and **what constitutes its essence**. His ideas had a lasting influence on later philosophers such as Wilhelm von Humboldt and continue to be a foundation for language research today.

Herder viewed language and human existence as inseparable. He argued that thought and language must have developed together, as one cannot exist without the other. In his view, language and thought are in a **reciprocal relationship**: thought is impossible without language, and language cannot exist without thought. This symbiosis, according to Herder, is a fundamental aspect of human nature.



Thinking is not possible without language, and language does not exist without thinking

- Johann Gottfried von Herder (1744-1803)

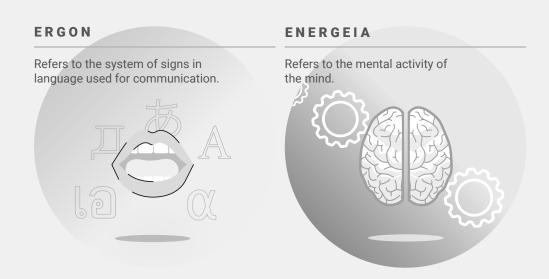


He also emphasized that conscious thinking is humanity's only true tool for navigating the natural world and that this thinking is expressed **through language**. His theories challenged the notion that language has divine origins, instead offering a **naturalistic perspective** on its development.

## B. Wilhelm Von Humboldt: Language as the Key to Our View of the World

The German intellectual Wilhelm von Humboldt (1767-1835) was a linguist and politician who dedicated his life to literature, politics, art, and education. He was one of the first to recognize the **cultural significance** of language and, in 1820, published *On the Diversity of Human Language and Its Influence on the Intellectual Development of the Human Race*. In this work, he described language as a gateway to the world, arguing that each language offers its own unique perspective and **shapes the worldview** of its speakers. Ludwig Wittgenstein's famous statement, "*The limits of my language are the limits of my world*," aligns with this idea. Humboldt emphasized that linguistic differences are not just about sounds or letters but about the **distinct worldviews** they convey. He even stated, "*The real home is indeed the language*."

Humboldt introduced two key terms to illustrate his theory: *ergon* and *energeia*. *Ergon* refers to the **structured system of signs** used for communication, while *energeia* describes the **dynamic mental activity** involved in language. He stressed that the relationship between thought and language is not one-sided. While language serves as a tool to express thoughts, it also introduces new concepts that shape and expand thinking. This reciprocal interaction demonstrates how **language and thought influence each other** and collectively drive human intellectual development.





## C. Sapir-Whorf Hypothesis: Linguistic Relativism and Determinism

The Sapir-Whorf hypothesis, developed from the work of Benjamin Lee Whorf (1897-1941) and influenced by his teacher Edward Sapir (1884-1939), explores the relationship between language and perception. It proposes that the language a person speaks **shapes their perception and interpretation of the world**. Central to this idea is the concept of a "mental universe" structured by language. The hypothesis is divided into two key theses:

- **1. Linguistic Relativity:** Similar to Wilhelm von Humboldt's views, the Sapir-Whorf hypothesis suggests that language acts as a filter through which reality is perceived. Each language structures reality differently.
- **2. Linguistic Determinism:** The structure and semantics of a language influence the formation of concepts and, therefore, thought itself.

Although initially widely accepted, the hypothesis faced criticism due to a lack of empirical evidence. By the 1970s, it was largely replaced by theories that viewed language and thought as universal human traits. Linguistic determinism, in particular, was challenged by findings showing that people can understand concepts in a foreign language even when direct translations do not exist.

However, recent research, particularly by Lera Boroditsky, provides evidence that language does shape thought in meaningful ways. These findings support certain aspects of the Sapir-Whorf hypothesis and highlight the complex and dynamic relationship between language and perception.

## D. Lera Boroditsky: Current Research on The Influence Of Language

The cognitive scientist Lera Boroditsky, born in Belarus in 1976, is a professor at Stanford University and editor-in-chief of the journal *Frontiers in Cultural Psychology*. Her research focuses on how language influences human cognition, particularly in the areas of **space, time, causality,** and **social relationships**. Unlike the theories of Herder, Humboldt, or the Sapir-Whorf hypothesis, Boroditsky's work is based on empirical studies and experimental research.

One of her well-known studies examines the Australian Aboriginal Thaayorre people. The Kuuk Thaayorre language lacks relative directional terms like "right" or "left" and instead relies on cardinal directions such as "north," "south," "east," and "west. This linguistic feature affects **spatial awareness**—Thaayorre speakers, even as children, can reliably orient themselves in unfamiliar environments, outperforming individuals from cultures that use relative direction terms.

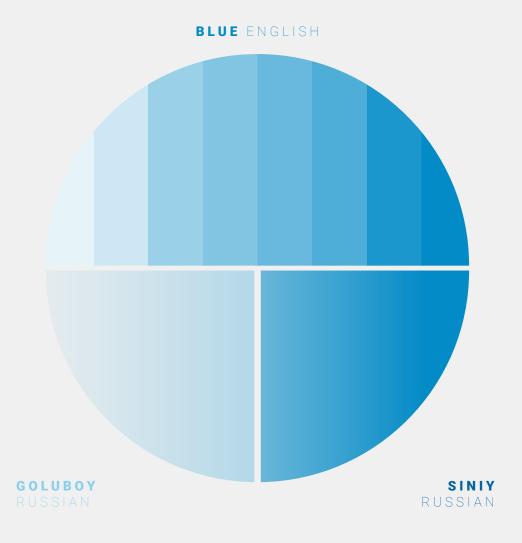
This difference in spatial perception extends to the **concept of time**. While English speakers typically arrange events from left to right in line with reading direction, the Thaayorre order events from east to west, adjusting their mental timeline based on their physical orientation.



