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Imagination, Memory, and the Thread of Meditation in Leibniz's Universal Characteristic

ABSTRACT: The paper argues that Leibniz's project of a *characteristica universalis* presupposes a theory of mental faculties. Although Leibniz does not explicitly develop a faculty psychology in this context, imagination and memory emerge as necessary for interpreting and manipulating characters. I argue that imagination mediates between signs and ideas, while the universal characteristic seeks to stabilise this relation by externalising reasoning in a system of symbolic representation, thus transforming memory into a structured, visual repository of knowledge. By situating the project within a broader account of cognition, the paper shows that the *characteristica* does not merely represent thought but reorganises it. It thereby reveals an implicit model of cognition that is constitutive of the operations of the mind, reorganising mental faculties within its framework rather than remaining merely auxiliary to them.

KEYWORDS: *characteristica universalis*; Mental Faculties; Imagination; Memory; Cognition

1. INTRODUCTION

In one of the descriptions of the *characteristica universalis*, Gottfried Wilhelm Leibniz draws its preliminary score: a language so clear and close to the things themselves, that it becomes the “picture of things”, a true “inventory of knowledge”, indubitable “judge of controversies”, “the main instrument of reason”.¹ Usually translated as a universal characteristic, it marks Leibniz's lifelong attempt to construct an artificial, philosophical language. Composed of primitive terms that would establish an *alphabetum cogitationum humanarum*, this language would allow one to instantly understand the given term conceptually and relationally.

In order to achieve this, however, several prior premises must be considered. Leibniz's project involves an attempt to correct the errors of reasoning produced by ambiguous language. In doing so, it aims to correct thought itself, making it possible to grasp the intrinsic meaning of concepts more precisely and thereby to extend the limits of human reasoning. In my view, such an ambition presupposes that, first, reasoning can in fact be modified, and second, that finite minds possess the means to bring about this modification upon themselves. This raises an important question: what capacities allow the *characteristica* to improve the mind in this way? I propose that the answer lies in the interplay of mental faculties such as imagination and memory. Although Leibniz

1. Leibniz's letter to Johann Friedrich, Duke of Hanover (1679); A III, 1, 557.



does not explicitly emphasise these faculties in his account of the universal characteristic, they are nevertheless present throughout its functioning. Characters do not merely represent thought. In fact, they shape and transform the operations of the mind itself. This suggests that the project implicitly relies on a theory of mental faculties, even if Leibniz does not explicitly formulate one.

Recent scholarship on Leibniz's thought has approached the *characteristica* from various perspectives, with emphasis on both its role as a formal calculus and as a broader semiotic project.² More recent studies have further highlighted the role and importance of imagination in symbolic cognition.³ Building on these lines of interpretation, I argue that these semiotic properties of the *characteristica* cannot be fully understood without recognising their grounding in imagination and memory.

On this basis, my argument proceeds in two steps. First, it examines the role of imagination in symbolic reasoning, arguing that it appears as a necessary mediator between characters and ideas, even as the *characteristica* seeks to regulate its function. Second, it analyses the mnemonic and epistemological functions of the system, showing how the externalisation of signs transforms memory into a structured and visual repository of knowledge. Taken together, these functions reveal that the universal characteristic does not eliminate mental faculties but rather reorganises them within its framework.

2. IMAGINATIVE REASONING IN LEIBNIZ

In one of the texts, outlining the scope of the universal characteristic,⁴ Leibniz describes it as a

[...] science [...] that teaches us the secret of fixing reasoning, and of forcing it to leave visible traces on paper in small volumes, so that it can be examined at leisure; it is this science, finally, that enables us to reason inexpensively, by putting characters in the place of things, in order to unburden the imagination.⁵

In this instance, the universal characteristic appears not only as *sensible*,⁶ i.e., leaving visible traces, but it also encompasses the silent exchange of characters for things, all meant to simplify reasoning and economise the use of imagination.⁷

Although not entirely out of the ordinary, Leibniz's mention of imagination in this context raises suspicion. First of all, Leibniz, although elusive about the matter,

2. Respectively, see Burkhardt 1987; Mugnai 2018, 2020, and Dascal 1978.

3. See Pasini 1994; Oliveri 2021b; Leduc 2025.

4. A widely accepted reconstruction of Leibniz's project is given by Mugnai 2020, who presents it as a multistage project: analysis of concepts into simples, recombination into complex notions, construction of an encyclopaedic inventory of knowledge, and formulation of a general science of symbolic operations.

