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«An eternal golden braid»: Rhetoric, law,
and science in Vico's *Scienza nuova*



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1. Introduction

As the title of this essay suggests, its thesis is that rhetoric, law, and science in Vico's *Scienza nuova* are intertwined¹. However, more importantly, it endeavors to show underlying characteristics that constitute the basis for bringing them together: these characteristics consist of a common “logic”. In addition to this formal objective, the second main result is Vico's notion of the scientificity of his work, as claimed at the end of *Book Five*: «Hence, we could do no less than to give this work the invidious title THE NEW SCIENCE, for it was too great an injustice to defraud it of its right and claim to a universal argument, in as much as that argument [...] has that property which every science perfected in its idea has» (1096)².

Before being in a position to argue the commonality of rhetoric, law, and science at a fundamental level, certain groundwork needs to be laid. This will include reading surface features of *Scienza nuova* that inform us about Vico's scientific aspirations. Already in these surface features, there appear matters usually considered at a higher conceptual level, involving Vico's philosophy of science. In this connection, there are two specific concepts – *fantasia* and *poesia* – that will be closely examined, by way of exploring how they relate to Vico's scientific program, rather than as antitheses to logic and reason³.

¹ The first part of the title of this essay is taken from D. R. Hofstadter, *Gödel, Escher, Bach: an Eternal Golden Braid*, New York, Basic Books, 1979.

² Vico's emphasis in this passage is on the “science” of his work rather than its “newness”. The expression “new science”, in fact, was a trope in the Renaissance and early modern period: «[T]he individuals who lived in those centuries [...] often referred to “the new sciences,” suggesting a multitude of separate disciplines adopting new mathematical, experimental, and empirical approaches [...]. Thus the self-taught mathematician Niccolò Tartaglia (1499-1557) called his tract on mechanics, mathematics, and gunnery, a *scienza nuova* (1517), while almost a hundred years later Galileo Galilei (1564-1642) called his famous dialogue on mechanics, *Discourse on the Two New Sciences* (1638)» (P. O. Long, *Architecture and the Sciences*, in *Renaissance and Baroque Architecture*, ed. A. Payne, Chichester, John Wiley & Sons, 2017, pp. 191-219, p. 191).

Unless otherwise indicated, in this article Vico's *Scienza nuova* refers to the 1744 edition. The English edition used is *The New Science*, trans. and ed. J. Taylor - R. Miner, intro. G. Mazzotta, New Haven, Yale University Press, 2020. Paragraph numbers will appear in the text in parentheses. Other translations consulted include: G. Vico, *The New Science of Giambattista Vico*, trans. Th. G. Bergin - M. H. Fisch, Ithaca, Cornell University Press, 1968; *New Science*, trans. D. Marsh, London, Penguin, 2001; *La Science Nouvelle*, trans. A. Pons, Paris, Fayard, 2001; *Prinzipien einer neuen Wissenschaft über die gemeinsame Natur der Völker*, trans. V. Höhle - Ch. Jermann, Hamburg, Felix Meiner, 1990; *Ciencia nueva*, trans. R. de la Villa, Madrid, Editorial Tecnos, 2006. Original language quotations are from G. B. Vico, *La Scienza nuova nell'edizione del 1744*, in Id., *La Scienza nuova. Le tre edizioni del 1725, 1730 e 1744*, ed. M. Sanna - V. Vitiello, Milano, Bompiani, 2012/2013. We are adhering to Vico's typography, such as capital letters and italics, as restored in this edition.

³ The case for their antithesis to logic and rationalism is eloquently made in A. Battistini, *Vico e la poesia «sublime» nell'«età della ragione spiegata»*, in «estetica. studi e ricerche», VIII, 2, July-December 2018, pp. 217-230; it is representative of numerous Vico studies, in lieu of which Battistini's essay is cited here.

2. Surface features of *Scienza nuova*

By surface features we are referring to characteristics of the text of *Scienza nuova* that are not necessarily or obviously substantive with respect to their content, although this distinction is anything but definitive, as when form and content coincide, and is therefore used here largely heuristically. These surface features appear at diverse levels⁴; however, as will be discussed, they appear in ways that are anything but haphazard; rather they seem to fit into, and support, an overall coherent concept, albeit with widely varying positional values⁵.

At the highest level of analysis, *Scienza nuova* can be examined from the standpoint of the position or situation in which Vico found himself as he developed his project of “social science”, modelled after the physical sciences. He had no recourse to already existing or applicable conceptual frameworks or a ready-made theoretical toolbox⁶.

Thus, Vico found himself in a position not unlike Francis Bacon and Galileo a century earlier. With respect to Bacon, it has been said that «he wrote several pieces [...] to alleviate fears about the new science and yet convey sound scientific notions through traditional and non-scientific metaphors and discussions»⁷. The traditional and/or non-scientific material that he used consisted to a significant extent of the well-known genre of mythology and even «magical» notions⁸. As a result, inter alia, «[m]aterialistic spirits preserved famil-

⁴ For a different level of analysis from the one focused on here, which nevertheless is highly relevant, and in certain respects even complementary, see M. Vitale, *L'autodiscorso scrittore. La lingua della Scienza Nuova di Giambattista Vico*, Roma, Edizioni di Storia e Letteratura, 2016, pp. 259-275.

⁵ This follows the principle of different levels of analysis needing to be integrated in order to constitute an overall theoretical framework, which is argued, in a different context, in S. A. MacDougall-Shackleton, *The levels of analysis revisited*, in «Phil. Trans. R. Soc. B», 366, 2011, pp. 2076-2085, *pace* L. Amoroso, *Lettura della “Scienza nuova” di Vico*, Torino, UTET, 1998, pp. 13-14, for whom *Scienza nuova* was «un monstrum di libro, se non altro per la molteplicità dei suoi argomenti: diritto, politica, religione, mito, poesia, linguaggio, ecc. [...]. Così questa scienza è tante scienze insieme: filosofia, filologia, storia, ma anche [...] un'antropologia, un'ermeneutica, un'estetica, una semiotica, ecc.»; Id., *Mi Vico hermenéutico*, «Cuadernos sobre Vico», 32, 2018, pp. 19-23, p. 21 n. 3, refers to «da selva de la obra maestra viquiana». See also G. Mazzotta, *The New Map of the World: The Poetic Philosophy of Giambattista Vico*, Princeton, Princeton University Press, 1999, p. 112: «This same insight [the discontinuity of poetic and critical knowledge] shapes the imaginative structure and the style of the *New Science*, which is an encyclopedic totality of disjointed parts».

⁶ E. Riverson, *Introduzione*, in *Leggere Vico. Scritti di Giorgio Tagliacozzo e di altri*, intro. and ed. E. Riverson, Milano, Spirali Edizioni, 1982, pp. 9-37, p. 21: «Una storia generale dell'umanità qualificabile propriamente come scienza non esisteva, sebbene ce ne fosse bisogno [...] per una più valida fondazione di tutte le scienze in chiave genetica. Di conseguenza quando Vico [...] affrontò un'impresa che al suo tempo era davvero di grandissima attualità, anche se i suoi contemporanei non se ne rendevano conto e non riuscivano a valutare tutta l'importanza dei risultati da lui raggiunti».

⁷ H. Wheeler, *Science out of law: Francis Bacon's invention of scientific empiricism*, in *Toward a Humanistic Science of Politics*, ed. D. H. Nelson - R. L. Sklar, Lanham, University Press of America, 1983, pp. 101-144, p. 111.

⁸ *Ivi*, pp. 112-113, 118.

iar language but let it acquire new meaning»⁹. Paolo Rossi identified and described this nexus as «[t]he myths of Pentheus and of Prometheus or the distinction between science and religion [...]; [m]aterialistic naturalism in the myths of Pan and Cupid [...]; [t]he myths of Atalanta, the Sphinx, Orpheus, Prometheus, Dedalus, and Icarus, or the aims of philosophy [...]; [p]olitical realism in the fables of Metis, the Cyclops, Juno's suitor, Endymion, Narcissus, Actaeon, Perseus, Achelous, Diomedes, and the Styx», and in other ways¹⁰.

Galileo found himself in a somewhat different situation, summarized by Andrea Battistini: «Galileo non possedeva ancora le prove fisico-matematiche dell'eliocentrismo, che potrà essere dimostrato sperimentalmente soltanto a metà Ottocento [...]. Ecco allora che, in mancanza di prove scientifiche, Galileo fa ricorso anche alla retorica, per tenere vivo il problema e sostenere, se non la veridicità dell'eliocentrismo, per lo meno una sua plausibilità»¹¹. This was the guiding purpose of his *Dialogue Concerning the Two Chief World Systems*¹². Noteworthy, Galileo faced, at the least, a twofold challenge: introducing and arguing a new cosmology, on the one hand, and, maybe even more challenging, simultaneously presenting a new theoretical framework to underlie research in physics and science in general, on the other hand¹³.

What follows is a brief sketch of how Vico, as though following in Bacon's and Galileo's footsteps, tried to deal with similar challenges in his own field of study. Not unlike Galileo, Vico had to grapple with two levels of analysis at the same time: one level (the first order) involved the origins and stages of development of what he termed the civil world (*mondo civile*); the other level (the second order) concerned the philosophical and theoretical underpinnings of his approach, made all the more problematic due to their entanglement with the former level.

One of the ways in which Vico endeavored to overcome the strangeness of some of his ideas in the minds of others was to cast them in a framework that was both familiar and accessible. A major, but not the only, part of a framework at his disposal was Greek and Roman mythology. In *Book Two* of *Scienza nuova*, he made liberal use of it in order to analyze and describe how the *mondo civile* (specifically, in the paradigmatic history of Rome) came into being and

⁹ H. Wheeler, *The Invention of Modern Empiricism: Judicial Foundations of Francis Bacon's Philosophy of Science*, in «Law Library Journal», 76, 1, Winter 1983, pp. 78-120, p. 96.

¹⁰ P. Rossi, *Francis Bacon: From Magic to Science*, trans. S. Rabinovitch, Chicago, University of Chicago Press, 1968 (originally published as *Francesco Bacone: Dalla magia alla scienza*, Bari, Laterza, 1957), pp. 96-126.

¹¹ A. Battistini, *L'analisi retorica applicata a testi scientifici e filosofici*, in *Lingue testi culture. L'eredità di Folena vent'anni dopo*, ed. I. Paccagnella - E. Gregori, Padova, Esedra editrice, 2014, pp. 449-461, p. 452.

¹² For an in-depth study of *Dialogue*, see M. A. Finocchiaro, *Galileo and the Art of Reasoning: Rhetorical Foundations of Logic and Scientific Method*, Dordrecht, D. Reidel, 1980.

¹³ M. Pera, *The Discourses of Science*, trans. C. Botsford, Chicago, University of Chicago Press, 1994 (originally published as *Scienza e retorica*, Roma, Gius. Laterza, 1991), p. 59: «The task was titanic. To justify his method, Galileo had to elaborate a theory of the sources of knowledge, of truth and error – in short an epistemology and an anthropology».

took on its early forms¹⁴. From a different perspective, it might be said that Vico “translated” the language of mythology into a language understandable to his contemporaries; however, Vico’s interest or intention did not reside in crediting ancient mythology with any relevant philosophical meaning or value¹⁵. He explicitly disavowed «the unaccountable wisdom of the ancients (*Sapienza innarrivabile degli Antichi*)» (128, 1111). In this respect, he seemed to have emulated Bacon in enlisting the mythological canon to help get across his own very different set of ideas and interpretations of the ancient past¹⁶.

Vico did not resort only to mythology to convey his new ideas; another major source of material that was the stock-in-trade of the Republic of Letters was philosophy. For the elucidation of the development of concepts of justice and law from the time of early civilizations to his day, Vico put to (his own) use the widely-held notion of mind-body dualism, as well as the prevailing philosophical interest in all matters having to do with language (1045)¹⁷. One of the key novel ideas in *Scienza nuova*, understandably still in a basic or theoretically undeveloped form, was what we today would call *path dependence*. To convey this new concept in the study of history, he presented it in terms of «divine providence», a notion in philosophical and religious circulation since ancient Greece¹⁸.

Vico took other steps, even on a more mundane level, to make his groundbreaking ideas more ‘palatable’. One of these ways was quotations of well-known authors/writings going all the way back to antiquity. The literally hundreds of direct and indirect quotations and/or references in *Scienza nuova* – especially epithets by Latin authors prominently spaced apart in the text – have a purpose: to provide a sense of familiarity and thus attenuate the novelty and originality of his ideas¹⁹. His use of Gerhard Johann Voss’ etymological dictionary can be seen in the same light²⁰. Voss was authoritative; Vico, however,

¹⁴ For a succinct synopsis, see A. Battistini, *Teoria delle imprese e linguaggio iconico vichiano*, in «Bollettino del Centro di studi vichiani» (hereafter «BCSV»), XV-XV, 1984-1985, pp. 149-177, p. 167, referring to Vico’s exposition of the contentious relationship between Roman patricians and plebeians, the agrarian laws, legal rights, agriculture, inheritance rights, patrimony, and other civic institutions in terms of Greek and Roman gods and goddesses.

¹⁵ Cf. A. Battistini, *La sapienza retorica di Giambattista Vico*, Milano, Guerini e Associati, 1995, p. 126.

¹⁶ To illustrate, by way of a modern historical example, see A. Blum - M. Jähner - Ch. Lehner - J. Benn, *Translation as heuristics: Heisenberg’s turn to matrix mechanics*, in «Studies in History and Philosophy of Modern Physics», 60, 2017, pp. 3-22, attributing to Heisenberg «Umdentung of classical mechanics» (emphasis original).

¹⁷ See my *Mind, Body, and Language in Vico’s Scienza nuova*, in «Laboratorio dell’ISPF», XVII, 2020, pp. 1-50.

¹⁸ See my *Religion, Marriage, and Burial in Vico’s Scienza nuova: A Reappraisal*, in «Laboratorio dell’ISPF», XIX, 2022, pp. 1-40, pp. 30-39.

¹⁹ Cf. F. Bruni, *Dal bene comune all’utilità comune. Nuove osservazioni sulla terminologia intellettuale della Scienza nuova* (I), in «Lingua e Stile», 1, June 2015, pp. 63-90, p. 66: «la capacità vichiana di cogliere nelle fonti notizie e informazioni diverse da quelle intenzionali, e cioè fatti e concetti presenti in modo involontario e per ciò stesso attendibili».

²⁰ *The New Science*, trans. and ed. J. Taylor - R. Miner, cit., p. 6 n. 3.

while keeping the label of “etymology”, had something entirely different in mind²¹. And, finally, typography was utilized by Vico in the mission of guiding readers. Far from reflecting baroque predilection for exuberance, Vico chose lower case, upper case, standard font, italics, and punctuation, to facilitate and/or constrain interpretation²². Thus, typography was enlisted as an epexegetic function.

Like Galileo in his field of science, Vico, in writing a new kind of history of how the *mondo civile* came to be, at the same time had to develop a new philosophical and theoretical framework – «a new art of criticism (una *Nuova Arte Critica*)» (7) – specifically to account for it.

As part of this new conceptual framework, Vico, first of all, found it necessary to establish its condition of possibility: «a truth which cannot, in any way, be called into doubt: that this civil world has certainly been made by men» (331), and is therefore available for, and amenable to, explanation: «he makes the world himself; for when the one who makes the things is also the one who tells their history, there can be no history more certain» (349)²³. However, this is only a necessary condition; it is not sufficient to guarantee a correct reading of the history of the civil world, and in particular of its beginnings. Otherwise, there would not be interpretations replete with «lack of verisimilitude, absurdity, contradiction, and impossibility» (163). *Scienza nuova* takes up and dismantles these wrong-headed views repeatedly. These fallacies include «the vanity of the nations» and «the vanity of the learned» (124), the former claiming each to be

²¹ Cf. J. Katz, *Etymology (A Linguistic Window onto the History of Ideas)*, in *The Classical Tradition*, ed. A. Grafton - G. W. Most - S. Settis, Cambridge, Mass., Harvard University Press, 2010, pp. 342-345; P. König, *Giambattista Vico*, München, C. H. Beck, 2005, p. 92.

²² A. Battistini, *Teoria delle imprese e linguaggio iconico vichiano*, cit., p. 175: «Nel libro vichiano la sottolineatura dei corsivi non è mai gratuita, ma interviene per mettere in rilievo i termini chiave e i tecnicismi connessi alla storia ideale eterna [...] o infine per marcare i concetti centrali del discorso [...]. Quanto al maiuscolo, è una sorta di sottolineatura di secondo grado che sopravanza i caratteri in tondo e in corsivo [...], e può ricorrere a mo' di titolo interdiscorsivo di miti o episodi per scandire una sequenza temporale». See also *Editors' Preface*, in *The New Science*, trans. and ed. J. Taylor - R. Miner, cit., p. XI; St. Sini, *Figure vichiane. Retorica e topica della «Scienza nuova»*, Milano, LED, 2005, pp. 337-343; M. Sanna, *Evoluzioni di un'immagine vichiana*, in *Le rifrazioni dell'Io. Saperi umanistici e creazione artistica tra moderno e contemporaneo*, ed. A. Mascolo, Salerno, Edizioni Arcoiris, 2016, pp. 145-170, p. 151; D. L. Marshall, *Giambattista Vico, aphorism, and aphoristic machines*, in «The Italianist», 37, 3, 2017, pp. 324-347, p. 334.

