Vilnius University Press

Contents lists available at Vilnius University Press

Problemos
2026, vol. 109, pp. 47–58

ISSN 1392-1126 eISSN 2424-6158
DOI: https://doi.org/10.15388/Problemos.2026.109.4

Leibniz's Instrument of Thought: The *Characteristica Universalis* and the Reorganisation of Cognition

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Abstract. For many years, Leibniz's grand project of *characteristica universalis* has been understood in terms of 20th-century thought. This view has limited its scope to a universal logical instrument, reducing it to an external representation of thought. In turn, by overlooking its epistemological and semiotic aspects, this perspective could not capture its deeper engagement with the faculties of the mind. A more holistic view, however, reveals the role of universal characteristics in cognition not merely as an instrument for understanding but as an active part of thought. By actively engaging reasoning through the varying use of the intellect, imagination, and memory, it reconfigures mental operations and deepens the understanding of human cognition.
Keywords: Gottfried Wilhelm Leibniz, *characteristica universalis*, instrument, knowledge, faculties of the mind.

Leibnizo mąstymo instrumento samprata: *characteristica universalis* ir pažinimo transformacija

Santrauka. Daugelį metų Leibnizo *characteristica universalis* projektas buvo interpretuojamas per XX a. mąstymo prizmę. Toks požiūris apribojo šio sumanymo reikšmę iki loginio instrumento, veikiančio kaip išorinė mąstymo reprezentacija. Dėl to buvo nepakankamai įvertinti projekto epistemologiniai ir semiotiniai aspektai bei ryšys su mentaliniais gebėjimais. Visapusiškesnis požiūris leidžia matyti *characteristica universalis* ne tik kaip pažinimo priemonę, bet kaip aktyvų paties mąstymo komponentą. Įtraukdama mąstymą per kompleksinį intelekto, vaizduotės ir atminties veikimą, *characteristica universalis* perkonfigūruoja samprotavimo operacijas ir prisideda prie žmogiškojo pažinimo supratimo.
Pagrindiniai žodžiai: Gottfriedas Wilhelmas Leibnizas, *characteristica universalis*, instrumentas, pažinimas, mentaliniai gebėjimai

Received: 10/11/2025. **Accepted:** 17/07/2026
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Introduction

The idea of Gottfried Wilhelm Leibniz's[1] *characteristica universalis* (hereafter also referred to as the *characteristica* or the *universal characteristic*) has long baffled researchers. On the one hand, its continuously growing aim and intention indicate that it constituted one of the central projects of Leibniz's philosophical discourse. On the other hand, Leibniz's own reservations regarding the project raise the question of what it was ultimately meant to accomplish. Aiming to facilitate understanding and clarify the domain of knowledge, Leibniz consistently sought to implement the *characteristica universalis* within the scientific context. Yet, despite the various plans for what it should look like, the dream of the universal characteristic remains enigmatic, and the scope of the project still seems ambiguous.

Modern interpretations have shaped and, at times, constrained our understanding of this project. Figures such as Bertrand Russell (2005 [1900]) and Louis Couturat (1901) framed the universal characteristic as a logical instrument. While this interpretation holds merit – given that the *ars characteristica* proposed a sign system for representing the relations between thoughts – it narrowed down the scope of Leibniz's project. By treating it primarily as an external aid to cognition, these readings have reduced it to a mere logical, language-like system, failing to account for its deeper epistemological and cognitive significance, particularly its connection to the faculties of the mind. Recent scholarship on Leibniz has increasingly challenged purely logical readings of the *characteristica.* Studies by Sarah Tropper (2019), Lucia Oliveri (2021a, 2021b) and Christian Leduc (2014, 2025) have highlighted the influence of imagination, memory, and symbolic cognition in Leibniz's epistemology. While these approaches draw attention to the cognitive and symbolic dimensions of Leibniz's philosophy, they do not fully question how the instrumentality of the *characteristica* affects the operations of the faculties themselves. In that sense, a more comprehensive view recognises that Leibniz described the universal characteristic not only as a *lingua generalis* or *universalis* but also as *grammaire raisonnée* and *scientia generalis* – which is a view that refers to a broader conceptual framework. Following Hans Burkhardt's (1987: 43) observation that the *characteristica universalis* is both *technē* – an art or capacity – and a branch of metaphysics, this paper proposes to revisit its dual nature. The present article further develops this line of interpretation and proposes that the *characteristica* should not be understood merely as a representational system, but also as participating in cognitive processes by interacting with the faculties of the mind, in particular, with imagination and memory.