5. *De la methode de l'universalité* (written after 1674); A VII, 7, 78. Translated by the author.

6. *Analysis linguarum* (1678); A VI, 4, 102.

7. Cf. Dascal 1978, on the economisation of the mind.

generally views imagination as an unreliable source of knowledge.⁸ Its inclusion within a mind-perfecting project such as the *characteristica*, therefore, appears somewhat paradoxical. Secondly, there is a notable absence of discussion on mental faculties by Leibniz. Even if confined to this particular passage, the problem persists throughout Leibniz's thinking of the universal characteristic, and points to the underlying relationship between the *characteristica* as a mirror of the mind and the mental faculties that constitute it.

For this line of reasoning, one of the most important premises is that the mind is already guided by certain signs. Leibniz believes that "if there were no characters, we could neither think of anything distinctly nor reason about it".⁹ This suggests that characters are actually a necessary condition for thought, and without them, thinking would not proceed at all (at least not in the same way). Furthermore, characters fix our thoughts, "which are too vague and too fleeting in these matters, where the imagination would be of no help to us were it not for the use of characters".¹⁰ However, it is not only the presence of characters that is of importance, but also their arrangement. If the characters are poorly arranged, they fail to properly represent the relationships between concepts, thus preventing reasoning from proceeding correctly, i.e., reasoning breaks down because the arrangement of characters no longer mirrors the structure of concepts.

Leibniz further emphasises the role of imagination, saying that precisely within its domain we can find signs, such as letters and characters, that respond to abstract things.¹¹ From this follows that characters can represent something without explicitly knowing what it is, i.e., possessing an anticipatory quality. Imagination, as the faculty in which sensory perceptions are unified with the content of understanding, mediates this relation.¹² It also enables the handling of characters as sensible objects, and allows them to be perceived, compared, or manipulated within reasoning. In this sense, it plays a central role in understanding, but also becomes burdened by the need to correctly align signs and ideas. The *characteristica* can be seen as an attempt to alleviate this burden by establishing a more systematic and reliable correspondence between signs and ideas. Instead of establishing a direct relationship,¹³ the *characteristica* provides a rule-governed correspondence. Within this framework, the mediating role of imagination is not eliminated but structured and constrained, so that reasoning can proceed through the manipulation of signs even without an intuitive grasp of their content.¹⁴

8. In Leibniz's philosophy, imagination is treated ambiguously, encompassing the ability to reproduce images based on sensory perceptions (Leduc 2025: 6). In relation to the intellect, it is often regarded as a source of errors.

9. *Dialogus* (1677); A VI, 4, 23, L 184. Cf. *Fundamenta calculi ratiocinatoris* (1688); A VI, 4, 918.

10. Leibniz's letter to Abbé Gallois (approx. after 1678); GM I, 181. Translated by the author.

11. Leibniz's letter to Pierre Bayle; GP IV, 541. Cf. Oliveri 2021b.

12. For the definition of imagination as a unifying sense, see Leibniz's letter to Sophie Charlotte *Sur ce qui passe les sens et la matière* (1702); A VI, 5, VE 263501, L 548; *Meditationes de cognitione, veritate et ideis* (1684); A VI, 4, 585, L 292.

13. Cf. Leibniz's letter to Ehrenfried Walther von Tschirnhaus (1678); A II, 1, 411, L 193.

14. This relates to Leibniz's notion of *cogitationes caecae*, by which reasoning can proceed symbolically without a full intuitive grasp of the concepts involved, see *Meditationes* (1684) (A VI, 4, 585).

At the same time, Leibniz's description of the universal characteristic as "the best instrument of reason"¹⁵ places it at the opposite end of the spectrum. This formulation presents the *characteristica* in technical rather than scientific terms.¹⁶ The distinction, already present in Leibniz's early writings,¹⁷ reveals a duality within the project. On the one hand, the *characteristica* functions as a kind of script or formal language, operating primarily as a calculus. On the other hand, it is also described as a science, that is, a systematic investigation into the foundations of knowledge itself.