²³ In this respect, Vico initiated and grounded his “new science” at a step or level that seems to be higher, or more fundamental, than the level at which Galileo developed his project of science. *Dialogue* includes Galileo’s wide-ranging reflections on philosophical aspects of science (M. A. Finocchiaro, *Galileo and the Art of Reasoning*, cit., pp. 145-166; Id., *Galileo and the Philosophy of Science*, in *Proceedings of the 1976 Biennial Meeting of the Philosophy of Science Association*, Vol. 1, ed. F. Suppe - P. D. Asquith, East Lansing, Philosophy of Science Association, 1976, pp. 130-139). However, his contemporary, Tommaso Campanella (1568-1639), faulted Galileo for failing to ultimately ground his observations, and application of mathematics. According to R. Hagenhuber, *Tommaso Campanella. Eine Philosophie der Ähnlichkeit*, Sankt Augustin, Academia Verlag, 1994, pp. 157, 162, «Campanella beurteilte die Wissenschaft Galileis als Erklärung ohne Begründung in der sinnlichen und der Erfahrungswelt, weil sie den Erfahrungsbegriff nicht reflektiert. [...] Das aller Erkenntnis zugrunde liegende Prinzip sei dabei die Tatsache, daß sich der Mensch die Welt in Ähnlichkeit angleicht».

earlier than all other nations (125), the latter purporting to understand all of the history of ideas as instantiations of their own ways of thinking, going all the way back to the first civilizations, allegedly finding support in the «unaccountable wisdom of the ancients», in general, and especially in «the mystical meanings given [...] to Egyptian hieroglyphs and the philosophical allegories given to Greek myths» (128)²⁴. Vico addressed these erroneous approaches at the very beginning of *Elements*; this in itself signals the weight he accords to the need of refuting them. What follows next in *Elements* are two other major fallacies in Vico's eyes, the Stoics' belief in «fate», and the Epicureans' «abandoning themselves to chance» (130). And later in *Elements*, he also singles out Grotius, Selden, and Pufendorf as having «founded their systems» on problematic presuppositions (310).

Vico, however, also identifies the additional conditions that would complete the requirements of necessity and sufficiency. In *Elements*, he identifies three fundamental characteristics of humans: (1) that human nature is sociable (*societivole*) (135, 309); (2) that all humans have in common a sense of justice: «The common sense [*senso commune*] is a judgment [*giudizio*] without reflection sensed in common by [...] the whole of mankind (142, 311; see also § 350 in the section on *Method*, and the term «inner justice [*Giustizia Interna*]»); and (3) the principle of free choice [*il Principio dell'Arbitrio Libero*] (310; see also § 340 in the section on *Method*). These are Vico's *metaphysical presuppositions*. All three properties or qualities of humans are irreducible, and by virtue of it qualify as foundation and starting points of Vico's theoretical framework.

This theoretical framework can be found in *Method* (338-359). Here, Vico programmatically lays out certain implications of the three fundamental human properties identified in *Elements*, albeit in a different order, namely, relative, first, to human free will (340-345), then, to human sociability (346-349), and, finally, to the common sense of justice (350). Significantly, he calls them «philosophical proofs [*pruove filosofiche*]» (351), in the basic sense of general validity rather than true only in particular instances: they are «universal and eternal» (342) in connection with human free will; constitute «an ideal eternal history» (349) of the (sociable) civil world, and are related to «the true or of reason— [...] the source of inner justice» (350), respectively. And specifically, they consist, in the first instance, of «divine providence» (341) which has the hallmarks of *path dependence*; secondly, of the need of searching for the origins, and thirdly, of the need to differentiate between «external» and «inner» justice. These are Vico's *first principles*.

²⁴ Cf. R. Landgráfová, *Ars memoriae aegyptiaca? Some preliminary remarks on the Egyptian hieroglyphs and the classical art of memory*, in *Visualizing Knowledge and Creating Meaning in Ancient Writing Systems*, ed. Sh. Gordin, Gladbeck, PeWe-Verlag, 2014, pp. 133-153, p. 136: «The Greeks believed that some form of “sacred knowledge” was guarded by the priests in Egyptian temples and protected from lay people, who were not allowed to know it». For Renaissance attitudes and fascination with pagan antiquity, mythology, and symbology, see D. C. Allen, *Mysteriously Meant: The Rediscovery of Pagan Symbolism and Allegorical Interpretation in the Renaissance*, Baltimore, Johns Hopkins Press, 1970.

These «philosophical proofs» stand in contrast to the «philological proofs» that follow (352-358). While the «philosophical proofs», within Vico's framework, are located at a meta-level of concepts as the explications indicate, «philological proofs» originate and take place at a lower level. They do not simply consist, putatively, of the "facts" or events, or developments, of history itself but of the varied forms of extant narratives about «the civil histories of the earliest peoples» (352) – as long as these testimonies are interpreted correctly²⁵. He even recognized that «the great fragments of antiquity [...] draw out a great light when polished, put together, and put back in place» (357) by archaeologists²⁶. «Philology» is thus the interpretative study – guided by theory, but also providing impetus to theory —of all the evidence left behind by early civilizations, not philology in a limited technical sense (139)²⁷. This constitutes Vico's *theoretical-empirical complex*. The content and substance of Vico's first principles and theoretical-empirical inquiry are the antithesis of «the vanity of the learned» and «the vanity of the nations», respectively²⁸. In summary, Vico's philosophy of science encompassed *metaphysical presuppositions, first principles, and theoretical-empirical material*.

For Vico, «philosophy» (first principles) and «philology» (theoretical understanding, and interpretation of evidence) in this sense must be intertwined to form «a new art of criticism [una *Nuova Arte Critica*]» (7)²⁹: «Hence, it is through

²⁵ For a current view of this issue, see A. Roth, *The Philosophical Structure of Historical Explanation*, Evanston, Northwestern University Press, 2020, <https://library.oapen.org/bitstream/handle/20.500.12657/49661/external_content.pdf?sequence=1&isAllowed=y>, last accessed 19 July 2023. Roth points out «that facts do not “speak for themselves.” [...] what gets described and how it gets described are products of normative considerations on the part of the historian» (ivi, p. 71).

²⁶ For discussion of interpretation and theorizing involving archaeological material, see *Debating Archaeological Empiricism: The Ambiguity of Material Evidence*, ed. Ch. Hillerdal - J. Siapkias, New York, Routledge, 2015.

²⁷ M. Pavan, *Vico e la filologia classica del Cinquecento*, «BCSV», XI, 1981, pp. 163-172, provides a detailed account of classical philology, including etymology. Vico made extensive use of it, but at a different hermeneutical level; heuristically, these levels need to be kept separate. This problem might be involved in A. Momigliano's view that Vico «was a worse scholar than his contemporaries». (Ivi, p. 171; A. Momigliano, *Sui fondamenti della storia antica*, Torino, Einaudi, 1984, p. 32; Vico «è vittima egli stesso della mancanza di disciplina critica prevalente in Italia», p. 80). See also S. Caianiello, *Filologia ed epoca in Vico*, in *Vico nella storia della filologia*, ed. S. Caianiello - A. Viana, Napoli, Alfredo Guida Editore, 2004, pp. 139-175.

²⁸ Manuela Sanna equates «the vanity of the nations» with «philology», and «the vanity of the learned» with «philosophy». (M. Sanna, *Borie e immaginazione di cose lontane e distanti*, in *Le «borie» vichiane come paradigma euristico. Hybris dei popoli e dei saperi fra moderno e contemporaneo*, ed. R. Diana, Napoli, Istituto per la Storia del Pensiero Filosofico e Scientifico moderno del CNR, 2014, pp. 17-29, p. 23.

²⁹ V. Vitiello, *Vico. Storia, linguaggio, natura*, Roma, Edizioni di Storia e Letteratura, 2008, p. 26: «La filologia è una filosofia implicita, *an sich*» (emphasis original). Vico's recognition of, and insistence on integrating, these two levels of analysis are also the basis of, on the one hand (in his autobiography), praising Plato, Tacitus, Bacon, and Grotius on their own terms, but faulting them for being one-sided. In Grotius' case, Vico especially objected to Grotius' first principle, «the way he regarded human nature, seeing a single aspect, reason, as being

the philosophical proofs [...] that the philological proofs which come after, are [...] confirmed by the authority of reason [philosophy] and confirm reason by an authority of their own [philology]» (359)³⁰. He credits Francis Bacon with this two-tiered, but entangled, approach to scientific study³¹. In the field of physics, Galileo seemed to have followed a similar approach: «Philosophically, Galileo formulated a new theory of scientific knowledge; scientifically, he practiced a new skillful combination of thinking and sense-experiences»³².

Although Descartes was not the only early-modern thinker and writer concerned with a perfect and universally applicable “method” of arriving at knowledge and true understanding, Vico could well have had in mind especially Descartes, in developing his section on *Method*, given his allusion to Descartes’s “clear and distinct” criterium in the statement: «These proofs turn out to be luminous and distinct [*luminose, e distinte*] » (344)³³. They succeed precisely in those respects that were anathema to Descartes: «the deplorable obscurity [*oscurità*] of the beginnings of nations and in the countless variety [*innumerabile varietà*] of their customs». It is both a rebuke and refutation of the type of (supposedly) purely formal or technically sound reasoning espoused by Descartes, and Cartesianism³⁴. Vico demonstrated it in his reading and interpretation of

absolute». (A. C. ‘t Hart, *Hugo de Groot and Giambattista Vico*, in «Netherlands International Law Review», XXX, 1, 1983, pp. 5-41, pp. 8, 19-19, 22).

³⁰ Vico’s «philology» therefore has commonalities with philology practiced before «the rise of Baconianism, Cartesianism, and Spinozism. [...] Philologists were trained to collect and compare data, to look for regularities, and to come up with hypotheses (conjectures) to explain anomalies, and to submit them to scrutiny by discussing them in letters or presenting them in publications» (D. Van Miert, *The Emancipation of Biblical Philology in the Dutch Republic, 1590-1670*, Oxford, Oxford University Press, 2018, p. XIX).

³¹ Vico encapsulates Bacon’s approach as *cogitare videre* (“to think, to see”), and earlier, in § 163, referred to the title of a text by Bacon inaccurately, or at least incompletely, as *Cogitata visa*. (*The New Science*, trans. and ed. J. Taylor - R. Miner, cit., p. 82 n. 153). Vico has been criticized as misrepresenting, and even as not having read, Bacon (E. De Mas, *On the New Method of A New Science: A Study of Giambattista Vico*, trans. J. K. Houck, in «Journal of the History of Ideas», 32, 1, January-March 1971, pp. 85-94, p. 89-90; M. Pavan, *Vico e la filologia classica del Cinquecento*, cit., p. 171; P. Rossi, *Che tipo di scienza è la “Scienza nuova” di Vico?*, in «Rivista di Storia della Filosofia», 59, 2, 2004, pp. 409-433, pp. 418-421; N. Erny, *Theorie und System der Neuen Wissenschaft von Giambattista Vico*, Würzburg, Königshausen & Neumann, 1994, p. 160). However, in defense of Vico, see M. Fattori, *Idola fori and language: Francis Bacon as a source for Giambattista Vico*, in «Intellectual History Review», April 2020, pp. 1-21.

³² M. A. Finocchiaro, *Galileo and the Philosophy of Science*, cit., p. 134. This is not meant to claim that Galileo’s “philosophy of science” and “scientific practice” are coterminous with Vico’s «philosophy» and «philology». However, it is helpful in understanding Vico’s distinction. See also M. Clavelin, *The Natural Philosophy of Galileo*, trans. A. J. Pomerans, Cambridge, Mass., The MIT Press, 1974 (originally published as *La philosophie naturelle de Galilée*, Paris, Librairie Armand Colin, 1968), pp. 432-448.

³³ *The New Science*, trans. and ed. J. Taylor - R. Miner, cit., p. 117 n. 263. On the trope of *method*, see C. Vasoli, *Vico sul “metodo”*, in *Leggere Vico. Scritti di Giorgio Tagliacozzo e di altri*, intro. and ed. E. Rivero, Milano, Spirali Edizioni, 1982, pp. 97-106, p. 98.

³⁴ Cf. St. Otto, *Giambattista Vico: Razionalità e fantasia*, trans. A. Giugliano - G. Cacciato, in «BCSV», XVII-XVIII, 1987-1988, pp. 5-24, p. 8: «Nel suo *Discours de la méthode* non aveva forse Descartes dimostrato con buone ragioni tutta l’irrazionale opinabilità della storia e del linguaggio».

Roman social history, or more precisely, history of Roman law and jurisprudence. He focused on the appropriation and legitimation of elite or patriciate privilege(s), the most significant and effectual way of which was the “instrumentalization” of religion. Additionally, Vico identified two other cultural spheres that were “instrumentalized” to elite Roman socioeconomic and sociopolitical advantage: marriage and burial of the dead³⁵. Even in the face of the seeming obscurity and confusing variety of Roman social customs, he showed that it was possible to crystalize these three specific social spheres as being deeply implicated in Roman social dynamics; at a surface level, he indicated it by devoting a special section to them, titled *Principles*, at the beginning of his work (330-337).

However, incorporating, on the one hand, an exposition of a new philosophical and theoretical approach, in the form of an integration of «philosophy» and «philology», and, on the other hand, a historical narrative, in a single work led to a complex challenge, a challenge unlike that faced by works on established and well-explored disciplines or fields of study that are able to focus narrowly on specialized levels of analysis in their fields³⁶. Conceptually as well as practically, an essentially separate exposition of both topics would have been entirely feasible, not unlike modern academic monographs covering both theory and interpretation of a given subject. Vico, instead, chose a different expository route: he habitually closely related, or “mixed”, these and other levels of discourse in the same passage(s). In this manner, performatively, he posited and conveyed them as mutually supportive and interrelated. The following short passage may serve to illustrate (through indentation of its parts) certain aspects of Vico’s thought and expository process:

Indeed, to this we can add the definition of $\mu\acute{\upsilon}\theta\omicron\varsigma$ as a *vera narratio*, or true speech.

This was the natural speech that, first, Plato and, later, Iamblichus said was spoken at one time in the world, because these two, as we said in the Axioms, were speaking like diviners,

it turned out that Plato’s toil to find it in the *Cratylus* was empty, and he was attacked for it by Aristotle and Galen.

For the first speech belonging to the theological poets was not a speech according to the nature of the things themselves

(this must have been the sacred speech discovered by Adam, to whom God granted divine *anomathesia*

gio?). An evaluation of Descartes’s ideas in their historical setting is a different matter, for which see, for example, E. P. Lewis, *Cartesianism Revisited*, in «Perspectives on Science», 15, 4, 2007, pp. 493-522; R. Ariew, *Descartes and the First Cartesians Revisited*, in «Perspectives on Science», 26, 5, 2018, pp. 599-617.

³⁵ See my *Religion, Marriage, and Burial in Vico’s Scienza nuova: A Reappraisal*, in «Laboratorio dell’ISPF», XIX, 2022, pp. 1-40, pp. 8-30.

³⁶ Cf. for example the situation of modern studies of psychology: «However, scientific models and theories which attempt to characterize these behaviours often, by necessity, do not include detailed information regarding all physiological, genetic, and developmental mechanisms and processes which produce these behaviours. [...] including *all* causal variables (including [...] socio-economic, historical, evolutionary, development [...], etc.) would be both unfeasible and unhelpful» (emphasis original – E. Hochstein, *Foregrounding and backgrounding: a new interpretation of “levels” in science*, in «European Journal for Philosophy of Science», 12, 23, 2022, pp. 1-22, p. 19).

— that is, the proposing of names for things according to the nature of each). Rather, it was an imaginative speech through animate substances for the most part imagined to be divine.

Thus, for the sake of example, they understood (and, at first, by mute pointing, explained) Jove, Cybele or Berecynthia, and Neptune as the substances of the heavens, the earth, and the sea, which they imagined were animate divinities and, consequently, with the truth of the senses believed them to be gods (401-402).

The limitations of brevity notwithstanding, multiple levels of discourse are apparent. As can be seen, the three left-adjusted statements are on the same point, made in three different ways, in terms of *true speech*, the *first speech*, and *imaginative speech*. This, in fact, constitutes his main point, given emphasis by reiteration in different words. However, rather than combining them in a single sentence, Vico split them up; this allowed him to add subordinate information. This subordinate information, however, is not simply, or even necessarily, apposite to the point made. This is particularly evident for the first main point in that Vico, rather than elaborating what he meant by *vera narratio*, moved the discussion to another level, philosophy of language, as held by Plato. Not stopping there, he then became engaged in meta-level criticism, and by reference to Aristotle, in history of philosophy of language.