If facing north, their timeline runs from right to left; if facing south, it reverses from left to right. These findings demonstrate how language shapes not just communication but also **fundamental aspects of perception**.

Boroditsky also studied how language influences other cognitive processes. For instance, some languages **lack specific number terms**, making it difficult for speakers to represent exact quantities. Similarly, **color perception** is influenced by linguistic distinctions. In English, "blue" encompasses a wide range of shades—light, medium, dark, greenish, and purplish blues—each with its own variations. Russian, however, differentiates only between *goluboy* (light blue) and *siniy* (dark blue). Brain activity scans show that Russian speakers exhibit a **stronger neural response** to shifts between these shades, while English speakers perceive them as variations of the same color.

Boroditsky's research highlights the profound impact of language on human cognition, supporting the idea that **linguistic structures shape how people experience and interpret the world**.





Lera Boroditsky describes language as one of **7,000 cognitive universes** invented by humans, each shaping **perception** and **thought**. A striking example of this is how **grammatical gender** affects perception. In languages with gendered articles, such as Spanish and German, these influence how objects are described. For instance, the Spanish word for bridge (*el puente*, masculine) is often associated with adjectives like "strong" or "long"—qualities traditionally viewed as masculine. In contrast, the German word for bridge (*die Brücke*, feminine) is more commonly described as "elegant" or "pretty." These differences illustrate how **language shapes our view of the world**.





## The Power of Language in Society

Language is present in every aspect of society—whether on television, in newspapers, at work, or online. It is a powerful tool that can be used not only for communication but also for manipulation, shaping how people feel and act. Beyond conveying information, language influences **moods, values,** and **perspectives,** both positively and negatively.

#### A. Influence in Politics

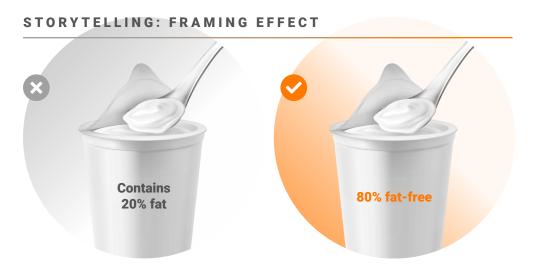
George Orwell once said, "But if thought corrupts language, language can also corrupt thought." Politics takes full advantage of this principle, as politicians carefully choose their words to **mobilize** supporters or **undermine** opponents. Certain terms carry ideological weight—buzzwords that simplify complex realities.

Some, like "social justice," have positive connotations, while others are used negatively. Politicians often try to claim positive buzzwords for their own agendas, leveraging their **emotional appeal** to persuade the public.

It is also worth noting that positively connoted buzzwords are often used disingenuously to disguise policies or actions that might otherwise be seen as ineffective, unpopular, or even unethical. This goes beyond simple euphemism; it can be a form of "doublespeak", a term popularized by George Orwell to describe language used to obscure meaning and shape perception.

In business and politics alike, such language can influence decision-making by presenting policies or actions in a way that minimizes scrutiny or resistance.

**Metaphors** are another common political tool, helping to simplify complex issues and frame them in a particular light. For example, terms like "debt brake" make abstract





economic policies more tangible. Similarly, "framing" is frequently used to present facts in a way that aligns with a party's narrative—consider the difference between "climate change" and "climate crisis." By manipulating language, politicians can **shape public perception, emphasizing** selective aspects of an issue while **downplaying** others. These rhetorical strategies are particularly significant during elections, as they directly influence voter attitudes and decisions.

#### **B.** Language in Advertising

While language in politics is used to gain votes and support, in advertising, it is a tool for selling products and services. Words with positive connotations can **evoke emotions** and **shape consumer perceptions**. Emotive language often shifts attention away from rational arguments, influencing purchasing behavior. People are naturally drawn to emotional connections and, over time, develop **loyalty** to brands that elicit **positive feelings**.

Consistency in language across all advertising formats is crucial for brand recognition. In an oversaturated market, capturing attention and generating interest requires a strategic choice of words. Metaphors, for example, are highly **persuasive** and help make messages more **memorable**. Advertisements that incorporate **compelling narratives** create strong emotional experiences, fostering a **deeper connection with the audience**. This technique, known as "storytelling," is increasingly favored over direct, fact-based advertising.

Other linguistic devices commonly used in advertising include **alliteration** (e.g. Dunkin Donuts), **euphemisms** (e.g. "compact" instead of "small"), and **neologisms** (e.g. "stop cleaning, start swiping"). These stylistic choices enhance brand appeal and make messages more engaging.

## **Conclusion And Outlook**

Language has a profound impact on both individuals and society. Research by Lera Boroditsky confirms what thinkers like Humboldt and Herder suspected long ago: **thought and language are deeply interconnected**. When languages disappear, so do the knowledge, values, and worldviews they carry.

Despite the advancement of translation tools and technology, language learning remains essential for **fostering creativity, cognitive flexibility,** and overall **brain function**. Companies also gain a **competitive edge** from multilingual employees, who bring valuable skills—particularly in international teams—and enable an organization to expand its global reach.

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