This duality is not merely terminological but distinguishes between two levels of thought. The technical capacity allows it to function as calculus, limited to a formal system of inference, an external apparatus designed to support reasoning. This understanding acknowledges its practical utility but ultimately limits its role to that of a cognitive extension. The scientific capacity is more ambiguous. One can presume, based on Leibniz's views on scientific knowledge, that the *characteristica* is intended to be an Ariadne's thread through the sciences, helping to find pathways between different domains. Yet for it to have this function, Leibniz has to admit that the universal characteristic mirrors cognition rather than merely describes it. The latter approach is more in line with the *characteristica*'s heightened mental capacity. Not only does Leibniz deem this necessary because of the weakness of the human mind.¹⁸ He maintains that it is precisely the characters that help guide the intellect.¹⁹

To this extent, the medium of signs depends on the capacity of imagination and memory. Imagination enables the handling and interpretation of signs,²⁰ while memory preserves their associations. In this sense, reasoning can become "mechanised" as the relation between characters is regulated by fixed procedures rather than relying on the spontaneous activity of imagination. As a result, the correspondence between signs and ideas becomes more stable and reliable. This does not eliminate the role of imagination, but restructures its use so as to reduce the risk of confusion. In this way, knowledge that would otherwise remain confused can be transformed into distinct knowledge through the regulated use of signs.²¹ In this context, confused knowledge arises from the operations of imagination and memory alone, whereas distinct knowledge depends on the regulated use of signs within the *characteristica*. Accordingly, Leibniz's ideal of enhancing the natural capacities of reasoning can be tied to this refinement and support of imagination and memory through such a symbolic system as the *characteristica*.

15. *Analysis linguarum* (1678); A VI, 4, 102.

16. On the dual character of the *characteristica*, see Burkhardt 1987: 43.

17. E.g. *Dissertatio De Arte Combinatoria* (1666), DAC 2020.

18. See Gensini 1992: 109.

19. Cf. *Analysis linguarum* (1678); A VI, 4, 102.

20. On imagination and signs, see Oliveri 2021a: 298.

21. On confused and distinct knowledge, see *Meditationes* (1684); A VI, 4, 585, L 292.

3. MEMORY, EXTERNALISATION, AND THE REORGANISATION OF COGNITION

A further dimension emerges when the *characteristica* is situated within its encyclopaedic context. Leibniz positions it in relation to the encyclopaedia as the total storage of discovered truths. In turn, this approach allows knowledge to be accessed externally and visually. This quality, i.e., the ability to present thought as something observable, to “make clear the intimate structure of any term”,²² introduces another epistemological aspect. Leibniz intends that the structured visualisation of knowledge could enable new forms of discovery: since complex ideas are broken down into fundamental parts, any new connections become instantly visible within the structure.

To this extent, the universal characteristic is grounded in mnemonic functions – Leibniz goes on to either call it “an art of reminiscence or mnemonics”,²³ or subtly hints that characters carry the mnemonic functions of preserving the relations between signs and ideas, acting as stable repositories of knowledge.²⁴ In turn, this capacity reflects Leibniz’s description of what constitutes the art of memory. For him,

the art of memory is to store things that need to be retained in certain places, which if we have present in our mind, or otherwise known, [...], we will easily place everything in order, and we will suddenly find something by which to connect the thing to the place.²⁵

In this regard, such a system of signs as the *characteristica universalis* makes information always accessible. As all conceptual relations are visible within the signs, knowledge can be stored, organised, and recalled through inspection alone.²⁶ Above all, this forges the signs as stable repositories of knowledge and removes the need for the repeated process of understanding or rediscovering any meaning, saving the trouble of “searching again for what has already been found”.²⁷ As such, this ability extends the mind’s operations beyond the body. The mind no longer needs to recall meanings independently, as knowledge is accessed through perception of the signs, allowing one to interact with and manipulate thought through a structured symbolic medium.