The other two main points display combinations of different levels of discourse, also. Among these levels, Vico included his own theoretical commitments, and framing of the issue of «the first speech»³⁷. According to Vico, this «first speech» was germane to the «theological poets» who, unlike Adam's anomathesia, engaged in «imaginative speech» [*parlare fantastico*], which, to begin with, involved a cognitive process of cross-identifying the heavens, earth, and sea, with «animate divinities». Much of *Book Two* of *Scienza nuova* is devoted to this theory and its implications³⁸.

This multilevel, multidimensional type of exposition is at the basis of the perceived complexity and density of Vico's mode of expression, which he expected to be helpful to others in order to understand him. Far from indulging in digression, Vico maintains firm control over the direction and purpose of the narrative, as can be seen in this passage by the fact that the very ending, «the truth of the senses», clarifies «true speech» mentioned at the beginning. What follows in this section of *Scienza nuova* is an elaboration which itself relies on multiple levels of discourse (402-403)³⁹. And, as in a circle, the very conclu-

³⁷ P. König, *Giambattista Vico*, cit., p. 92, points out a similar two-pronged or bi-level approach in *De constantia*: «Zur Erhellung dieser dunklen Zeit schlägt Vico in *De constantia* eine doppelte Vorgehensweise vor. Auf der einen Seite soll von der ältesten sprachlichen Überlieferung ausgegangen werden. [...] Zu ihrer Interpretation ist eine wissenschaftliche Mythologie erforderlich». Vico took up the challenge of creating such a «science-based mythology».

³⁸ Vico's *parlare fantastico* will be discussed in more detail and depth later.

³⁹ Perhaps this seemingly complex (but ultimately transparent and coherent) explicatory approach was behind Fausto Nicolini's reception who «ha indicato le cause della perenne oscurità vichiana nella "poca chiarezza di alcune idee, frequenti scambi, contaminazioni e confusioni di concetti fondamentali, continue interferenze della fantasia nel ragionamento, veri e propri errori logici e altre manchevolezze consimili connaturate alla sua *forma mentis* di poeta-filosofo»

sion of the section brings closure by referring back to «myth [*mythos, favola*] as a *vera narratio*» with which the discussion began (401, 403).

Vico's desire to facilitate following his line of reasoning can also be felt in other expository measures. In the lengthy *Book Two. Poetic Wisdom*, he first points out that the material broadly is organized into two segments, *metaphysics*, and *physics*, like two separate branches of a tree, which in turn are subdivided (367)⁴⁰. Metaphysics and its subtopics are much more extensively, disproportionately so, treated than physics. Vico, very helpfully, inserted a special section titled *COROLLARIES concerning the principal aspects* [*Aspetti Principali*] of *this science* (385-399) before the three lengthy central expositions on *Poetic Logic*, *Poetic Morals*, and *Poetic Politics* falling under metaphysics (400-686). In seven numbered, mainly short, segments he introduces the key points discussed subsequently.

Vico employed other ways and means to make himself understood in terms that were culturally familiar, one of which was the use of antitheses, both *de dicto* and *de re*. Antitheses provided him with a rhetorical tool for highlighting, emphasizing, and distinguishing the points he wanted to make. *De re* antitheses involve the subject matter itself, or substantive arguments. *De dicto* antitheses, on the other hand, have to do with arguments about the value and/or validity of the approaches to the underlying events taken by scholars. Vico was adept at working with both types of antitheses in furthering his aims.

Matters that Vico presented as *de re* antitheses included «giants» versus «human» stature, «wild beasts» versus humans, promiscuity versus marriage, corpses left unburied versus burial of the dead, forests versus cities, living in caves versus living in houses⁴¹. Vico's argumentative and narrative focus was on the second parts of these antitheses, and, in actuality, their treatment did neither depend on nor needed relevant information from the first parts, but were explicatory in their own right. These antitheses were therefore construed by Vico in such a way that the first parts served as a foil for the second parts, making the latter stand out all the more.

Vico's *de dicto* antitheses can be seen in a similar light. The foil against which he developed his novel concepts of the historical foundations of the civil

(C. Vasoli, *Note sul "metodo" e la "struttura" della Scienza Nuova prima*, in «BCSV», XIV-XV, 1984-1985, pp. 21-37, p. 28). See also G. Mazzotta, *The New Map of the World: The Poetic Philosophy of Giambattista Vico*, Princeton, Princeton University Press, 1999, p. 141 (quoted in *Editors' Preface*, in *The New Science*, trans. and ed. J. Taylor - R. Miner, cit., p. X): «This convoluted narrative technique is occasionally cumbersome but necessary».

⁴⁰ Both *metaphysics* and *physics* are used and intended by Vico in ways that are not obviously or directly related to current usage. In connection with *physics*, he compares its organization to mother and children, although it might not be necessary to read too much into this metaphorical language, considering that similar life sciences language is not unknown in modern physics, such when nuclear physicists speak of «parent» and «daughter» nuclei in connection with radioactive transitions.

⁴¹ It would take us too far from the topic under discussion to explore these contrasts in detail, but see my *Religion, Marriage, and Burial in Vico's Scienza nuova: A Reappraisal*, cit., pp. 20-29, with respect to marriage and burial of the dead.

world, included «the vanity of the learned», «the vanity of the nations», the theories of Grotius, Pufendorf, and Selden, the perennially influential Stoic notion of fate, on the one hand, and of the Epicurean notion of chance, on the other hand – both in their classical and early modern guises and adherents (394-398). The antithetical mode of discourse made it more compelling to engage with what Vico had to say, something that otherwise could have been left unexamined more readily. To cite the *COROLLARIES concerning the origins of languages and letters* (428-455) as an example, Vico begins this chapter-length section with «as many opinions as there are learned men who have written about them», not fewer than a dozen of whom he names (428-430). Vico then explicitly creates an antithesis, by asserting that its first part which he just presented bolsters his own argument in the second part: «So great a license in opining about the origin of letters should make the reader alert in receiving the things that we are going to say» (430).

Finally, Vico's treatment of Homer played a key role as a way in which to facilitate understanding through considering in conjunction history and his (new) theoretical framework. One might have expected for *Book Four: On the Course That the Nations Make* to immediately follow *Book Two*, since it would have fulfilled the promise in *Scienza nuova's* title regarding «the common nature of the nations». And *Book Three: On the Discovery of the True Homer* could have been placed in a kind of appendix at the end of the work without detriment to any arguments or overall sense of the book. Its placement at the center of *Scienza nuova*, nonetheless, can be understood in the context of the same challenge in his field that Galileo faced in cosmology, in arguing a new history of the civil world, on the one hand, and, simultaneously presenting a new theoretical framework through which to 'discover' the civil world in the first place.

In *Book Three* Vico lays out a new approach to the *Iliad* and *Odyssey*, and, particularly in the *Iliad*, unfolds a methodology to bring to light characteristics of early Greek civilization, in spite of evident distortion and corruption present in the extant Homeric account. His methodology made it possible to realize that the stories told had both ancient origins, and depicted ancient, bygone conditions, in the age of «gods» and «heroes», long before being committed to writing. The originators of this material who were the anonymous early Greek people were, for Vico, the «true Homer» (873)⁴². This was the key insight of Vico's new hermeneutics. It informed his reading and interpretation of Roman customs and religion, and thus placement of *Book Three* at the center meant to draw attention to its critical role⁴³. It contained Vico's main point of argument and main result. How then did Homer as traditionally understood fit into this picture? Vico called him «our Homer as someone who binds together, or composes, myths [*Omero nostro, che fu legatore, ovvero compositore di Favole*]» (852); in other words, Homer took the existing (legendary and mythical) material and,

⁴² K. Simonsuuri, *Homer's Original Genius: Eighteenth-century notions of the early Greek epic (1688-1798)*, Cambridge, Cambridge University Press, 1979, pp. 90-98.

⁴³ B. A. Haddock, *Vico's "Discovery of the True Homer": A Case-Study in Historical Reconstruction*, in «Journal of the History of Ideas», 40, 4, October-December 1979, pp. 583-602.

while not being its original author, molded it, brilliantly, to be sure, into a coherent work of literature. Thus, the association of his name with the epic(s) is well-deserved. In this context, the question of Homer *qua* Homer's existence or non-existence did not even arise. For Vico, Homer was a real historical individual, but his role in the creation of the *Iliad* and *Ulysses* needed to be relativized⁴⁴.

In concluding this brief sketch of some of the surface features of *Scienza nuova*, features that were meant and designed to make its ideas accessible, it begs the question whether they accomplished their purpose. Judging by the paucity of positive reception of the work, it would seem that it did not resonate. Possibly, its failure to convince could be attributed to its novelty and originality that no amount of explication could overcome, even if to his contemporaries Vico's style of presentation, and language, may have been less challenging than to modern readers⁴⁵. However, ultimately, the poor reception most likely had to do with the nature and substance of the results of Vico's inquiry which at various levels – social, political, academic – could have been perceived, justifiably or not, as being too “counter-cultural”, a less-than-favorable reception not dissimilar to what Vico had experienced on previous occasions⁴⁶.

⁴⁴ See my *Vico's Ring. Notes on the Scienza nuova, its Structure, and the Hermeneutics of Homer's Works*, Supplemento al *Laboratorio dell'ISPF*, Napoli, ISPF-CNR, 2016, pp. 262-269. This departs from the view that Vico disputed Homer's existence as a historical figure. (P. König, *Giambattista Vico*, cit., pp. 95, 114; V. Placella, *La mancata edizione veneziana della Scienza nuova*, in *Vico e Venezia*, ed. C. De Michelis - G. Pizzamiglio, Florence, Leo S. Olschki Editore, 1982, pp. 143-182, pp. 171-172; G. Cerri, *G. B. Vico e l'interpretazione oralistica di Omero*, in *Oralità. Cultura, letteratura, discorso*, ed. B. Gentili - G. Paioni, Roma, Edizioni dell'Ateneo, 1985, pp. 233-258, p. 242). Of course, Vico's Homer discussion can also be seen in a larger intellectual-historical context, such as presented in L. Ferreri, *La Questione omerica dal Cinquecento al Settecento*, Roma, Edizioni di Storia e Letteratura, 2007.

⁴⁵ M. Sanna, *La métaphysique comme question de méthode*, in «Noesis», 8, 2005, pp. 1-10, p. 3 § 12: «L'architecture méthodologique [...] de la *Scienza nuova* est soulignée par la structure que l'œuvre propose, de type encyclopédico-baroque seulement en apparence, mais pour cette raison considérée comme organique par les contemporains de Vico, qui partageaient la même culture de base». The situation might be seen in a more general context: «The tragedy of the canon manifests itself in two ways. [...] This process necessarily generates a canon the constitution of which is subject to some bias. It reflects the idiosyncratic interests and aims of the members of the community. [...] This problem is exacerbated because emerging philosophical issues rarely build a stock of canonical cases *de novo*; new issues evolve from old ones, and so tend to draw from the global canon, as existing cases are adapted to new purposes. Such path dependence in the global canon can constrain philosophical inquiry» (A. Bolinska - J. D. Martin, *The tragedy of the canon; or, path dependence in the history and philosophy of science*, in «Studies in History and Philosophy of Science», 89, 2021, pp. 63-73, p. 66).

⁴⁶P. Hazard, *The Crisis of the European Mind 1680-1715*, trans. J. L. May, intro. A. Grafton, New York, New York Review of Books, 2013 (originally published as *La crise de la conscience européenne*, Paris, Boivin, 1935), p. 414: «No one could make out what he was talking about; they hardly took the trouble to listen. His ideas were too novel. They clashed too violently with what was generally received and approved of». See also B. A. Naddeo, *Vico and Naples: The Urban Origins of Modern Social Theory*, Ithaca, Cornell University Press, 2011, pp. 22, 49, 160, for the reception of Vico's *Coniuratio principum Neapolitanorum* and *Diritto universale*.

As stated earlier, the thesis developed here is Vico's scientific aspirations. However, the prominence given in *Scienza nuova* to imagination and poetics would seem to vitiate this premise. An examination of how Vico built his account around *fantasia* and *poesia* is therefore indispensable.

3. *Fantasia* in *Scienza nuova*

Fantasia is the actual lexical term that appears in *Scienza nuova*, as noun (singular and plural), verb, *fantasticare*, and adjective, *fantastico*⁴⁷. Out of the extensive literature on Vico's *fantasia*, only a few selected studies, representatively, will be highlighted here. First, Donald Phillip Verene's book-length study, *VICO'S Science of Imagination*, uses *fantasia* untranslated throughout the text, and provides no paraphrase or attempt at formal definition, except for associating it closely with the type of thinking characteristic of «the first men» in «the primitive world», particularly in the form of «imaginative universals [*universali fantastici*]». In this context, *fantasia* has «power to give imagistic form to experience», in sharp contrast to «the constancy of the abstract concept» valued by us moderns⁴⁸.

The next major study of *fantasia* selected is Gustavo Costa's essay titled *Genesi del concetto vichiano di Fantasia*⁴⁹. Costa, in particular, relates Vico's encomia of *fantasia* in his early writings to other early modern thought, including Descartes, Port-Royal logic, Malebranche, Bacon, and Locke. For Costa, *fantasia* is synonymous with *immaginazione*, «facendone il modello ideale di un pensiero arcaico, intriso di elementi fantastici»⁵⁰.

More recently, Manuela Sanna devoted two monographs to *fantasia*, *La "fantasia, che è l'occhio dell'ingegno"*, and *Immaginazione*⁵¹. In the former, Sanna meticulously develops Vico's position and polemic against Descartes's rejection of the epistemic value of imagination from multiple points of view, mainly on the basis of Vico's works that preceded *Scienza nuova* of 1744. She documents

⁴⁷ See *Concordanze e indici di frequenza dell'edizione Napoli 1744*, ed. M. Veneziani, Florence, Leo S. Olschki Editore, 1997, pp. 290-291.

⁴⁸ D. Ph. Verene, *VICO'S Science of Imagination*, Ithaca, Cornell University Press, 1981, pp. 65-95. Note also the statement: «Vico's work is a training in *fantasia*, as are the works of Joyce. We know very little about *fantasia* because we live in a Cartesian world» (ivi, pp. 157-158). Cf. Id., *Vico's New Science: A Philosophical Commentary*, Ithaca, Cornell University Press, 2015, p. 258: «*Fantasia* in the *New Science* is the primordial faculty through which the giants apprehend the thunderous sky as Jove and form the world in the ages of gods and heroes through poetic characters. [...] *fantasia* might be translated or thought of as the "making imagination". It is derived from the Greek *phantasia* – the power by which an object is presented to the mind, the object being an appearance or image».

⁴⁹ G. Costa, *Genesi del concetto vichiano di Fantasia*, in *Phantasia - Imaginatio*, Roma, Edizioni dell'Ateneo, 1988, pp. 309-365.

⁵⁰ Ivi, pp. 310, 358. Costa also attributes to Vico «una inconfondibile ambiguità nella valutazione dei ruoli rispettivi della fantasia e della ragione». (Ivi, p. 363).

⁵¹ M. Sanna, *La "fantasia, che è l'occhio dell'ingegno". La questione della verità e della sua rappresentazione in Vico*, Napoli, Alfredo Guida Editore, 2001; Id., *Immaginazione*, Napoli, Alfredo Guida Editore, 2007.

«[l]’abbandono, da parte di Vico, della convinzione che fantasia e ragione costituiscono due principi antitetici dal punto di vista ontologico»⁵². In *Immaginazione*, Sanna clarifies that Vico’s *fantasia* is anything but what the term “fantasy” came to connote, and still connotes today⁵³; however, the focus of this study is *immaginazione* in the basic sense of (true or false) representation of objects, broadly defined, that are not actually available to our senses, that is, objects that are not present before us at the moment⁵⁴. Thus, the two volumes complement each other.

Thus, historically *fantasia* acquired a negative connotation while *immaginazione* (and its transliterated forms) became an integral part of epistemologies, albeit with varying positional values. Against this background, in what follows, both terms will be “re-viewed” in *Scienza nuova*, and to state the conclusions in advance, it turns out that *fantasia*, in Vico’s hands, became the antithesis of “fantasy” in early modern as well as modern usage⁵⁵; to the contrary, *fantasia* was identified with an essential moment of intelligent thought, including scientific thought. *Immaginare*, on the other hand, was relegated to an inferior, and even problematic, role⁵⁶.

Fantasia is a transliteration of the Greek noun *phantasia*, *phantazo* being the corresponding verb⁵⁷. Basically, they mean “to make apparent” which semantically is neither coterminous nor equivalent to “to present” or “to represent”⁵⁸.

⁵² M. Sanna, *La “fantasia, che è l’occhio dell’ingegno”*, cit., p. 10.

⁵³ M. Sanna, *Immaginazione*, cit., p. 9: «È proprio a partire dal sec. XVIII che i due termini – ‘fantasia’ e ‘immaginazione’ –, [...] vengono usati in maniera distinta dal punto di vista del significato, e si contrappongono le idee, generate dall’immaginazione dalle immagini fittizie, prodotte dalla fantasia».

⁵⁴ Ivi, p. 8.

⁵⁵ Cf. *New Oxford American Dictionary*, 3rd ed., ed. A. Stevenson - Ch. A. Lindberg, Oxford, Oxford University Press, 2010, s.v. *fantasy*: «an idea with no basis in reality». The product of *phantasia/fantasia* is a *phantasma* (plural *phantasmata*), which under the modern perspective consequently is defined as «un’apparizione, una manifestazione che avviene al di fuori dell’ordine dei fenomeni naturale» (M. Sanna, *Immaginazione*, cit., p. 11).