Accordingly, the paper addresses four related questions: (1) what it means to call the *characteristica universalis* an *instrument of thought*, (2) how it relates to cognition, (3) in what way it engages the faculties of the mind, and (4) how those faculties are engaged

[1] Abbreviations denoting Leibniz's texts. **A** = Leibniz: *Sämtliche Schriften und Briefe*. Hrsg. von der Preußischen (später: Berlin-Brandenburgischen und Göttinger) Akademie der Wissenschaften zu Berlin. Darmstadt (später: Leipzig, zuletzt: Berlin) 1923 ff. Cited by series, volume, page number; **L** = Leibniz: *Philosophical Papers and Letters*, ed. L. Loemker. Dordrecht 1989.

through its use. By exploring these questions, the argument moves beyond the logical interpretation to show that the universal characteristic, while representing thought, also mediates and reorganises the conditions under which cognitive operations take place.

1. The Instrumentality of the *Characteristica Universalis*

It is well known that Leibniz frequently described the *characteristica universalis* in instrumental terms: he calls it "the best instrument of reason" (A VI 4 102; *le plus grand organe de la raison*), thereby invoking the classical *organon* tradition and signalling that the project should be understood as an artificial means for advancing the sciences. By giving thought a written, external form, Leibniz held that the intrinsic structure of concepts becomes visually explicit, and thus more amenable to correct manipulation. As Massimo Mugnai observes, "if we designate each primitive term with some elementary symbol of a given alphabet, then we may represent each complex term as a combination of those symbols, thus giving rise to a kind of 'pictorial language' that makes clear the intimate structure of any term" (Mugnai 2018: 177).

The *characteristica*, then, is not primarily an ordinary spoken language. More so, it resembles a semiotic art aimed at structuring thought itself. Mugnai notes that "Leibniz uses the Latin *character* to refer to a sign that would be used to symbolise words and thoughts […]". Then, according to Leibniz, "[...] [this is what – K. Č.] he calls such a sign-making and ordering art in which these signs coincide with thought, i.e. have the same relation as that which binds thought" (2018: 178; c.f. A VI 4 916). Thus, the universal characteristic signifies incomprehensible ideas, determines how they are formulated, communicated, and advanced, and, as such, provides a structure for acquiring knowledge, not just for expressing it.

Leibniz's own vocabulary reflects this double orientation: amongst other terms, he describes the project with terms such as *instrumentum rationis*, *organon rationis*, *ars characteristica*, and *ars cogitandi*[2]. Leibniz employed a number of similar terms to indicate the instrumentality of the universal characteristic, which suggests that Leibniz understood it as a rational instrument as well as a technical art. The choice of *organon* is also significant, for, in the seventeenth century, the term carried a dual sense: at the time, it used to name both an external instrument and a functional organ (as the eye is an organ of vision). Being read in this light, the *characteristica* occupies a conceptual middle ground between mere notation and an internal cognitive faculty: it is an instrument that becomes, in a sense, an organ of reason[3].