The connection between memory and the *characteristica* can be understood as follows: by using visual signs to imprint ideas so that all mental operations, including reasoning, can be performed visually through them, the *characteristica* operates as a kind of mnemonic technique. Thus, there is less need to recall the meaning of ideas independently, and reasoning proceeds through the manipulation of signs. In this sense, it also aligns with what is traditionally called mnemotechnics, the technology or the art of memory. In describing the characteristic, Leibniz always underscores that its

22. Mugnai 2018: 177.

23. *Introductio ad Encyclopaediam arcanam...*; A VI, 4, 527, D 220. This passage concerns *scientia generalis*, here treated as part of the same conceptual framework.

24. *Praefatio operis ad instaurationem scientiarum* (c. 1682); A VI, 4, A 440, D 214.

25. *De grammatica rationali et arte memoriae* (1678); A VI, 4, 71. Translated by the author.

26. Marras 2023: 109.

27. *Praefatio operis ad instaurationem scientiarum* (approx. 1682); A VI, 4, A 440, D 214.

achievement would make everything known at once.²⁸ Most likely, this is connected to the use of imagination, but within also lies the implication that the correct use of signs supposes the ability of immediate reminiscence— knowledge is accessed through the perception of signs. In this light, its true significance lies in its ability to mirror, reconstruct, and restructure human cognition.

In this way, the universal characteristic does not merely assist cognition but reorganises it. Imagination and memory are not eliminated but reconfigured through their interaction with symbolic systems. The manipulation of characters replaces the need for internal recall while preserving the relations between ideas in a stable and visible form. The *characteristica* thus mirrors the structure of cognition by externalising its operations, transforming mental faculties into functions distributed across a system of signs. This confirms that Leibniz's project, although not explicitly framed in terms of faculties, fundamentally involves them within its functioning.

4. CONCLUSIONS

I have argued that Leibniz's description of a *characteristica universalis* implicitly presupposes a theory of mental faculties. Although Leibniz does not explicitly formulate such a theory, imagination and memory emerge as necessary conditions for the interpretation, manipulation, and stabilisation of characters: imagination mediates between signs and ideas, while memory preserves their relations in a structured and accessible form.

As such, the *characteristica* appears not merely as a system of symbolic notation, but as an active cognitive structure that shapes the operations of the mind. Rather than simply expressing thought, it reorganises it by externalising reasoning through visible signs, thereby transforming cognitive processes into operations that can be inspected and manipulated within this structured symbolic system.

In this sense, the universal characteristic advances the human mind. It reveals an implicit model of cognition in which a symbolic system mirrors and extends the mental architecture. The very use of characters already presupposes a departure from the ordinary correspondence between ideas and signs, thereby unburdening the imagination while simultaneously relying on the imaginative and mnemonic capacities embedded in the signs themselves. Imagination, far from being eliminated, is thus reconfigured: it remains a necessary condition for the interpretation of signs even as its mediating role is being reorganised. This tension makes clear that the *characteristica* ultimately depends on the very faculties it appears to bypass, thus allowing to identify an implicit theory of mental faculties within it.

ABBREVIATIONS

A = G. W. Leibniz, *Sämtliche Schriften und Briefe*, Darmstadt & Leipzig & Berlin, Akademie Verlag, 1923-. Quoted by series, volume, page (Volume VI, 5 in preprint = VE).

DAC = G. W. Leibniz, *Dissertation on Combinatorial Art*, ed. by M. Mugnai, H. Van Ruler and M. Wilson, New York, Oxford University Press, 2020.

D = G. W. Leibniz, *The Art of Controversies*, éd. par M. Dascal, Dordrecht, Springer, 2008.

28. *Dissertatio De Arte Combinatoria* (1666), DAC 187.

- GM = *Leibnizens mathematische Schriften*, 7 vols., hrsg. von C. I. Gerhardt, Berlin (later: Halle) 1849-1863; repr. Hildesheim, Georg Olms, 1962.
- GP = *Die philosophischen Schriften von Gottfried Wilhelm Leibniz*, hrsg. von C. I. Gerhardt, 7 vols., Berlin, Weidmann, 1875-1890; repr. Hildesheim, Georg Olms, 1978.
- L = G. W. Leibniz, *Philosophical Papers and Letters*, ed. by L. Loemker, Dordrecht, Kluwer Academic Publishers, 1989.

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