⁵⁶ More often than not, we will continue to use Vico’s original terms without attempting to solve the problem of translation into English or other languages; concomitantly, no criticism of the translations referred to here is intended. In the case of *fantasia*, there are reasons for caution: «The standard translation is ‘imagination’, but this is misleading since [...] the range of activity of *phantasia* is much wider than that of imagination, and it is as well not to suggest unwanted restrictions on the capacity from the start» (St. Everson, *Aristotle on Perception*, Oxford, Clarendon Press, 1997, p. 2); see also V. Caston, *Phantasia and Thought*, in *A Companion to Aristotle*, ed. G. Anagnostopoulos, Chichester, Wiley-Blackwell, 2009, pp. 322-334, p. 323: «‘Phantasia’ and ‘phantasma’ are most commonly rendered ‘imagination’ and ‘image’. But these translations are theoretically loaded and misleading»; K. M. Scheiter, *Images, Appearances, and Phantasia in Aristotle*, in «Phronesis», 57, 2012, pp. 251-278, p. 251: «The word *phantasia* is usually translated as ‘imagination’ for Aristotle, but since this translation presupposes a particular interpretation of *phantasia*, I leave it untranslated».

⁵⁷ M. Sanna, *Immaginazione*, cit., p. 7.

⁵⁸ For *phantazo* as “to make apparent”, see M. Schofield, *Aristotle on the Imagination*, in *Essays on Aristotle’s De Anima*, ed. M. C. Nussbaum - A. Oksenburg Rorty, Oxford, Clarendon Press, 1992, pp. 249-277, p. 251 n. 11. Therefore, it is problematic to say: «Nel testo si è adottato l’espedito di scrivere ‘(rap)presentazione’ per aderire alla duplice, possibile, valenza del voca-

The noun “appearance” is closely related if understood as the product of *phantasia*⁵⁹. In this context, “appearance” does not have the automatic negative value that Plato assigned to it in his ontology as epitomizing unreality and unreliability⁶⁰. For Aristotle, on the other hand, *phantasia* is integral to his theory of cognitive psychology⁶¹. Victor Caston considers it the «capacity midway between perception and thought [...]. By appealing to it, Aristotle believes, he can account for aspects of intentionality which his predecessors were completely unable to explain. [...] This basic form of mental representation, he maintains, arises naturally from perceptual activity and provides the material on which our understanding works to produce concepts»⁶². Intentionality as the key dimension of *phantasia/fantasia* is suggested by the locution “to make apparent”, but less so by alternative locutions such as “make show”, or “present”⁶³, just as, for example, both paintings and photographs have inherent intentionality but not to the same degree⁶⁴. However, the specific form or way in which *fantasia* makes things apparent or manifest, is not part of its core meaning. To be sure, images, either mental or visual, are natural instantiations, but by no means the only modality⁶⁵.

To get a better idea of how and why Vico employed *fantasia*, we will turn to a number of occurrences in *Scienza nuova* that seem to be representative of its meaning. The first point of interest, however, is that Vico also used another

bolo greco» (G. Camassa, *Phantasia da Platone ai neoplatonici*, in *Phantasia Imaginatio*, cit. pp. 23-55, p. 24 n. 2).

⁵⁹ D. Frede, *The Cognitive Role of Phantasia in Aristotle*, in *Essays on Aristotle's De Anima*, cit., pp. 279-295, p. 279: «‘appearance’ in a wider sense should be regarded as the central meaning to which all functions of the term are related».

⁶⁰ M. Schofield, *Aristotle on the Imagination*, cit., p. 266.

⁶¹ V. Caston, *Phantasia and Thought*, cit., p. 322; K. M. Scheiter, *Images, Appearances, and Phantasia in Aristotle*, cit., p. 251; D. Frede, *The Cognitive Role of Phantasia in Aristotle*, cit., pp. 287-292. For more detailed analysis of the differences between Plato and Aristotle regarding *phantasia*, see M. Sanna, *Immaginazione*, cit. pp. 15-24; G. Camassa, *Phantasia da Platone ai neoplatonici*, cit., pp. 25-35.

⁶² V. Caston, *Phantasia and Thought*, cit., pp. 322-323. Similarly, J. Benoist, *Logique du phénomène*, Paris, Hermann Éditeurs, 2016, p. 71, concludes that «la *phantasia* est d’abord présentée comme une sorte d’instance intermédiaire. [...] Elle semblerait, de ce point de vue, jouer le rôle d’échangeur entre la perception et le jugement»; D. Frede, *The Cognitive Role of Phantasia in Aristotle*, cit., p. 292: «it plays a crucial cognitive role both in practical and in theoretical thinking in Aristotle by supplying the necessary link between the sensible and the intelligible».

⁶³ M. Schofield, *Aristotle on the Imagination*, cit., p. 265.

⁶⁴ D. Costello - D. M. Phillips, *Automatism, Causality and Realism: Foundational Problems in the Philosophy of Photography*, in «Philosophy Compass», 4, 1, 2009, pp. 1-21.

⁶⁵ V. Caston, *Phantasia and Thought*, cit., pp. 323. An elementary, but nevertheless paradigmatic example, from Aristotle, is given in J. Benoist, *Logique du phénomène*, cit., p. 84, by reference to wine that someone considers either *sweet* or *sour*. It is not only the case that a particular wine is judged, but furthermore, *sweetness*, for instance, is made apparent as a general notion or category: «Le moment de douceur éprouvé dans sa ponctualité ‘n’apparaît’ pas doux. Il l’est — il n’est rien d’autre que douceur. En revanche, c’est en tant que douceur *du vin* que la douceur peut ‘apparaître’, se manifester ou n’être qu’*apparente*» (emphasis original). *Phantasia*, therefore, has an epistemic function.

word or word group, the verb *immaginare*, and the nouns *immaginativa* and *immagine*. However, the noun *immaginazione* does not appear in *Scienza nuova*⁶⁶. In fact, there are passages and contexts in which *fantasia*, and its related forms, and *immaginare*, and its related forms, appear together. A reading of some of these joint appearances will be relevant to determining whether *fantasia* and *immaginare* are synonymous or, rather, distinct concepts that are not to be confused or conflated.

A place to start is the *Explication of the Frontispiece* which draws on the main text of *Scienza nuova*. For example, § 34 relies on *Poetic Metaphysics* (378), *Book Three. On the Discovery of the True Homer* (806, 808, 819, 906, 911), as well as *Book Four. Final Proofs* (1035-1036), which therefore can be considered together. Excerpting from § 34, these statements contain some of the key aspects: «the poetic nature of those earliest men is for our gentle nature completely impossible to imagine [*immaginare*] [...]. The poetic characters are found to have been certain imaginative genera [*Generi Fantastici*] [...] formed by their imagination [*fantasia*] – and, under such genera, they placed all the species, or particulars belonging to it; [...] those told in New Comedy: in this case, there are intelligible genera [*generi intelligibili*] [...] from which the comic poets form imaginative genera [*generi fantastici*], which are nothing other than the best ideas [*idee ottime*] about each genus of man – that is, one of the stock personae of comedy [*Personaggi delle Commedie*]. Consequently, divine or heroic characters of this sort [...] containing a sense – not yet analogical but still univocal [*univoci*]».

The sense of *immaginare* here, absent negation, happens to conform to modern and current usage as “possible to be thought of or believed”⁶⁷. It thus has doxastic rather than epistemic connotations. In Vico’s view, it is impossible to replicate or experience a full sense of what life was like in early civilizations, and how their denizens made their way in them⁶⁸.

⁶⁶ *Concordanze e indici di frequenza dell’edizione Napoli 1744*, cit., pp. 382-383. In contrast to *fantasia*’s Greek roots, *immaginare* transliterates the Latin *imaginatio*; see P. Flury, *Phantasia und Imaginatio im Bereich des antiken Lateins*, in *Phantasia und Imaginatio*, cit., pp. 69-79, for a history of usage in Roman antiquity, including the shift of meaning over time. For example, for Quintilian, *phantasia* still consisted of «gewisse Vorstellungen, durch welche nicht vorhandene Dinge sich uns so darstellen, als ob wir sie sehen könnten» in a neutral sense, and who also used the term for paintings that are present to someone, or which the painter himself has created, whereas in the fourth century, such as by Augustine, both *phantasia* and *imaginatio* are used with «der Nuance der falschen, trügerischen Vorstellung, die nicht der Wahrheit entspricht» (ivi, pp. 71, 78). It seems as though the discrepant uses of *phantasia* on the part of Plato and Aristotle were rehearsed by Augustine, following the former, and Quintilian, following the latter, respectively.

⁶⁷ *New Oxford American Dictionary*, cit., s.v. *imaginable*. A more discursive definition is given in Sh. Liao - T. Gendler, *Imagination*, in *The Stanford Encyclopedia of Philosophy*, Summer 2020 Edition, ed. E. N. Zalta, <<https://plato.stanford.edu/archives/sum2020/entries/imagination>>, last accessed 18 August 2023: «To *imagine* is to represent without aiming at things as they actually, presently, and subjectively are. One can use imagination to represent possibilities other than the actual, [...] times other than the present, and [...] perspectives other than one’s own».

⁶⁸ Vico’s wording here echoes § 338: («a human nature [...] that we are completely forbidden from imagining it [*negato d’immaginare*]»); § 378: («it is naturally denied to us to enter into the vast imaginary [*vasta Immaginativa*] of those earliest men [...]. Hence [...], in our time it

This can be seen in the case of ancient Mesopotamia that can be identified with the *Chaldeans* in Vico's *Chronological Table* (55). In Vico's account, the Chaldeans «became astronomers and astrologers, measuring the motions and observing the aspects of the planets and stars, and imagining [immaginarie] their influence upon the bodies called “sublunary” and also, though vacuously, upon the free wills of men» (739). Vico correctly alludes to Mesopotamian metaphysics as consisting of the unity or inseparability of the heavenly and earthly realms⁶⁹. One would have to share and internalize this belief system in order to properly appreciate how people in these early civilizations thought and felt⁷⁰.

In this paragraph, Vico also used the verb *immaginare* with respect to the Chaldeans, for their belief in the influence, if not control, of stars and planets over humans, hence in the sense of being fictitious. The same connotation is present in contrasting «the providence of the Hebrews [which] was a true [vera] providence», with «the providence of the gentiles [which] was an imaginary [immaginata] providence» (9). Similarly, «they [the theological poets] imagined [immaginarono] [the heavens, the earth, and the sea] were animate divinities [Jove, Cybele, Neptune] and [...] believed them to be gods» (402), or equivalently «animate substances, for the most part imagined [immaginate] to be divine» (401). Thus, in these contexts *immaginare* does not rise to or imply a mental faculty such as the noun *immaginazione* might suggest; its absence in *Scienza nuova* is therefore self-consistent.

It is with the background of these (doxastic) senses of *immaginare* in *Scienza nuova* in mind that *fantasia* can be examined. The difference with *immaginare* is evident by its *epistemic* dimension in that *fantasia* forms *generi fantastici*, or *universali fantastici*⁷¹. Genera and universals are classifications – «under such genera,

is [...] completely impossible to imagine (*immaginar*) how they would have thought»; § 700: («now one is [...] completely unable to imagine (*immaginar*) how these earliest men [...] would have thought»).

⁶⁹ Cf. J.-J. Glassner, *Le Devin historien en Mésopotamie*, Leiden, Brill, 2019, p. 583: «l'univers formait une totalité organisée et il était attendu une grande homogénéité dans la fuite du temps. [...] Rapportée à une suite d'événements situés sur terre et en étroite relation avec le cosmos représenté par le ciel étoilé, l'histoire fut également dotée d'un temps composé de cycles». D. Ph. Verene, *VICO'S Science of Imagination*, cit., p. 101, observes: «We cannot comprehend a world full of gods». However, the next sentence reads: «We have lost touch with the powers of creative imagination which was present in the primordial sense of the *generi* or *universali fantastici*». As this essay argues, *fantasia* in its original sense is by no means exclusive to early civilizations.

⁷⁰ For example, philology was studied and presented in terms of deities (J. C. Johnson, *The origins of scholastic commentary in Mesopotamia: Second-order schemata in the Early Dynastic exegetical imagination*, in *Visualizing Knowledge and Creating Meaning in Ancient Writing Systems*, cit., pp. 11-55). See also A. H. Podany, *Weavers, Scribes, and Kings: A New History of the Ancient Near East*, Oxford, Oxford University Press, 2022, pp. 53-56; B. G. Trigger, *Understanding Early Civilizations: A Comparative Study*, Cambridge, Cambridge University Press, 2003, pp. 409-443.

⁷¹ While the current study is focused on *Scienza nuova*, it should be noted what Vico explained in his *First Inaugural Oration*: «It is phantasy (*phantasia*) that makes present to our eyes lands are very far away [...], that discloses what is hidden» (G. B. Vico, *On Humanistic Education (Six Inaugural Orations, 1699-1707)*, trans. G. A. Pinton - A. W. Shippee, intro. D. Ph. Verene,

they placed all the species, or particulars, belonging to it» (34) – that play an essential role in all knowledge-creating, or knowledge-acquisition processes⁷². Vico is especially, even primarily, interested in the form(s) that *generi/universali fantastici* took in the «age of gods» and «age of heroes» of early civilizations. For example, the indescribable complexity of the natural world was subsumed and categorized into only three «vast bodies [vastissimi corpi]», the heavens, the earth, the sea, thereby constituting «vast imaginings [vaste fantasie]» (402)⁷³. And in accordance with their unified worldview of the natural and supernatural, they identified them with Jove, Cybele, and Neptune, respectively, and proceeded analogously with other entities and phenomena⁷⁴.

In the «age of heroes», the same classificatory impulse continued, although taking a different form: «with Achilles, an idea of valor common to all those how have strength; with Ulysses, an idea of prudence common to all those who are wise» (403). Thus, Vico explains, «different species or different individuals as comprehended under their genus, they must have a univocal significance, comprehending one reason common to all the species, or individuals» (403). As Vico points out, univocity means applying a single criterium⁷⁵. While

Ithaca, Cornell University Press, 1993, p. 43). It might be useful to compare or relate Vico's *generi fantastici* to the «manifest generalities» of the so-called Methodical school of medicine (first century A.D.) (M. Frede, *Essays in Ancient Philosophy*, Minneapolis, University of Minnesota Press, 1987, pp. 261-278). It was inspired by the question «Which is the correct method of [medical] treatment, that is, the correct way one arrives at the conclusion that a certain treatment is the right treatment?». To the Methodists, «[m]edicine [...] amounts to [...] a 'knowledge of manifest generalities' (*gnōsis phainomenon koinoteton*), i.e., of certain general, recurrent features whose presence or absence can be determined by inspection» (ivi, p. 262). Methodist «manifest generalities» are «an attempt to draw our attention to the phenomena, to help us to become aware of them in our own experience» (ivi, p. 274). The apparent affinities and/or differences with Vico's *generi fantastici* cannot be explored here further, except noting *prima facie* parallels between «generalities» and *generi*, and between «manifest» and *fantastici*.

⁷² Forming genera/universals corresponds to modern efforts of defining natural and other «kinds» (A. Bird - E. Tobin, *Natural Kinds*, in *The Stanford Encyclopedia of Philosophy* (Spring 2023 Edition), ed. E. N. Zalta - U. Nodelman, <<https://plato.stanford.edu/archives/spr2023/entries/natural-kinds/>>, last accessed 28 August 2023).

It should be noted that the notion of genera and universals are also key concepts in Vico's philosophy of law and jurisprudence: «so that gentile men, who did not yet have the capacity for the universals which are what good laws must be, would instead be drawn to observe the laws universally from the particularities of their words» (38). In fact, Vico's discourse about *generi fantastici*, or *universali fantastici* provides the conceptual underpinnings for the historical development of law, enabling him to speak of «rights mythologized by imagination (ragioni favoleggiate da fantasia)» (1036). Cf. *The New Science of Giambattista Vico*, trans. Th. G. Bergin - M. H. Fisch, cit., p. 390: «rights invented by imagination».

⁷³ In modern parlance, it might be called a *quotient space* in which a total «space» of entities or phenomena is partitioned on the basis of a certain criterium.

⁷⁴ G. Cantelli, *Gestualità e mito. I due caratteri distintivi della lingua originaria*, in «BCSV», XX, 1990, pp. 77-116, p. 111: «Considerati in questa prospettiva, i miti non «spiegano» affatto la realtà, ma sono il realizzarsi di un processo attraverso cui la realtà si manifesta e, manifestandosi, viene per la prima volta fondata».

⁷⁵ Cf. M. Granatella, *Imaginative universals and human cognition in The New Science of Giambattista Vico*, in «Culture and Psychology», 21, 2, 2015, pp. 185-206, p. 190: «Imagination [...] gives form to perceptual experience not by abstraction of a single property from empirical reality,

Achilles and Ulysses were complex individuals living complex lives, they were considered only in terms of a particular, highly selective aspect of their personality⁷⁶. These aspects were not arbitrarily chosen but related to certain conditions and parameters prevailing in the civil world of their time. However, rather than articulating them conceptually, discursively, they designated them as “Achilles” and “Ulysses”.