This instrumental reading has, of course, a venerable reception: Couturat's reading and Russell's early exposition emphasised the universal characteristic as a progenitor of

[2] For the broader terminology associated with Leibniz's project, see Burkhardt (1980: 188–189) and Pombo (1987: 123), who, respectively, discuss the development of the term of *characteristica universalis* and related notions such as *lingua universalis.*

[3] Cf. *Generales Inquisitiones de Analysi Notionum et Veritatum* (c. 1686); A VI 4 59–60: "Characters are for the mind what spectacles are for the eyes".

formal logic. Hide Ishiguro summarises this tradition when she notes Couturat's view that Leibniz sought "a system of formal logic which, because its syntax corresponded to the laws of thought, would provide a procedure to determine the truth-value of every human thought expressed in it" (1972: 10). Yet this logical construal risks narrowing down the *characteristica* to an external calculus and thereby obscuring its semiotic and epistemic ambitions. For Leibniz repeatedly describes the *characteristica universalis* as "the picture of things, the inventory of knowledge and the judge of controversies," and as "the main instrument of reason that is going to lead the forces of the spirit as far as the microscope has pushed the sight" (A III 1 557)[4]. Such locutions invite a reading that places the *characteristica* within the faculties of mind rather than outside them. In other words, it raises the question of what it means to call the *characteristica* an instrument of thought.

Accordingly, this involves a twofold process. First, the primary components of the mind are identified, followed by the creation of an encyclopaedia to catalogue them. This would allow one to open up a 'file' and search for the connections and interrelations of ideas. The next step would be to ascribe signs to these ideas in such a manner that the syntactic structure of the signs mirrors the logical and conceptual structure of the ideas they represent. In general, by identifying the main components of the mind, the universal characteristic would unlock the structure of thought. In this sense, it would be a language that imitates the mind. However, Leibniz suggests that once this has been achieved, the mind is enhanced and advanced as a result, as we can hope for no greater aid in perfecting the mind (A III 2 451, L 193)[5]. Thus, the structure proposed by the *characteristica* does not replace the existing structure of cognition, but, instead, changes the conditions under which reasoning is performed. In this sense, Leibniz suggests that creating an external symbolic instrument can improve human reasoning, i.e., perfect the mind. It is not that new intellectual faculties are created, but this step allows existing cognitive operations to be carried out with greater clarity and reliability. Finally, the initial 'draft' of all ideas could be revisited, and the understanding gained could be reorganised and re-created. In short, the project, as Leibniz envisaged it, aims at an externalisation that is intended to be internalised: by working with the signs, one acquires a reorganised cognitive framework that reshapes reasoning itself.

This understanding prepares the ground for the paper's subsequent questions: if the universal characteristic functions through the mind's operations, how exactly does it draw upon the faculties (intellect, imagination, memory), and to what extent does its habitual use reorganise those faculties?

[4] From Leibniz's letter to Johann Friedrich, the Duke of Hannover (1679): "This language or *Characteristica Universalis*, which I use to call as the picture of the things, is the inventory of the knowledge and the judge of controversies. It is the main instrument of reason that is going to lead the forces of the spirit as far as the microscope has pushed the sight. This language or writing could be learned in few weeks, as far as ordinary commerce is concerned, and it is probably going to be propagated sooner in the entire universe, especially if it is protected by a great prince".

[5] Cf. Leibniz's Letter to Walter von Tschirnhaus (1678).

2. Cognition and the *Scientia Generalis*

The considerations of the instrumentality of the universal characteristic seem to propose it as representational, i.e., representing the structure of the mind. Yet the project's disposition is rather oriented to cognitive intentions, i.e., to act upon thought. In this light, one of the central dimensions of the project lies in its relation to another grand Leibnizian concept – the *scientia generalis*. Although the connection between them is complex[6], it provides a crucial key for understanding the cognitive function implicit in the *characteristica*. The *scientia generalis* was conceived as a universal science of order, a system for classifying and connecting all knowledge[7]. Within this framework, the universal characteristic's instrumentality could appear as acting upon thought itself, thus engaging and reconfiguring cognition.

Leibniz believed that the current state of knowledge is too chaotic,

> to be comparable to a huge magazine, stacked with a complete variety of goods, and yet obviously in a mess and disordered, every good mixed with every other good, without any numerical or literal indices giving access to them, with no inventory, no bookkeeping, from which some light might be drawn (A VI 4 A 440, approx. 1682; translated in Dascal 2008: 214).

The *characteristica universalis* emerges as an attempt to impose order upon this disorder. Like a *filum Ariadnes*, it would reorganise reasoning by acting as a guide through the labyrinth of ideas, making visible their relations and dependencies. Such ordering was not merely epistemic. For Leibniz, it was a moral and social ideal, a 'public treasure'[8] capable of promoting the happiness of humankind, and making knowledge universally accessible.

Already in the *De Arte Combinatoria* (1666), the transformative ambition of this project is clear. If correctly accomplished, Leibniz writes, "we shall have a universal script that will be as easy as it is general, readable without the aid of a dictionary, and allowing fundamental knowledge of everything to be absorbed at once" (2020: 187). The *characteristica* thus appears as an external writing that nonetheless reflects the innate principles of thought. Furthermore, its ability to systematically encode and manipulate knowledge suggests a computational approach to cognition, wherein thought is externalised, systematised, and made operational through structured symbolic representation. Thus, the universal characteristic exemplifies this by serving as a medium through which cognitive activity is regulated and made more explicit, allowing abstract reasoning to be performed through a formalised process.

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[6] For example, for some, the universal characteristic is an instrumental part of the general science and, as such, only constitutes a small part of the whole, as proposed by Massimo Mugnai (2018). Others, such as Arnauld Pelletier (2018), maintain that the two concepts are interchangeable and should discussed accordingly.

[7] In this regard, Leibniz's *scientia generalis* is deeply invested not only in the organisation of knowledge, but also of science: "the terminology here is notoriously slippery […] When early modern authors use the word *scientia*, the closest translation is normally "knowledge" rather than "science". At the centre of Leibniz's scientific ambitions is a project […] which looks prima facie very different from what we would nowadays call "science"" (Antognazza 2017: 20).

[8] As stated in *Studia ad felicitatem dirigenda* (1678), A VI 4 135–138.

In a 1678 letter to Walther von Tschirnhaus, Leibniz captures this double movement of externalisation and internalisation through the importance of signs:

> No one should fear that the contemplation of characters will lead us away from the things themselves; on the contrary, it leads us into the interior of things. For we often have confused notions today because the characters we use are badly arranged; but then, with the aid of characters, we will easily have the most distinct notions, for we will have at hand a mechanical thread of meditation, as it were, with whose aid we can very easily resolve any idea whatever into those of which it is composed (A II 1 411; L 193).

Through such visualised order, the *characteristica* becomes an active instrument of cognition. As Cristina Marras observes, "the use of signs is essential both for the development of thought and its communication, but also as an aid to fix ideas, and to have a mnemonic, inferential and communicative function" (2023: 109). The visualisation of concepts reveals their inner relations, transforming thought into something observable and operable.

This is the epistemic and cognitive meaning of the *scientia generalis*: it renders the totality of knowledge accessible, retraceable, and thus improvable. The *characteristica* realises this ideal by externalising the mind's structure into visible form. This structured visualisation of knowledge enables new forms of discovery – since complex ideas are broken down into fundamental parts, any new connections are instantly visible within the structure. In this regard, the universal characteristic develops a writing that, by representing the mind in written form, allows one to alter and thus enhance it.

This goes back to the encyclopaedic intentions of Leibniz's project. Marras comments that "the repertory is what allows one to 'find', locate and access information. Not only that, says Leibniz, it also saves us the trouble of searching again for what has already been found" (2023: 108). In other words, every conceptual connection is already visible within the signs and allows for storing, organising, and recalling knowledge, which can be accessed just by looking at it. Thus, the universal characteristic extends the practical reach of the mind beyond the body, providing a symbolic medium through which its internal operations can be organised and accessed directly.