Vico qualified genera or universals as *fantastici*, as “made apparent”. Universals are not objects or phenomena that are directly or immediately perceived by any of the senses: the adjective *fantastico* first of all implies intentionality, and furthermore, a multiplicity or plurality of the ways in which things can be made to appear⁷⁷. This then presented the challenge, or great difficulty, that Vico faced: unravelling the unique content and causes of their unfamiliar and peculiar universals, and not whether people in the early civilizations were mentally capable of categorizing or classifying objects and phenomena in the first place⁷⁸. As noted earlier, Vico ultimately relates and revolves them around law and jurisprudence, the *mondo civile*⁷⁹.

but by putting together things that appear completely unrelated, in order to fabricate our own experience of the world». It seems that *fantasia* is being conflated with *ingegno/ingenium*. (Ivi, p. 193).

⁷⁶ B. S. Gregory, *The Unintended Reformation: How a Religious Revolution Secularized Society*, Cambridge, Mass., Harvard University Press, 2012, p. 37, defines *univocal* as «predicated in conceptually equivalent terms».

⁷⁷ Cf. M. Gabriel, *Fiktionen*, cit., p. 396: «Die φαντασία ist kein wirklichkeitsferner Vorgang, sondern die Art und Weise, wie wir intentionale Gegenstände erfassen»; J. Benoist, *Logique du phénomène*, cit., p. 74: «Ce n'est qu'en passant par l'imaginaire que ce que, [...], nous qualifions toujours déjà de “réel” peut devenir “apparaissant”».

⁷⁸ J.-J. Glassner, *Le Devin historien en Mésopotamie*, cit., *passim*, highlights the systematic, logical approach of court officials, in their capacity as diviners (within the context and constraints of their metaphysics), challenging the narrative of being able to speak of “science” for the first time of Greece in the fifth-century B.C. (ivi, p. 10). See also F. Rochberg, *The Historiography of Mesopotamian Science*, in *The History of Science: Critical Concepts in Historical Studies*, Vol. I, ed. M. Mazzotti, London, Routledge, 2020, pp. 34-60. The Akkadian verb *bārû*, meaning «observer, établir par l'observation, inspecter» seems to have affinities with *phantasia*. (J.-J. Glassner, *Le Devin historien en Mésopotamie*, cit., p.5) See also E. Friedrich, *Toward a Classification of Akkadian Verbs of Perception*, in *Distant Impressions: The Senses in the Ancient Near East*, ed. A. Hawthorn - A.-C. Rendu Loisel, University Park, Pennsylvania State University Press, 2019, pp. 149-158, p. 153: «It belongs to the [...] group of agentive perception verbs, verbs with an intended target»; A. Dicks, *Catching the Eye of the Gods: The Gaze in Mesopotamian Literature*, dissertation, New Haven, Yale University, 2012, p. 207: «[The verb denotes] a visual search for an object within an object», quoted in S. Richardson, *Place and Portability: Divine Emblems in Old Babylonian Law*, in *As Above, So Below: Religion and Geography*, ed. G. Konstantopoulos - Sh. Zaia, University Park, Pennsylvania State University Press, 2021, pp. 28-73, p. 49 n. 120, and «likening its sense to “to reveal”». The intent and ability of making apparent has also been noted in ancient Egyptian art: «Die Phänomene, obwohl durch Abgrenzung und Bezeichnung ans Licht gehoben, bleiben durchsättigt mit seelischem Gehalt». (E. Brunner Traut, *Frühformen des Erkennens am Beispiel Altägyptens*, Darmstadt, Wissenschaftliche Buchgesellschaft, 1990, p. 61, see also pp. 23, 37, 39 for specific representational techniques, such as representing objects abstracted from their optical perspective; incongruous perspectival combinations of the human torso, shoulders, head, and eyes; the differential scale of figures; and others.

⁷⁹ E. Mazzoleni, *Universalis fantastici iuridici. Narrazioni normative in Giambattista Vico*, in «Diritto Penale e Uomo», Fasc. 9, 2019, pp. 1-22.

Vico himself indicated in the paragraph with which we began this discussion that *generi fantastici* were no unique to the ages of gods and heroes but also common in the «age of men»: “it is exactly the same with the myths (*Favole*) told in human times – those told in New Comedy: in this case, there are intelligible genera [*generi intelligibili*] – [...] – from which the comic poets form imaginative genera [*generi fantastici*], which are nothing other than the best ideas [*idee ottime*] about each genus of man – that is, one of the stock personae of comedy [*Personaggi delle Commedie*]» (34). Such stereotypical characters of the Greek New Comedy, championed by Menander, included the young boy in love, the grouchy or amiable old man, the clever rascal-slave, the parasite, as well as typical representatives of different social classes, and common dysfunctional relationships, such as father-and-son conflicts⁸⁰. These were thus categorizations of ordinary people and lives in contrast to gods and heroes; as such they were more easily relatable or comprehensible, thus calling them ‘intelligible’ not being a misnomer. But they were also *generi fantastici* proper: they made certain personal and social traits publicly apparent or manifest and thus open to reaction and examination. So, all *generi intelligibili ipso facto* are also *generi fantastici*; on the other hand, *generi fantastici* of the «age of gods» and «age of heroes» are not *generi intelligibili* in the same (ideological) sense as those of the «age of men».

Viewing the difference between *generi fantastici* and *generi intelligibili* in these terms casts light on Axiom 49 which reads in part: «The second [Axiom] demonstrates that the earliest men – as the children of humankind who were not capable of forming intelligible genera [*generi intelligibili*] of things – had by natural necessity to devise poetic characters – which are imaginative genera, or universals [*generi, o universali fantastici*]» (209). Not being capable of forming *generi intelligibili* was not due to inferior intellect or rationality, but due to their worldview⁸¹: their thinking revolved around, and was dominated by, their gods and ruling elite (exemplified by «poetic characters» like Achilles and Ulysses), a world in which psychology and social dynamics of the common populace played no role. Ordinary people were “invisible”, making it impossible in principle to discern and articulate their categorical distinctions⁸². In the same context, Vico credits the ancient Egyptians with «discoveries advantageous or necessary for human life—that is, the particular effects of civil wisdom», thus including the common people among the beneficiaries. However, this did not mean that the Egyptians were thinking in terms that reflected explicit recognition of the interests and characteristics of their people in general, like using «in-

⁸⁰ D. F. Sutton, *Ancient Comedy: The War of the Generations*, New York, Twayne Publications, 1993, pp. 39-53; see also my *Mind, Body, and Language in Vico's Scienza nuova*, cit., pp. 37-38.

⁸¹ Cf. F. Rochberg, *The Historiography of Mesopotamian Science*, cit., p. 53: «The evidence of the texts that deal with the heavens [...] or astronomical texts, argue for the existence of different modes of thought as the function of different aims or attitudes, not that the Mesopotamian scribes were cognitively lacking in some way».

⁸² G. J. Selz, “The Poor are the Silent Ones in the Country”. *On the Loss of Legitimacy: Challenging Power in Early Mesopotamia*, in *Who Was King? Who Was Not King? The Rulers and the Ruled in the Ancient Near East*, ed. P. Charvát - P. M. Vlčková, Prague, Institute of Archaeology of the Academy of Sciences of the Czech Republic, 2010, pp. 1-15.

telligible» terms such as «civil wise man» or «civil wisdom». Rather, they «imagined», in the sense of making apparent, Hermes Trismegistus (*da essi fantasticato Mercurio Trismegisto*). It is in this ideological, not cognitive, sense «that the authors of Roman law during an age not able to understand intelligible universals [*universali intelligibili*] made imaginative universals [*universali fantastici*]» (1033).

Fantasia is inherent in speech and memory: «Rather, it was an imaginative speech [*un parlare fantastico*] through animate substances, for the most part imagined to be divine [*immaginate divine*]» (401), and «memory is the same faculty as imagination [*fantasia*]» (819). Both speech and memory are intentional. By speech certain topics or matters are “made to appear” to the minds of the listeners; in the early times, they made the deities apparent whenever speaking of them, and references to the gods permeated their speech. Memory brings back past events or experiences, and by doing so, makes them apparent, or evident⁸³.

Furthermore, Vico extended the role of *fantasia* to modern times: «For when we wish to treat of spiritual things [the faculties of the human mind, the passions, virtues, vices, the sciences, the arts] outside of the intellect, we must receive succor from the imagination [*Fantasia*] so as to be able to articulate [*spiegare*] them and, like painters, must devise human images of them» (402). Making something apparent, *fantasticare*, as an epistemic activity, is just as essential, and common, in modern times as it was in early civilizations. The fact that we now deal with «spiritual» things, that is, not just physical nature (the heavens, the earth, the sea, flowers, fruits, and so on) as at first, does not change the need to «articulate» them, or, like painters, make a visible representation⁸⁴. In either modality, it results into something *fantasticato*, something made apparent, expressed explicitly, rather than left unstated, or inchoate⁸⁵.

⁸³ Cf. D. Marshall, *Prophecy and Poetry in Vico's Scienza Nuova: Towards the Manifold Quality of Time*, in «Bruniana & Campanelliana», XI, 2, 2005, pp. 519-549, pp. 539-540: «There is a fundamental comparability between our ability to remember and our ability to fantasize; from the perspective of the *nunc stans* both recollection and expectation are forms of rendering the non-present present». While the word “fantasize” here differs in meaning from Vico's *fantasia*, nevertheless, a certain affinity is present.

⁸⁴ For the role of pictures in science, as debated in philosophy of science, see St. M. Downes, *Models, Pictures, and Unified Accounts of Representation: Lessons from Aesthetics for Philosophy of Science*, in «Perspectives on Science», 17, 4, 2009, pp. 417-428.

⁸⁵ In § 819, Vico stated that «the expression ‘imaginative man’ (*uomo fantastico*) was used to signify a ‘man of ingenuity’ (*uomo d'ingegno*) (as was said of Cola di Rienzo by an author contemporary to him who wrote his biography)». Vico is referring to the *Cronica dell'Anonimo romano* (1357-1358); the recently proposed identification of the author as the cleric Bartolomeo di Iacovo da Valmontone is controversial. In Chapter XXVII, the expression «Lo fantastico piace allo fantastico» appears. Cola di Rienzo (1313-1354) was a master political propagandist, especially by regularly using public art, such as painting the Capitol with illustrations composed of animals representing social groups, not left to interpretation but made apparent in captions; prominently displayed frescoes of tableaux visually communicating the past greatness and glorious future of Rome, and his own role as its savior. He also made personal appearances wearing white and gold robes echoing the Book of Revelation, and using a crown and sword. (A. Collins, *Greater than Emperor: Cola di Rienzo (ca. 1313-54) and the World of Fourteenth-Century Rome*, Ann Arbor, The University of Michigan Press, 2002, pp. 42-43, 67-73, 79-81, 157-159).

Vico included science and art as proper subjects of *fantasia*⁸⁶. This claim seems to find confirmation in philosophy of science: «the imagination can be crucial in the process of coming up with new theories, can lead to interesting lines of research and can contribute to the formation of new technologies»⁸⁷. Thus, in science *imagination* is indexed as epistemic: imagination indexed epistemically (imagination_{epistemic}), rather than doxastically (imagination_{doxastic}), maps to Vico's *fantasia*⁸⁸. A few examples may suffice to illustrate how scientists make phenomena apparent in their theorizing, both in the physical and life sciences. In philosophy of science, a useful distinction is made between “observable” and “unobservable” on the basis of the criterium of naked-eye or unenhanced observation. Consequently, a satellite or an antenna is considered “observable”, but an electron or a gene is not⁸⁹. However, physicists commonly refer to entities or phenomena classified as “unobservable” under this nomenclature as *observables*. Such *observables* include position, momentum, charge, spin, mass, velocity, and others⁹⁰. They thus give a new meaning to the term *observable*; formalization of these properties is an exercise of *fantasia*⁹¹. In other words, scientific imagination is a form of *fantasia*.

Fantasia in science can also take a more “literal” form, in the way(s) that technology is able to render hidden processes physically visible. The history of fluid dynamics provides numerous instances, such as dye in a controlled stream of water to make turbulence visible; smoke in a wind tunnel to reveal air flow

⁸⁶ *Fantasia* with respect to art will not be considered here further; see, for example, B. Gockel, *Paul Klee's picture-making and persona: tools for making invisible realities visible*, in «Studies in History and Philosophy of Science Part A», 39, 3, September 2008, pp. 418-433.

⁸⁷ M. T. Stuart, *Scientists are Epistemic Consequentialists about Imagination*, in «Philosophy of Science», 00, 1-2, 2023, pp. 1-21; A. Murphy, *Imagination in science*, in «Philosophy Compass», 17, 6, June 2022, pp. 1-12, p. 2; F. Salis - R. Frigg, *Capturing the Scientific Imagination*, in *The Scientific Imagination: Philosophical and Psychological Perspectives*, ed. P. Godfrey-Smith - A. Levy, Oxford, Oxford University Press, 2020, pp. 17-50; St. French, *Imagination in Scientific Practice*, in «European Journal for Philosophy of Science», 10, 27, 2020, pp. 1-19;

N. Van Leeuwen, *The Meanings of “Imagine” Part I: Constructive Imagination*, in «Philosophy Compass», 8, 3, March 2013, pp. 220-230.

⁸⁸ Conversely, imagination_{doxastic} maps to *immaginare* in *Scienza nuova*.

⁸⁹ R. Frigg, *Models and Theories: A Philosophical Inquiry*, London, Routledge, 2023, pp. 76-79; R. Hudson, *Seeing Things: The Philosophy of Reliable Observation*, Oxford, Oxford University Press, 2014, pp. XXI-XXII, 231.

⁹⁰ No attempt at a representative bibliography will be made here. The author found the following recent articles relevant in the present context: A. Borelli, *The uses of isospin in early nuclear and particle physics*, in «Studies in History and Philosophy of Science Part B», 60, November 2017, pp. 81-94; Sh. Chen - K. Fukushima - Y. Shimada, *Perturbative Confinement in thermal Yang-Mills Theories Induced by Imaginary Angular Velocity*, in «Physical Review Letters», 129, 2022, pp. 1-6; B. Duran, *Determining the gluonic gravitational form factors of the proton*, in «Nature», 615, 2023, pp. 813-816; F. Remacle - R. D. Levine, *A quantum information processing machine for computing by observables*, in «Proceedings of the National Academy of Sciences of the USA», 120, 11, March 2023, no pagination.

⁹¹ For an historical example of *fantasia* on the part of a physicist, see J. K. McDonough, *Leibniz and the Foundations of Physics: The Later Years*, in «Philosophical Review», 125, 1, 2016, pp. 1-34, according to which Leibniz conceptualized «point forces» which, physically and literally, are unobservable.

around obstacles; change in the refractive index of air in order to photograph shock waves⁹². And to cite an example from the life sciences, this can be seen in the new ways in which genes are conceptualized «as a functional unit [...] rather than a “mere” straightforward DNA stretch, [so] that one can explain and discover these complex phenomena or the interactions». The explicit conceptualization of a functional unit «allows to see its importance at the cellular and organismal level»; therefore, functional units are *universali fantastici*⁹³.

In the introduction Vico's claim of *Scienza nuova* as a work of science was highlighted. The foregoing examination of Vico's concept of *fantasia* led to a conclusion that appears to be consistent with Vico's overarching aims. *Scienza nuova* necessarily had to delve into Greek and Roman mythology in investigating the culture(s) of early civilizations. However, unlike other early modern thinkers, Vico did not merely offer another interpretation, but probed ancient history at the level, or through the lens, of general concepts (*generi*) and universals (*universali*). Generalization and universals are the stock-in-trade of both law and science, not only the “stuff” of myths as commonly understood. Vico thus took an entirely different approach, and by attributing *generi fantastici* and *universali fantastici* to the ancients, he brought their ways of thinking within the scope and methodology of scientific inquiry. It also validates *Scienza nuova* in scientific terms.

This foregoing interpretation of *fantasia* in Vico's *Scienza nuova* as intentional epistemic agency in both early and modern civilizations seems to be at variance with statements like: «such genera [...] were formed by the most vigorous imaginations [fantasie], as well as by men with the weakest powers of reasoning [raziocinio]» (34), or: «The more vigorous the imagination [*Fantasia*], the weaker reasoning [il *raziocinio*] is» (185, Axiom 36). However, the *prima facie* polarity of *fantasia* and *reasoning* vanishes when the positional value of Vico's term *raziocinio* is factored into the equation. *Raziocinio* occurs only a few times in *Scienza nuova*; it is not Vico's standard term for *reasoning* in its general or fundamental sense, which is *ragionare*⁹⁴.

Vico reserved *raziocinio* for the more specialized, if not critical, context of classical and early modern intellectualism, in statements such as: «philosophic sentiments, which are formed by the rational reflection [*riflessione con raziocinj*]» (219); poetry came into being through a deficiency in human reasoning [*ra-*

⁹² D. Bloor, *Sichtbarmachung, common sense and construction in fluid mechanics: The cases of Hele-Shaw and Ludwig Prandtl*, in «Studies in History and Philosophy of Science Part A», 39, 3, September 2008, pp. 349-358. More generally, «an entity that manifests itself through several experimental/observational methods is something real, but our knowledge of its nature is perspectival» (M. Khalili, *Reality in Perspectives*, dissertation, Amsterdam, Vrije Universiteit, 2022, p. 6; <<https://research.vu.nl/en/publications/reality-in-perspectives>>, last accessed 27 August 2023).

⁹³ F. Bellazzi, *The emergence of the postgenomic gene*, in «European Journal for Philosophy of Science», 12, 17, 2022, pp. 1-21, p. 13. The assertion that «one of the aims of science is to unmask which kinds of things exist in the world», could also be applied to the aims of *fantasia*. (Ivi, p. 19).

⁹⁴ *Concordanze e indici di frequenza dell'edizione Napoli 1744*, cit., pp. 640-642, 647-648.

razziocinio], [...] nothing its equal [...] has been produced by the philosophers (384); the natural theology of the metaphysicians later demonstrated by virtue of invincible reasoning [razziocini] against the Epicureans (696)». He even pointedly identifies Cartesianism with *razziocinio*: «Just as the metaphysics of the philosophers [...] needs logic in order, by the clarity and distinction [chiarezza e distinzione] of ideas, to inform its own reasoning (razziocini) (502); a world that later by reasoning [razziocini] and by maxims has been clarified [schiariato] for us by the particular reflections of the learned [riflessione de' Dotti]» (779)⁹⁵. It is to this ideologically imbued rationalism that Vico opposes *fantasia*, not to the faculty or exercise of reason itself⁹⁶. In fact, it is *fantasia* that presents the grounds and constitutive elements to be reasoned on in the first place⁹⁷. Furthermore, viewed at a metalevel, Vico's *fantasia* has the merit of making explicit the role of presuppositions and premises without which rationality degenerates into rationalism⁹⁸.

⁹⁵ Giuseppe Cacciatore explained «che Vico rappresenta l'«altra faccia» della modernità: quella che intenzionalmente ha utilizzato la fantasia e il fare poetico come critica ad ogni eccesso di logocentrismo. Cartesio resta, per il filosofo napoletano, punto obbligato di riferimento per chi voglia capire quanta importanza abbia avuto per il pensiero moderno la scoperta della centralità del soggetto. Ma ciò non gli ha impedito, fin dai primi scritti, di criticarne il riduzionismo logico-razionale» (*Per una critica della ragione poetica: L'«altra» razionalità di Vico*, in *Razionalità e modernità in Vico*, ed. M. Vanzulli, Milano, Mimesis, 2012, pp. 109-128, p. 128; Id., *In dialogo con Vico. Ricerche, note, discussioni*, ed. M. Sanna - R. Diana - A. Mascolo, Roma, Edizioni di Storia e Letteratura, 2015, p. 1479. Cartesian rationalism is described as follows: «There is a universal and precise method that demarcates science from any other intellectual discipline. [...] The rigorous application of this method guarantees the achievement of the aims of science. [...] If science possessed no method, it would not be a cognitive and rational endeavor» (M. Pera, *The Discourses of Science*, cit., p. 4; these assumptions are argued to be untenable, pp. 28-29).

⁹⁶ Cf. C. Wilson, *The Enlightenment Philosopher as a Social Critic*, in «Intellectual History Review», 18, 3, 2008, pp. 413-425; H. M. Lloyd, *The French Enlightenment attempts to create a philosophy without reason: the case of Diderot and the effect of Helvétius*, in «Intellectual History Review», 28, 2, 2018, pp. 271-292.

⁹⁷ As mentioned earlier, Quintilian understood *phantasia* in this manner: «In what the Greeks call φαντασία and we call visions [visiones], things absent are presented to the soul through images [imagines] in such a way that they seem actually to be before our very eyes» (*Institutio Oratoria*, VI.ii. 29-30, quoted in J. Sallis, *Force of Imagination: The Sense of the Elemental*, Bloomington, Indiana University Press, 2000, p. 72). Sallis uses locutions such as «to bring things forth into manifestness; brings things forth to human apprehension, that lets them show themselves to sense». Here, «bringing forth» (*poiesis*) «is to be distinguished from both production and reproduction» (ivi, pp. 215-216). Aristotle attributed to metaphors the power of «bringing-before-the-eyes» (*pro ommaton poiein*), that is, capturing audience attention, and prompting them to experience insight (S. Newman, *Aristotle's Notion of «Bringing-Before-the-Eyes»: Its Contributions to Aristotelian and Contemporary Conceptualizations of Metaphor, Style, and Audience*, in «Rhetorica», 20, 1, Winter 2002, pp. 1-23).

⁹⁸ *Scienza nuova* itself can be considered *fantasia* proper. Of the *Explication (Spiegazione) of the Frontispiece* (1-42), in particular, it has been said that it «brings to light the things of the past and [...] it rediscovers them and finds new revelatory relations» (S. Ferri, *Unfolded History: Vico's Method of «Explication» as an Alternative to Enlightenment Rationalism*, in «New Vico Studies», 25, 2007, pp. 87-96, p. 93); ««Spiegare» also means to «lay open to the view, to display»». (Ivi, p. 91). Note also D. Luglio, *La science nouvelle ou l'extase de l'ordre. Connaissance rhétorique et science dans l'œuvre de G. B. Vico*, Paris, Presses Universitaires de France, 2003, p. 143: «La SN veut nous

As mentioned earlier, Vico used also another term, *poesia*, that seems to run counter to notions of science and rationality, if, as would seem indisputable, *poesia* should always be equated with poetry as literary genre, or the poetic as part of aesthetics in general, including the notion of being unfettered by conventional rules. In terms of literature that can be classified as poetic in this sense, James Joyce's novels *Ulysses* and *Finnegans Wake* may be cited as particularly relevant by virtue of being (highly original) glosses of Vico's *Scienza nuova*⁹⁹. The resulting apparent antithesis – science and *poesia* – will be examined in the next section.

4. *Poesia in Scienza nuova*

Poesia and the related words *poema*, *poeta*, *poetica*, and *poetico* are key terms in *Scienza nuova*¹⁰⁰. In English translations of *Scienza nuova*, they appear in a wide range of locutions, including *poetry*, *poem*, *theological poet*, *poetic character*, *poetic wisdom*, *poetic metaphysics*, *poetic logic*, *poetic morals*, *poetic economics*, *poetic politics*, *poetic physics*, *poetic cosmography*, *poetic astronomy*, *poetic chronology*, and *poetic geography*¹⁰¹. In these translations, and others, the original terms are transliterated as though their shared (phonomorphological) exponents implied semantic equivalence, although the expressions and contexts in which *poetic* appears hint at a sense that is not commonly associated with the poetic as commonly defined.

As was the case with respect to *fantasia* and *phantasia*, Vico seemed to relate *poesia* to the basic or core meaning of the Greek source word *poiēsis*, transliterated. The verb *poiēin* which simply «means 'to make', can refer to the making of any artefact, not only that happens to be a poem»¹⁰².

“mettre sous les yeux” <*pro ommatōn poiēin*> la reconstruction de l'histoire selon les lois de la providence et devenir ainsi la preuve tangible de sa présence dans l'évolution de la civilisation humaine». Cf. the following comments about Heidegger: «Whatever the difficulties of Heidegger's language, the aim of his philosophy is clear: to reveal the meaning of Being, where Being [*Sein*] is understood as non-equivalent to beings [*seiendes*]. [...] Thus, for Heidegger, Galilean science made visible the *location* of things within a human project; it asserted that the true Being of things only comes to light when we thematize the humanly projected world-horizon within which they obtain», emphasis original (L. E. Cahoon, *The Interpretation of Galilean Science: Cassirer Contrasted with Husserl and Heidegger*, in «Stud. Hist. Phil. Sci.», 17, 1, 1986, pp. 1-21, pp. 9, 12).

⁹⁹ B. Stocker, *Repetition and Circularity in Joyce and Vico*, in «Odradek», V, 2, 2019, pp. 183-217.

¹⁰⁰ *Concordanze e indici di frequenza dell'edizione Napoli 1744*, cit., pp. 582-587.

¹⁰¹ For example, *The New Science*, trans. and ed. J. Taylor - R. Miner, cit., *passim*; *The New Science of Giambattista Vico*, trans. Th. G. Bergin - M. H. Fisch, cit., *passim*.

¹⁰² G. Nagy, *Aristotle's Poetics, translation and commentary in progress, Chapter 1*, in «Classical Inquiries», 27 November 2015, no pagination, n. 4; <<https://classical-inquiries.chs.harvard.edu/aristotles-poetics-translation-and-commentary-in-progress-part-1/>>, last accessed 4 September 2023. See also F. D. Miller, Jr., *Aristotle on the Separability of Mind*, in *The Oxford Handbook of Aristotle*, ed. Ch. Shields, Oxford, Oxford University Press, 2012, pp. 306-39, p. 330 n. 26: «'Productive' [*poiētikos*] means 'able to produce or make [*poiēin*] something». Aristotle himself did not restrict the term to the literary genre although his focus was on artistic productions, not artefacts in general, as noted in A. Schiaparelli - P. Crivelli,

Vico used *poesia*, and its derivatives, with the basic or core meaning of ‘making, producing, fashioning’, as when saying the following about «the earliest men of gentile nations»: «those men [...] made things [*facevano*] on the strength of a most corporeal imagination [*fantasia*] [...] the very men who, in devising things, they created them [*le si criavano*]; hence, they were called poets [*Poeti*], which, in Greek, means the same as “creators” [*criatorz*]» (376, see also 916)¹⁰³. The non-aesthetic character of Vico’s *poesia* is made clear immediately since «great poetry [*Poesia grande*]» has three (social) objectives: to discover sublime myths that are popularly grasped, to motivate pursuit of the intended ends, and to teach the common people to do virtuous works¹⁰⁴.

Thus, *poesia* as “making” can be related to the worldviews and ideologies that arose in early civilizations, and it makes sense to speak of myths as having been “made”. However, it is far from unsurprising to see Vico apply this term as well to all other aspects of the ancient world that are not conventionally considered as “made”, among which *poetic physics*, *poetic cosmography*, *poetic astronomy*, *poetic chronology*, and *poetic geography* might stand out as particularly oxymoronic. These topics could have been presented without loss of information in

Aristotle on Poetry, in *The Oxford Handbook of Aristotle*, cit., pp. 612-626, p. 613: «We shall often use ‘poetry’ as a technical term which we stipulate to match Aristotle’s ‘*poiêtikê*’ (similarly with ‘poet’, ‘poetic’, and ‘poem’). Thus, on our usage, epic, tragedy, instrumental music, dance, etc. are all forms of poetry». The general, non-aesthetic, sense of *poiësis* can be seen in the fact that the man who created equipment for the installation of the columns of the temple of Apollo at Syracuse was called a *poiëtes* (Ph. Sapirstein, *The First Doric Temple in Sicily, its Builder, and IG XIV 1*, in «Hesperia», 90, 3, July-September 2021, pp. 411-477). See also M. Coxhead, *A close examination of the pseudo-Aristotelian Mechanical Problems: The homology between mechanics and poetry as technê*, in «Studies in History and Philosophy of Science Part A», 43, 2, June 2012, pp. 300-306, leading to the conclusion that mechanics and poetics were viewed as homologous by virtue of being *poiêtikê technê* (productive art). N. Struever summarizes Vico’s *poesia* as follows: «Vico [...] uses rhetorical premises and procedures to describe *poesis*, poetic process as generic – not literary – ‘making’ as a range of inventive interactions in historical development». (*The Impersonal in Vico. The Classical endures because it is impersonal*, in «Laboratorio dell’ISPF», I, 2005, pp. 322-336, p. 332).

¹⁰³ “Producing, fashioning” are not entirely synonymous with “making”, so using them interchangeably could be problematic. “Producing”, in particular, needs to be dissociated from Marxian connotations (M. Gabriel, *Fiktionen*, cit., p. 498). A similar caution applies to the term “construction/constructing” (ivi, p. 461). See, for example, J. Gil Clotet, “No podemos escapar al lenguaje”... *hacia una hermenéutica del significado. La poesía como construcción de la experiencia*, in «Rocinante», 9, 2015-2016, pp. 51-69. Cf. S. Prinzi, *Dire la catastrofe. Poesia e filosofia in Vico e Merleau-Ponty*, in «BCSV», I, 2020, pp. 305-332, p. 313: «*poiësis*, fare, produrre, inventare, comporre».

¹⁰⁴ Vico’s *poesia* as aesthetics is argued in V. Höslle, *Vico’s New Science of the Intersubjective World*, trans. and ed. F.R. Hittinger IV, Notre Dame, University of Notre Dame Press, 2016 (originally published as *Einleitung: Vico und die Idee der Kulturwissenschaft. Genese, Themen und Wirkungsgeschichte der “Scienza nuova”*, in *Prinzipien einer neuen Wissenschaft über die gemeinsame Natur der Völker*, cit., vol. 1, pp. XXXII-CCLXXVII, pp. 109-113). *Poesia* is also interpreted as aesthetics by P. Girard in Vico’s Letter to Gherardo degli Angioli (26 December 1725) (*Linguaggio poetico ed eroico nel pensiero politico di Vico: La questione della poesia*, in *Eroi ed età eroiche attorno a Vico*, ed. E. Nuzzo, Roma, Edizioni di Storia e Letteratura, 2004, pp. 319-335, pp. 326-333). See *Epistole*, in «Laboratorio dell’ISPF», IV, 2007, I, pp. I-LXX, pp. XLIX-LIV; translated by M. Gundsberg, in *Dante: The Critical Heritage 1314(?)–1870*, ed. M. Caesar, London, Routledge, 1989, pp. 348-352.

the absence of their qualification as “poetic”; therefore, this begs for an explanation.

It was noted earlier that Vico grounded his scientific approach in a condition of possibility: «a truth which cannot, in any way, be called into doubt: that this civil world has certainly been made [*è stato fatto*] by men» (331)¹⁰⁵. Without this condition of possibility, the scientific inquiry advanced by Vico would lack a foundation, and its theorizing would have no validity. It was therefore essential to establish this condition as «a truth which cannot, in any way, be called into doubt». By presenting and categorizing the contents of *Book Two* as ‘poetic’, he provided (putatively overwhelming) evidence that the civil world [*mondo civile*] was indeed “made” by humans¹⁰⁶.

The topics thus classified as “poetic” in *Book Two* can and need to be examined and understood under this perspective. Here we will focus only on two topics which are distinguished by the fact that Vico himself accords them (relatively) privileged status, *poetic chronology*, and *poetic geography*, which are «the two eyes of history needed so as to read the ideal eternal history» (17), «[a]nd so as to make determinate the times and places of a history of this sort, namely, when and where those human thoughts came into being, and so as to give certainty to them by means of a chronology and a geography» (348).

Poetic Chronology (732-740) begins and concludes with the same key observation, namely, how years were counted or reckoned in early Greek civilization. It was done «with the harvests they made in gathering grain, the only or, at least, the major thing over which the rustics travail all year» (732, 739). Vico calls this a «poetic year [*anno poetico*]» (732) in contradistinction to the «astronomical year [*anno astronomico*]», mistakenly assumed to be at the beginning of historical development by Joseph Justus Scaliger and Denis Pétau, early mod-

¹⁰⁵ As has been discussed in Vico studies, Vico’s statement cannot be properly understood unless related to the *verum-factum* principle: «*Poiesis* as making, *facere*, should be connected, in Vico’s program, to *factum* in the aphorism ‘*verum factum convertuntur*’». (N. S. Struever, *The History of Rhetoric and the Rhetoric of History*, Farnham, Ashgate, 2009, p. 74). However, a detailed discussion exceeds the intended scope and focus of this essay. See E. Garin, *Ancora sul «verum-factum» prima di Vico*, in «BCSV», II, 1972, pp. 59-61; R. C. Miner, *Vico: Genealogist of Modernity*, Notre Dame, University of Notre Dame Press, 2002, pp. 26-32; M. Martirano, *Vero-Fatto*, Napoli, Alfredo Guida Editore, 2007, pp. 15-26; M. Lollini, *On Becoming Human: The Verum Factum Principle and Giambattista Vico’s Humanism*, in «MLN», 127, 1, January 2012, pp. 21-31; A. García Marqués, *El Verum Factum en la génesis de las obras de Vico*, in «Cuadernos sobre Vico», 30-31, 2016-2017, pp. 143-161. See especially the classic study of F. Fellmann, *Das Vico-Axiom: Der Mensch macht die Geschichte*, Freiburg, Verlag Karl Alber, 1976; Id., *Vico auf dem Weg zur historischen Vernunft*, in *Verum et Factum*, ed. T. Albertini, Frankfurt am Main, Peter Lang, 1993, pp. 197-207; Id., *Giambattista Vico en una nueva clave*, trans. P. Badillo O’Farrell, in «Cuadernos sobre Vico», 32, 2018, pp. 121-126; C. Cesa, *Recensioni*, in «BCSV», VIII, 1978, pp. 129-132. Cf. a more recent approach, without reference to Vico, in J. R. Searle, *Making the Social World: The Structure of Human Civilization*, Oxford, Oxford University Press, 2010.