The project of the *scientia generalis* thus provides the broader framework within which the *characteristica* exposes its full cognitive significance. By aiming to order all knowledge and render it universally accessible, the *scientia generalis* establishes the structural conditions for a mind capable of recognising and reproducing this order within itself. The *characteristica* realises this condition in practice as it operates as the cognitive instrument through which the ordering of knowledge becomes an ordering of thought. In other words, what in the *scientia generalis* appears as the encyclopaedic ideal of systematised knowledge, in the *characteristica universalis* becomes an operative mechanism that acts directly upon the faculties of the mind. Through its symbolic structure, it not only represents but organises the processes of cognition, preparing the ground for examining how it employs and reconfigures the faculties themselves.

3. The Use of Faculties of Thought in the *Characteristica Universalis*

The relationship between the faculties of thought and Leibniz's idea of the *characteristica universalis* opens a broader question: how, and in what way, does an instrument designed to imitate reasoning influence the reasoning that created it? This implies the reorganisation of imagination, memory, and intellect within a symbolic framework. The apparent influence on faculties thus refers to how these faculties cooperate when parts of reasoning and recollection are transferred into an external symbolic system.

The notion of reorganisation used here does not refer primarily to the development of a new theory of mental powers and does not necessarily imply a transformation of the faculties themselves. It concerns more a change in the way existing cognitive faculties operate when integrated into the framework of the *characteristica.* Leibniz's project does not replace the traditional distinction between intellect, imagination, and memory, but reorganises their relations by transferring certain cognitive operations, such as retention, comparison, and combination, into a system of signs.

It must also be noted that the interaction between the *characteristica* and the mental faculties is not explicitly theorised by Leibniz. His reflections on faculties remain within the broad understanding of early modern adaptations of Aristotelian faculty psychology. Moreover, Leibniz usually refers to the faculties in general descriptions, and there is little evidence that he developed a systematic theory of them since he does not directly address their correlation.

Gary Hatfield emphasises that:

> Leibniz strictly distinguished between sense, imagination, and memory on the one hand, and the pure understanding, on the other. […] Leibniz accorded to the understanding two functions that could not be carried out by sense, imagination, and memory. First, the understanding grasps intelligible objects as mentioned. Second, the understanding serves to move from imperfect or finite experiences to necessary and universal truths. Leibniz argued from the actuality of human knowledge of necessary truths in the sciences, to the reality of the intellect as a faculty (1998: 979).

Within this framework, faculties were generally understood in terms of their distinct cognitive functions: the senses provide representations, imagination preserves and manipulates images, memory retains previous experiences, and intellect operates on intelligible relations and universal truths. In this respect, the various mentions of the faculties throughout Leibniz's discourse remain largely undeveloped. With its relatively limited scope, he acknowledges the existence of mental faculties without consistently examining their nature.

However, rather than developing a new classification of these faculties, Leibniz's project concerns the conditions under which these faculties can be effectively employed in the acquisition and organisation of knowledge – the *characteristica* introduces a symbolic medium through which these functions can cooperate in a more systematic way. Within the *characteristica*, this hierarchical relation among the faculties acquires a specific op-

erational meaning. The characteristic underlines the workings of the intellect, since its language was designed to correctly convey ideas by following the principles of identity and non-contradiction. In doing so, it would strengthen reasoning, make relations between concepts explicit, and thus clarify the problems of knowledge.

The implicit interaction between the *characteristica universalis* and the faculties raises the question of whether it functions merely as an external instrument for acquiring knowledge or as a genuine cognitive framework that reorganises thought itself. By creating an instrumental representation of thought, Leibniz suggests that the characteristic is an instrument that organises knowledge and modifies the conditions under which human reasoning operates. By aiming to mirror and restructure the mind, the *characteristica* interacts with its faculties – and particularly with the intellect, imagination, and memory. Although Leibniz did not have a fully articulated theory of the faculties, the scope of the universal characteristic implies that their use and interrelation were fundamental to his conception of cognition. This relationship opens a broader question: not whether Leibniz proposes a new theory of mental faculties, but whether the universal characteristic changes the way in which existing cognitive capacities operate. In other words, the reconfiguration at stake concerns not the replacement of the traditional faculties of intellect, imagination, and memory, but, rather, their reorganisation and coordination within a symbolic framework.