¹⁰⁶ G. Cacciatori, *Metaphysik, Poesie und Geschichte. Über die Philosophie von Giambattista Vico*, trans. M. Hanson, preface M. Kaufmann, Berlin, Akademie Verlag, 2002, p. 128: «In Vicos Rekonstruktion jener Kulturen, in denen die poetische Weisheit vorherrscht, zeichnet sich ab, daß die Poesie sich nicht in künstlicher oder begrifflicher Weise von der Sphäre des Machens und des Erzeugens oder jener des Nützlichen unterscheiden läßt».

ern scholars who despite their ingenuity and erudition «failed completely in taking the proper start» (740). Thus, early peoples “made” a year out of their lived experience, applying a certain perspective. Vico also alluded to the fact that the same experience can also be viewed under a different perspective, that of using objects and gestures symbolically, as he had explained earlier (732, compare 431). These different (second-order) perspectives are not “given”, but “made”; in either situation, the (first-order) result as well is not “given”, but something “made”.

The “poetic” nature of chronology is also apparent from what Vico calls «four species of anachronism» (735). He is dealing with periodization, and ways in which events tend to be wrongly assigned to certain periods, particularly with respect to the “age of the gods” (*l'età degli Dei*). This is more fully discussed in the *Annotations for the Chronological Table* (43-118). Clearly, chronology, including Vico’s own *Chronological Table*, belongs to the category of entities that have been «made by men»¹⁰⁷.

The “poetic” character in this sense is evident in the way Vico describes the «AGE OF GODS [ETÀ degli DEI]» and «HEROIC TIMES [TEMPO EROICO, SECOLO EROICO]» (734, 736): «And the twelve major gods imagined within this time, starting with Jove, are posited as twelve smaller epochs [*Epoche*] and reduce poetic history [*Storia Poetica*] to a temporal certainty» (734). This “chronology”, obviously, was established, or made, from a certain (not necessarily arbitrary) perspective which Vico says are «times that correspond to the occasions of certain early necessities or advantages of humankind, which everywhere took its start from the religions» (734). He specifically refers to «the age [*Epoca*] of Juno, goddess of solemnized nuptials, [...] the age of Apollo, the god of song, [...] the age of Saturn, god of plantings. [...] the age of Minerva – that is, during the birth of civil power».

If Vico’s *Chronological Table* can be viewed as a “poetic” chronology, so *mutatis mutandis* can other early-modern chronologies¹⁰⁸. “Poetic” chronologies did not disappear with modernity, as evidenced by concepts promulgated in the nineteenth, twentieth, as well as the current century. The concept of “prehistory, prehistoric”, for example, can be traced back to Scandinavian archaeologists in the first half of the 1800s¹⁰⁹. The Danish museum curator Christian Jürgensen Thomsen (1788-1865) is credited with developing the so-called Three-Age System of human history, that is, the Stone, Bronze, and Iron Ages¹¹⁰. It took

¹⁰⁷ See, for example, G. Paoletti, *La costruzione degli ebrei nella Scienza Nuova*, in «BCSV», LII, 2022, pp. 37-63.

¹⁰⁸ See P. Rossi, *The Dark Abyss of Time: The History of the Earth & the History of Nations from Hooke to Vico*, trans. L. G. Cochrane, Chicago, University of Chicago Press, 1984 (originally published as *I segni del tempo. Storia della terra e storia delle nazioni da Hooke a Vico*, Milano, Feltrinelli, 1979).

¹⁰⁹ P. Rowley-Conwy, *The Concept of Prehistory and the Invention of the Terms 'Prehistoric' and 'Prehistorian': The Scandinavian Origin, 1833-1850*, in «European Journal of Archaeology», 9, 1, 2006, pp. 103-130.

¹¹⁰ B. G. Trigger, *A history of archaeological thought*, Cambridge, Cambridge University Press, 1989, pp. 73-86; R. F. Heizer, *The Background of Thomsen's Three-Age System*, in «Technology and

place in the historical context of rising nationalism in Denmark, following the Napoleonic wars¹¹¹. In England, the scientific establishment of the second half of the 1800s seemed to especially concerned with the first of Thomsen's Ages, the “deep time”, the methodological approach to which was ‘palaeoanthropology’, leading to the Stone Age becoming subdivided into the “palaeolithic” and “neolithic”, respectively¹¹². In the first half of the twentieth century, the archaeologist Vere Gordon Childe (1892-1957) published his influential book *The Dawn of European Civilization*¹¹³. It presented a Marxist materialist perspective on «an idea of progress that was not evolutionary, something emerging out of the preceding history», but «as a revolutionary and history-making ‘alteration in the social structure’»¹¹⁴. In the mid-twentieth century, Fernand Braudel (1902-1985) argued the concept of the *longue durée*, that is, extremely long-lasting, imperceptibly changing structures¹¹⁵. And, finally, in the twenty-first century, the chronological concept of the Anthropocene has been advanced, highlighting human activity as a new geological time maker¹¹⁶.

Culture», 3, 3, Summer 1962, pp. 259-266; G. Bibby, *The Testimony of the Spade*, New York, Alfred A. Knopf, 1956, pp. 7-13.

¹¹¹ B. G. Trigger, *A history of archaeological thought*, cit., pp. 74-75: «[It was] later argued that these calamities encouraged Danes to study their past glories as a source of consolation and encouragement to face the future. [...] By contrast [with English antiquaries], Scandinavian archaeologists were inspired to study the past for nationalistic reasons but these interests did not exclude an evolutionary approach».

¹¹² P. B. Pettit - M. J. White, *Cave Men: Stone Tools, Victorian Science, and the ‘Primitive Mind’ of Deep Time*, in «Notes and Records of the Royal Society of London», 65, 1, 20 March 2011, pp. 25-42, p. 31: «From this point one can trace the origins of the notion that primitive humans were cognitively distinct from modern humans and potentially little different from animals». See also R. De Bont, *The Creation of Prehistoric Man: Aimé Rutot and the Eolith Controversy, 1900-1920*, «Isis», 94, 2003, pp. 604-630. Since chronologies are “made”, they can also be “undone”: «Age-stages [...] all suffer from the same [...] problems. They are not based on prior theory linking lithic variability to variation in human behavior. They are formulated intuitively and inductively [...] one can relate the lithic evidence to major issues of human evolution quite well without them» (J. S. Shea, *Stone Tools in Human Evolution: Behavioral Differences among Technological Primates*, Cambridge, Cambridge University Press, 2017, p. 28).

¹¹³ V. G. Childe, *The Dawn of European Civilization*, London, Kegan Paul, Trench, Trubner, 1925.

¹¹⁴ T. Irving, *The Fatal Lure of Politics: The Life and Thought of Vere Gordon Childe*, Clayton, Monash University Publishing, 2020, p. 250. Childe «defined himself as ‘a Gentile-Crocian’». And there are further references to Croce in later years [...] that place his thinking in the Marxist tradition that would come to be called Western Marxism» (ivi, p. 251). See also B. G. Trigger, *A history of archaeological thought*, cit., pp. 259-263.

¹¹⁵ F. Braudel, *La Méditerranée et le monde méditerranéen à l'époque de Philippe II*, Paris, Armand Colin, 1949. More recently, alternative “poetic” chronologies have been proposed in *Across the Corrupting Sea: Post-Braudelian Approaches to the Ancient Eastern Mediterranean*, ed. C. Concannon - L. A. Mazurek, New York, Routledge, 2019.

¹¹⁶ Ch. Wicke, *The Anthropocene in History and Historiography*, trans. L. Pennacchietti, in *Bloomsbury History Theory & Method*, London, Bloomsbury, 2022, no pagination, <<https://bloomsburyhistorytheorymethod.com/article?docid=b-9781350915831&tocid=b-9781350915831-172>>, last accessed 15 September 2023; M. Prillaman, *Geologists seek to define the Anthropocene*, in «Nature», 613, 5 January 2023, pp. 14-15.

Vico's *Poetic Geography* can be seen in the same light (741-778). In the introduction, he points out that the geographical notions of the Greeks were based on a particular perspective, thus, just as «men [...] describe them [things that are unfamiliar and distant] in terms of their similarity to things which are familiar and nearby»; so, the corpus of poetic geography as a whole and in its parts came into being from ideas as small as Greece itself» (741). For an explanation of common misunderstandings of Greek geographical references, he appeals to the fact that the Greeks considered geographical regions from a certain «perspective [*a riguardo*]» (743), placing Greece at the center of the world. Furthermore, he added, «[f]or what we stated concerning poetic geography in Greece is found to be the same for ancient geography in Latium» (759)¹¹⁷.

Just like “poetic” chronologies, “poetic” geographies were not exclusive to early civilizations but arose also in the Renaissance and early modern period, and continue to arise in modern times¹¹⁸. Renaissance humanists are seen as «shap[ing] a vision of Europe as a newly formed entity between the local [...] and the global [...] scale», as «an autonomous continent and a new epistemological category. I call this process *europoiesis*»¹¹⁹. One of the tools in service of this vision was cartography¹²⁰. Geopolitical rivals engaged in the same practice, including the Ottomans¹²¹. Further to the East, Mughal emperors employed “poetic” geography in their cartography for their own aggrandizement. Pictorial representations of terrestrial globes in Europe habitually placed Europe at the pictorial center, marginalizing the rest of the world; Mughal paintings of

¹¹⁷ For an example of Roman “poetic” geography, see Ch. A. Parrott, *The Geography of the Roman World in Statius' Silvae*, dissertation, Cambridge, Mass., Harvard University, 2013. “Poetic” geographies already existed in ancient Mesopotamia and Egypt (G. Konstantopoulos, *Gods in the Margins: Religion, Kingship, and the Fictionalized Frontier*, in *As Above, So Below*, cit., pp. 3-27; *Ancient Perspectives: Maps and Their Place in Mesopotamia, Egypt, Greece, and Rome*, ed. R. J. A. Talbert, Chicago, University of Chicago Press, 2012).

¹¹⁸ On Vico's own “poetic” geography, see R. Carbone, *Vico e l'Oriente*, in «BCSV», XLIII, 2013, pp. 178-190.

¹¹⁹ K. A. Piechocki, *Cartographic Humanism: The Making of Early Modern Europe*, Chicago, University of Chicago Press, 2019, p. 12.

¹²⁰ See also Id., *Cartographic Translation: Reframing Leonardo Bruni's De interpretatione recta (1424)*, in «I Tatti Studies in the Italian Renaissance», 20, 1, 2017, pp. 41-65; Ch. Forss, *Mapping Atlantis: Olof Rudbeck and the Use of Maps in Early Modern Scholarship*, in «Journal of the History of Ideas», 84,2, April 2023, pp. 207-231; P. Fortini Brown, «Under our Dominion and Faith»: *Marin Sanudo, Istria, and Venice's Classical Past*, in *Dialogo. Studi in memoria di Angela Caracciolo Aricò*, ed. E. Bocchia - Z. Fabris - C. Frison - R. Pesce, Venice, Centro di Studi Medievali e Rinascimentali “E. A. Cicogna”, 2017, pp. 1-26; T. Stein, *The Mediterranean in the English Empire of Trade*, dissertation, Cambridge, Mass., Harvard University, 2012, pp. 348-363; A. Ramachandran, *The Worldmakers: Global Imagining in Early Modern Europe*, Chicago, University of Chicago Press, 2015, pp. 25, 68, presents Gerardus Mercator's map making as «‘cosmopoeia’ – literally, a world-making».

¹²¹ In Ottoman map making, «[p]ossession, territory and imperial frontiers could be ‘fixed’ within the map frame in ways that were not and could not be fixed in fact» (P. Brummett, *Mapping Trans-Imperial Ottoman Space: Alterity and Attraction*, in *Representing Imperial Rivalry in the Early Modern Mediterranean*, ed. B. Fuchs - E. Weissbourd, Toronto, University of Toronto Press, 2015, pp. 33-57, p. 34).

the globe turned this paradigm on its head by placing India in the center, and, enhanced by other symbolism, conveyed the emperor's claim to world rule¹²².

Modern "poetic" geographies have appeared in various forms, and for various purposes. Archaeologists and ancient historians have tried to understand the workings of early civilizations of the Mediterranean basin by conceptually "superimposing" certain spatial relationships on their activities that do not necessarily mirror modern geographic notions¹²³. Something similar was already done earlier by Fernand Braudel with his concept of «a *global* Mediterranean which in the sixteenth century, reached as far as the Azores and the New World, the Red Sea and the Persian Gulf, the Baltic and the loop of the Niger», thus not only creating a "poetic" chronology, but also a "poetic" geography¹²⁴. The Mediterranean has also become a "poetic" entity in Western philosophy since the pre-Socratics, for example, in the thought of Thales, Heraclitus, Plato, Seneca, Nietzsche, Heidegger, and Camus¹²⁵.

"Making" geographies has not been limited to the Mediterranean area. Other parts of the world have also been the object of "poetic" geographical conceptualizations, including the Atlantic, Europe, and Asia¹²⁶. For the Middle

¹²² E. Koch, *The Symbolic Possession of the World: European Cartography in Mughal Allegory and History Painting*, in «Journal of the Economic and Social History of the Orient», 55, 2/3, 2012, pp. 547-580.

¹²³ C. Safadi - F. Sturt, *The warped sea of sailing: Maritime topographies of space and time for the Bronze Age eastern Mediterranean*, in «Journal of Archaeological Science», 103, 2019, pp. 1-15, uses "cartograms", not conventional cartography, to show the actual time(s) needed for navigation, resulting in highly distorted geographies. See also A. B. Knapp - A. Russel - P. van Dommelen, *Cyprus, Sardinia and Sicily: A Maritime Perspective on Interaction, Connectivity and Imagination in Mediterranean Prehistory*, in «Cambridge Archaeological Journal», 32, 1, February 2022, pp. 79-97; P. B. Campbell, *The Sea as a Hyperobject: Moving beyond Maritime Cultural Landscapes*, in «Journal of Eastern Mediterranean Archaeology and Heritage Studies», 8, 3-4, 2020, pp. 207-225; D. Harris Cline, *A Field Map for Untangling the Entangled Sea*, in «Journal of Eastern Mediterranean Archaeology and Heritage Studies», 8, 3-4, 2020, pp. 228-249; C. Safadi - F. Sturt - L. Blue, *Exploring Maritime Engagement in the Early Bronze Age Levant: A Space/Time Approach*, in «Journal of Eastern Mediterranean Archaeology and Heritage Studies», 8, 3-4, 2020, pp. 250-272; A. Krieger, *The Human Experience of Seafaring in Prehistoric Times*, in «Journal of Eastern Mediterranean Archaeology and Heritage Studies», 8, 3-4, 2020, pp. 273-286; I. Berg, *The Transformational Power of the Sea: Copper Production in Early Bronze Age Greece*, in «Journal of Eastern Mediterranean Archaeology and Heritage Studies», 8, 3-4, 2020, pp. 287-298.

¹²⁴ F. Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, Vol. I, trans. S. Reynolds, New York, Harper & Row, 1972, p. 168, emphasis original.

¹²⁵ A. Döring - R. G. Winther, *The Human Condition Is an Ocean: Philosophy and the Mediterranean Sea*, in *Metaphors and Analogies in Sciences and Humanities: Words and Worlds*, Cham, Springer, 2022, pp. 383-399, p. 383: «The Mediterranean has taken on a singular, symbolic value in the history of Western philosophy». Each of the individual philosophers mentioned 'made' the Mediterranean sea into something idiosyncratic.

¹²⁶ A. Games, *Atlantic History: Definitions, Challenges, and Opportunities*, in «The American Historical Review», 111, 3, June 2006, pp. 741-757; J. Lévy, *Europe: une géographicit *, in «Noesis», 30-31, 2018, pp. 129-149; A. Garc a Marqu es, *Una relectura de la historia de Europa en los ciclos viquianos*, in «Cuadernos sobre Vico», 35, 2021, pp. 31-63; D. Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference*, Princeton, Princeton University Press, 2008; N. Green, *How Asia Found Herself: A Story of Intercultural Understanding*, New Haven, Yale University Press, 2023; M. Pottinger, *Shinzo Abe Invented the 'Indo-Pacific'*, in «The Wall Street Journal», 11

East, Edward Said argued that “orientalism” amounted to «the socio-historical construction of geography»¹²⁷. In Italy, “poetic” geography made an appearance in the form of *meridionalismo*¹²⁸. And Marxian *world-systems theory* has been especially engaged in generating “poetic” geographies, based on the paradigm of the (capitalist) *center* exploiting the *periphery*¹²⁹; *hegemony* and *domination* are predicated as the roots of the geographic asymmetry between center and periphery¹³⁰. Through *world-systems theory*, “poetic” geographies were devised for ancient civilizations on the African and Eurasian continents, the Black Sea region, the Indian Ocean, the Americas, and other parts of the world¹³¹. More

July 2022, p. 17: «Abe knew the phrase ‘Asia-Pacific’ conjures the geography of East Asia, with China at the center. He wanted people to zoom out and behold a much grander tableau that included India and that situated the youthful maritime nations of Southeast Asia, rather than China at the conceptual heart of the region. He began using the phrase “Indo-Pacific”».