However, it must be emphasised that the foundational material of the *characteristica* is signs. In this regard, it can be noted that, generally, Leibniz conceived the mind as having many limitations. Stefano Gensini notes that

> Leibniz realized that the human mind would be better described as 'weak', insofar as it could handle and analyse only so much information. It was therefore useless (and, to some extent, impossible) to force the mind to interpret *cogitationes ipsas* from the semantic point of view; therefore, the only 'way out' would be to exploit the symbolic properties of signs in order to manipulate cognitive data without 'thinking of them' in a distinct way (Gensini 1992: 109).

The use of signs strengthens the mind and brings out cognition as mediated through representation. Rather than simply enhancing the intellect, Leibniz's emphasis on signs reveals that reasoning depends on the cooperation of different cognitive capacities. Thus, while the intellect governs the rules of reasoning, it is imagination and memory that allow those rules to become operative in the visual and mnemonic domain.

Leibniz's heightened emphasis on signs opens up an unresolved question: How do these signs improve human reasoning? The universal characteristic was conceived as assisting the mind in such a way that everything not yet known would become visible between the signs – a function that is usually associated with the faculty of imagination. While the intellect and imagination are both prevalent in Leibniz's account, their relationship remains too complex for the scope of the article. Yet it could be said that their relationship is intertwined, and constantly in play with the mind: the intellect uses the signs that are comprehended in the imagination. Hence when the universal characteristic acts as "a method that provides the rules for formal substitution and combination" (Leduc 2014: 56), its signs "enable us not only to structure our reasoning and represent ideas through

formal marks, but also to attain notions and truths that would be inconceivable from a purely mental representation" (*ibid*.: 55). In other words, when supported by the signs of the universal characteristic, imagination can provide distinct knowledge. This, in turn, constitutes the effectiveness of the *characteristica*'s inventive quality.

4. Reorganisation of Cognition in the *Characteristica Universalis*

Having considered how the *characteristica* engages the faculties of thought, it is possible now to examine how its systematic use reconfigures the operations and relations of these cognitive capacities. In this sense, it concerns the way the cognitive operations are organised through symbolic mediation.

Imagination's role within Leibniz's thought remains ambiguous. Emerging in an ambiguous or vague manner, it is often regarded as a deceptive or secondary faculty that encompasses many contexts, from the ability to remember illusions, phenomena, or sensory perceptions (L 91f)[9]. Yet within the context of the *characteristica*, it acquires a constructive cognitive role. If the intellect conceives abstract relations, imagination gives them visibility by configuring those relations into a system of signs. As observed by Lucia Oliveri, "[w]hat the intellect cannot achieve, […] the imagination supplies by visualising the relations embodied in a system of signs or images" (2021a: 308).

Beyond intellect and imagination, the *characteristica* also touches on memory. In one passage concerning general science, Leibniz describes his invention as "an art of reminiscence or mnemonics (*Artem reminiscendi seu Mnemonicam*)" (A VI 4 527; translated in Dascal 2008: 220), meaning an art of recalling or remembering, thereby enhancing the operation of memory. This is not the only instance where memory is invoked in this context. In another passage concerning knowledge, Leibniz expresses a belief that signs actually help 'save' the efforts of constant remembering:

> For the most part, especially in a longer analysis, we do not intuit the entire nature of the subject matter at once but make use of signs instead of things, though we usually omit the explanation of these signs in any actually present thought for the sake of brevity, knowing or believing that we have the power to do it. […] I use […] words […] in place of the ideas which I have of them, because I remember that I know the meaning of the words but that their interpretation is not necessary for the present judgment (A VI 4 585, L 292).

For Leibniz, the connection between memory and the universal characteristic can be understood as follows: by using visual signs to imprint ideas so that all mental operations – including reasoning – can be performed visually through symbols, the universal characteristic functions as a kind of mnemonic technique. It partially externalises recollection, allowing some reasoning to proceed directly through the manipulation of signs rather than through the internal recall of meanings.

[9] For a more in-depth discussion on Leibniz's understanding of the imagination, see Tropper 2019: 26–28, and Oliveri 2021b.

In this sense, the universal characteristic aligns with what is traditionally called mnemotechnics or the art of memory. Leibniz repeatedly underscores that its achievement would make knowledge immediately accessible through the proper ordering of signs. This is most likely connected to the use of imagination, but it also implies that the correct use of signs presupposes an immediate act of reminiscence – as knowledge is accessed simply by perceiving the signs. The *characteristica* thus operates not only through the faculties but also upon their operations: by making ideas visible and retrievable, it reorganises the ways in which intellect, imagination, and memory function.

Through this process, the activity of the intellect becomes increasingly formalised through symbolic operations, guided by the principles of identity and non-contradiction; imagination is no longer limited to a potentially deceptive role, but becomes the space of visual and combinatorial cognition; and memory is partially externalised into an organised system of signs. Operations that were previously dependent on internal retention become supported by a stable symbolic medium, functioning as an artificial recollection that relieves the mind of its mnemonic burden. What the intellect conceives, the imagination configures, and the memory preserves – all within a symbolic structure that allows the faculties to operate in concert and with new precision.

It is in this dynamic sense that the *characteristica universalis* must be seen as more than a representational tool: its instrumentality as an *organon rationis* allows it not only to employ the various mental faculties, but also to reconfigure their functions and relations within a unified cognitive mechanism. As an instrument, it mirrors and reorganises human cognition, by turning the mind's natural capacities into an ordered, symbolic, and operative system. In doing so, Leibniz's project reveals its deepest ambition: not merely to express thought through signs, but to extend the mind's capacity to organise and manipulate knowledge through the art of signs.

Conclusion

The primary aim of this article is to question some of the presuppositions of what the concept of the *characteristica universalis* involves: how its instrumentality can be construed, how it relates to cognition, how it engages certain mental faculties, and what this engagement results in.

The standard logical understanding of the *characteristica* limits its scope to a formal system of inference. In this sense, the *characteristica*'s instrumentality as an apparatus external to the mind is enhanced, and it is viewed as a cognitive aid designed to support reasoning, facilitate knowledge, and clarify relations between concepts and ideas. Yet, this understanding does not fully capture its deeper epistemological commitment to the nature of signs, and, in particular, the role of imagination and memory in their use, as well as Leibniz's general attitude towards signs as carriers of knowledge. If the *characteristica universalis* is considered not only as a representational system but as a structured framework that engages the mind, its significance becomes clearer: it mirrors the structure of cognition, externalises mental operations through signs, and, by doing that, reorganises the

relations between memory, imagination, and intellect. Situated within Leibniz's broader theory of knowledge, the *characteristica* appears not as a passive language but as an active medium that reconfigures the operations of the mind. What it expresses is not only the order of ideas but the very process by which the intellect, imagination, and memory cooperate in the act of thinking.

From this perspective, the reorganisation produced by the *characteristica universalis* does not consist in replacing the traditional faculties of the mind, but in reorganising the way their operations are carried out through symbolic mediation. Memory, traditionally understood as the faculty responsible for retaining ideas, becomes supported by signs that preserve, retrieve, and make knowledge visually accessible without requiring constant internal recollection. Imagination, which traditionally mediates sensory representations and mental images, acquires a constructive role within the symbolic framework by enabling the combination and visualisation of relations between ideas. Finally, the intellect, whose function is to grasp abstract and universal notions, becomes operative through symbolic structures that make these relations explicit and manipulable. In this way, the *characteristica universalis* does not introduce a new set of faculties but creates a system in which memory, imagination, and intellect can cooperate more effectively through the ordered use of signs.

From this perspective, Leibniz's project must be seen as proposing a structure of cognitive organisation. The *characteristica universalis* embodies the possibility of reasoning that is both artificial and natural, external and internal: a symbolic framework through which thought becomes capable of reflecting upon its own operations, and extending its capacity for the organisation of knowledge.

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