¹²⁷ A. A. Isérov, *Edward Said and Giambattista Vico*, in *Investigations on Giambattista Vico in the Third Millennium: New Perspectives from Brazil, Italy, Japan, and Russia*, ed. J. V. Ivanova - F. Lomonaco, Roma, Aracne editrice, 2014, pp. 177-188, p. 187.

¹²⁸ H. Hills, *Quelle arpie barbaramente ignoranti. Southern Baroque Decoration, Excess and the Obscene*, in *La Sovrabbondanza nel Barocco*, ed. R. La Delfa - C. Scordato - V. Viola, Leonforte, Siké Edizioni, 2019, pp. 42-73, pp. 57-64.

¹²⁹ A. Loomba, *Mediterranean Borderlands and the Global Early Modern*, in *Representing Imperial Rivalry in the Early Modern Mediterranean*, cit., pp. 13-32. Loomba shows that *world-systems theory* is indebted to Braudel whose «own point of departure [...] [was] a Marxist understanding of the birth of capitalism» (ivi, pp. 14-15). *World-system theory* as such was developed in I. Wallerstein, *The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*, New York, Academy Press, 1974; see also Th. D. Hall - P. N. Kardulias - Ch. Chase-Dunn, *World-Systems Analysis and Archaeology: Continuing the Dialogue*, in «Journal of Archaeological Research», 19, 2011, pp. 233-279, p. 242: «the relationship between peripheries and cores is central to WSA [*world-systems theory*]».

¹³⁰ A. Oliverio - P. Lauderdale, *The World System according to Andre Gunder Frank: Hegemony and Domination*, in «Journal of World-Systems Research», 24, 1, 2018, pp. 184-192. According to E. F. Guarani, *Center and Periphery*, in «The Journal of Modern History», 67, Supplement, December 1995, pp. S74-S96, pp. S74-S75, «[t]he terms ‘center’ and ‘periphery’ [...] have been used widely in Italy and elsewhere since the 1970s [...] by historians and social scientists analyzing geographical, economic, social, cultural, artistic, and political structures that exist in a space in order to indicate some kind of hierarchical and polarized organization of that space». See also F. Cassano, *Tre modi di vedere il Sud*, in *I sud. Conoscere, capire, cambiare*, ed. M. Petruszewicz - J. Schneider - P. Schneider, Bologna, il Mulino, 2009, pp. 31-57, pp. 34-38; M. A. Visceglia, *Identità sociali. La nobiltà napoletana nella prima età moderna*, Milano, Edizioni Unicopli, 1998, pp. 14-15.

¹³¹ Ph. Beaujard, *From Three Possible Iron-Age World-Systems to a Single Afro-Eurasian World-System*, in «Journal of World History», 21, 1, 2010, pp. 1-43; M. Ivanova, *The Black Sea and the Early Civilizations of Europe, the Near East, and Asia*, Cambridge, Cambridge University Press, 2013; R. Palat, *The Making of an Indian Ocean World Economy, 1250-1630: Princes, Paddy Fields, and Bazaars*, New York, Palgrave Macmillan, 2015; *Negotiated Empires: Centers and Peripheries in the Americas, 1500-1820*, ed. Ch. Daniels - M. V. Kennedy, New York, Routledge, 2002; M. Gopal, *The Invention of Latin America: A Transnational History of Anti-Imperialism, Democracy, and Race*, in «The American Historical Review», 118, 5, December 2013, pp. 1345-1375; *World-Systems Theory in Practice: Leadership, Production, and Exchange*, ed. P. N. Kardulias, Lanham, Rowman & Littlefield, 1999.

recently, the “Global North” and the “Global South” been added to Marxian “poetic” geographies¹³².

As this discussion of *fantasia* and *poesia* has tried to show, neither concept is discordant with Vico’s claim of *Scienza nuova* being science. To the contrary, *fantasia* and *poesia*, in the hands of Vico, can be identified with being essential to all science. *Fantasia* as “making apparent” is bringing to light new concepts, while *poesia* as (human) “making” affirms the condition of possibility of scientific understanding of the civil world. This puts us in the position of examining Vico’s scientific approach further, and its nexus with rhetoric and law.

5. Rhetoric, law, and science in *Scienza nuova*

Referring to the nexus between rhetoric, law, and science in *Scienza nuova* is meant here in a special sense or context. It could be likened metaphorically to the area of intersection in a conceptual Venn diagram. Consequently, only certain aspects, rather than rhetoric, law, and science overall, is taken as “overlapping” with each other. It is these particular common characteristics that make it possible to “intertwine” them as in a figurative braid. The core property they share is *rationality*, and since it is invariant across all three disciplines, it is an “eternal” quality of their nexus.

Although there are only three (incidental) explicit mentions of rhetoric in *Scienza nuova* (433, 501, 644), rhetoric loomed large in Vico’s intellectual biography and work¹³³. Therefore, there was no need to explicate rhetoric again in *Scienza nuova*, as Vico had previously done in his *Institutiones Oratoriae* and *Inaugural Orations*¹³⁴. Instead, he made the entire work, performatively, into a rhetor-

¹³² A. Buskell - E. Etieyibo - C. Kendig - R. Uchôa - R. A. Wilson, *How to Think with the Global South*, in «Philosophy of Science», 90, 2023, pp. 209-217; Y. Zhou, et al., *Satellite mapping of urban built-up heights reveals extreme infrastructure gaps and inequalities in the Global South*, in «Proceedings of the National Academy of Sciences of the USA», 119, 46, 2022, pp. 1-9; G. F. Seib, *Putin and Xi’s Bet on the Global South*, in «The Wall Street Journal», 16-17 July 2022, pp. C1-C2.

¹³³ See especially A. Battistini, *Tradizione e innovazione nella tassonomia tropologica vichiana*, in «BCSV», III, 1973, pp. 67-81; Id., *La dignità della retorica. Studi su G.B. Vico*, Pisa, Pacini Editore, 1975; Id., *La sapienza retorica di Giambattista Vico*, cit., *passim*; Id., *L’analisi retorica applicata a testi scientifici e filosofici*, in *Lingue testi culture. L’eredità di Folena vent’anni dopo*, ed. I. Paccagnella - E. Gregori, Padua, Esedra editrice, 2014, pp. 449-461. Other major monographs are M. Mooney, *Vico in the Tradition of Rhetoric*, Princeton, Princeton University Press, 1985; D. L. Marshall, *Vico and the Transformation of Rhetoric in Early Modern Europe*, Cambridge, Cambridge University Press, 2010, including views of other Vico scholars, including Croce, Nicolini, Hayden White, Struever, and Grassi (pp. 16-21).

¹³⁴ G. B. Vico, *Institutiones Oratoriae*, ed. G. Crifò, Napoli, Istituto Suor Orsola Benincasa, 1989; Id., *The Art of Rhetoric*, trans. and ed. G.A. Pinton - A. W. Shippee, Amsterdam, Rodopi, 1996; Id., *On Humanistic Education (Six Inaugural Orations, 1699-1707)*, trans. G. A. Pinton - A. W. Shippee, intro. D. Ph. Verene, Ithaca, Cornell University Press, 1993; the orations are discussed in M. Mooney, *Vico in the Tradition of Rhetoric*, cit., pp. 106-114, 186-191.

ical (master)piece, by replicating in its overall structure, the traditional features of classical (forensic) rhetoric at a higher, more general level¹³⁵.

The nexus between rhetoric and law is obvious in that one of the three fundamental types of rhetoric practiced since antiquity consisted of forensic or judicial rhetoric, rhetoric designated to be practiced in a court of law. After all, preparing students for jurisprudence was Vico's objective as professor of rhetoric, and his rhetorical handbook and orations served the same (immediate) purpose¹³⁶. The animating spirit and requirement of rationality of forensic rhetoric is made apparent by Quintilian in his guide which served as a model for Vico's own textbook¹³⁷. We will highlight only a few of them, including the following. As part of Narrative, the focus is on the presentation of the facts of the case as a basis for the Argumentation; there are theoretical aspects to Narrative such as lucidity, brevity, plausibility, as well as invention of false Narratives and "coloring" of the facts. Argumentation has several levels of rules, such as general rules that apply to all questions or issues, and rules that pertain to particular kinds of cases. There are also rules governing different kinds of proofs, subject to characteristics common to all proofs; proofs can be classified modally as necessary, credible, or not impossible. Reasoning that wants to prove something must be founded on what is true, and there are different ways to arrive at the truth; there are also different degrees of probability to be considered.

Quintilian also highlights topics (*loci*, "places") as the core of *inventio*, drawing a distinction between formal or general topics and those relevant to the particular case at hand. Examples are useful in inductive reasoning, in accordance with the category of similarity to which they belong, although similarity can take various forms (similar, dissimilar, greater or lesser, or analogous). Forensic rhetoric also involves conjecture, and definition. Definition deals not with the fact itself, but how to define it, and involves the philosophical categories of genus, species, *differentia* and property. *Translatio* is part of rhetoric at a

¹³⁵ See Donald Verene's argument for certain correspondences between forensic or judicial rhetoric and the arrangement of the *Books* of *Scienza nuova* in D.Ph. Verene, *Vico's New Science*, cit., pp. 18-23, according to the broad divisions of invention (*inventio*), disposition (*dispositio*), elocution (*elocutio*), memory (*memoria*), delivery (*pronuntiatio*), and subdivisions. The suggested rhetorical structure may be underlying, and in effect "causing", the apparent "ring composition" proposed in my *Vico's Ring*, cit., *passim*, without necessarily agreeing in every detail. In this connection, it is to be noted also that John Schaeffer proposed the internal organization of *Scienza nuova* of 1725 along the lines of the divisions of classical rhetoric. (*Giambattista Vico on Natural Law: Religion, Rhetoric, and Sensus Communis*, New York, Routledge, 2019, pp. 40-52). This might suggest that when Vico completely rewrote *Scienza nuova* in 1730, he nevertheless kept the original underlying conceptual scheme.

¹³⁶ L. Catana, *Vico and Literary Mannerism: A Study in the Early Vico and His Idea of Rhetoric and Ingenuity*, New York, Peter Lang, 1999, p. 29; D.L. Marshall, *Vico and the Transformation of Rhetoric in Early Modern Europe*. cit. p. 272.

¹³⁷ The following comments, including verbatim passages, are based on L. Calboli Montefusco, *Quintilian on Invention and Disposition*, in *The Oxford Handbook of Quintilian*, ed. M. Van Der Poel - M. Edwards - J. J. Murphy, Oxford, Oxford University Press, 2021, pp. 120-141; see therein relevant references to Quintilian.

metalevel also since it requires interpretation of “the spirit of the law”. Syllogistic reasoning in forensic rhetoric proceeds by reasoning from analogy, allowing to infer, from what was explicitly stated in the law, something not openly stated, for example, that matricide should receive the same punishment as patricide, even though matricide is not explicitly mentioned in the law. Syllogistic reasoning allows to assert that what applies to the whole also applies to the part or vice versa.

As can be noted, forensic rhetoric greatly depends on and develops the distinction between the general and the particular which thus mirrors the fundamental issue in jurisprudence of applying broadly-framed laws to specific cases. In this respect, and others, therefore, rhetoric and law share the same rationality, as our thesis holds forth¹³⁸.

From this brief synopsis of merely a few aspects of rhetorical methodology, affinity to scientific reasoning is apparent¹³⁹. In this regard, the role of *topics*, highlighted both in Quintilian’s and Vico’s theory of rhetoric, deserves emphasis¹⁴⁰. *Topics* are key constituents of scientific practice also¹⁴¹. Historically, rhetoric played an essential part in science since the early modern period¹⁴². This has been shown to be the case with Galileo¹⁴³. Rhetoric can fulfill several functions in science, one of which is argumentation. Argumentation, in all its multi-level complexity, becomes necessary as soon as there is disagreement or conflict over scientific explanation of phenomena¹⁴⁴. The dialogue format seems to

¹³⁸ N. Struever, *The Impersonal in Vico*, cit., p. 326, states: «When Crifò argues the correspondences between legal and rhetorical hermeneutics, he points to the tactics of legal work where the common, shared, generic meanings of the law dominates the interpretation of the particular case; the individual, particular is always overridden by the supra-personal concern for the law».

¹³⁹ L.J. Prelli, *Rhetorical Logic and the Integration of Rhetoric and Science*, in «Communication Monographs», 57, 1990, pp. 315-322, p. 316: «It is my position that rhetoric and science are robustly compatible because a special kind of *rhetorical logic* governs informal, scientific discursive practices», emphasis original.

¹⁴⁰ G. Gisoni, *Giambattista Vico and the Problem of Method between Rhetoric and Experimentalism*, in *Zwischen Sprache und Geschichte. Vicos Methode beim Umgang mit Recht und Naturrecht*, ed. G. Cacciato - M. Kaufmann - F. Lomonaco, Berlin, Peter Lang, 2020, pp. 103-119; Id., *Vico e il problema del metodo tra sperimentalismo e retorica*, in «Laboratorio dell’ISPF», XIII, 2016, pp. 1-14.

¹⁴¹ L.J. Prelli, *Topical Perspective and the Rhetorical Grounds of Practical Reason in Arguments about Science*, in *Science Communication in Theory and Practice*, ed. S.M. Stocklmayer - M.M. Gore - Ch. Bryant, Dordrecht, Kluwer Academic, 2001, pp. 63-81; Id., *A Rhetoric of Science: Inventing Scientific Discourse*, Columbia, University of South Carolina Press, 1989, pp. 62-79. Rhetoric is also involved in mathematics (D.E. Loomis, *Euclid: Rhetoric in Mathematics*, in «Philosophia mathematica», II, v. 5, 1-2, January 1990, pp. 56-72).

¹⁴² This view of rhetoric is diametrically opposite of another intellectual current, described in G.A. Kennedy, *The art of persuasion in Greece*, Princeton, Princeton University Press, 1963, p. 23, as follows: «Modern readers tend to sympathize with philosophy in its dispute with rhetoric [...]; in the latter [they see] verbal dexterity, empty pomposity, triviality, moral ambivalence, and a desire to achieve arbitrary ends by any means».

¹⁴³ For an in-depth discussion of Galileo’s *Dialogue*, see M.A. Finocchiaro, *Galileo and the Art of Reasoning: Rhetorical Foundations of Logic and Scientific Method*, Dordrecht, D. Reidel, 1980.

¹⁴⁴ See M.A. Finocchiaro, *Varieties of rhetoric in science*, in «History of the Human Sciences», 3, 2, 1990, pp. 177-193, p. 188. M. Pera, *The Discourses of Science*, cit., p. 51: «But making decisions

be particularly apt to mirror, homologously, antagonistic science in practice¹⁴⁵. In *Scienza nuova*, Vico, in his argumentation, engaged in rhetoric by incorporating rival views in the form of antitheses, as an alternative to presenting them in nominal dialogue form; nevertheless, in doing so he fundamentally adopted the rhetorical strategy inherent in Galileo's *Dialogue*¹⁴⁶.

Vico devoted a section in *Book Two – COROLLARIES concerning poetic tropes, monstrosities and transformations* (404-411) – to the tropes, including metaphor, metonymy, synecdoche, and irony, «of which the most luminous (and because the most luminous, also the most necessary and the most frequent) is metaphor» (404). The tropes can be made to function at several levels. In the context of rhetoric in science, this can take place at a high conceptual, even meta-physical level, as was the case, for example, in Copernicus' theorizing of a new mathematical astronomy: «This desire leads to a transposition, by way of *metaphor*, of the requirement for 'symmetry' [...]. Since a 'symmetrical' representation of the universe is only possible with a central and stationary sun, various commonly accepted ideas and beliefs must be replaced. The replacement takes the form of *metonymy* when it is necessary to reconceive the *empirical data*; it corresponds to *synecdoche* when attention turns to the *theoretical elements*»¹⁴⁷. The tropes also functioned at the level of first principles: «Thus a metonymic operation makes it possible for the empirical perception of the sun to be interpreted as an effect replacing its cause (the earth's motion). In the physical theory, on the other hand, a synecdoche of a part for the whole comes into play when Copernicus replaces the totality of the universe with celestial bodies taken individually [...] appropriate for heliocentrism. The elimination of [...] equants brings into play another synecdochic relation, this time of genus and species»¹⁴⁸.

and arguing for them involves discussing rival views and convincing an audience. This is the fundamental reason why rhetoric enters into science». For a more recent case of rhetoric involving scientific controversy in theoretical physics, see S. Ritson - K. Camilleri, *Contested Boundaries: The String Theory Debates and Ideologies of Science*, in «Perspectives on Science», 23, 2, 2015, pp. 192-227, pp. 216-217: «Protagonists on both sides seek to construct an idealized image of science for their readers. Such constructions serve an important rhetorical function».

¹⁴⁵ Cf. A. Battistini, *L'analisi retorica applicata a testi scientifici e filosofici*, in *Lingue testi culture. L'eredità di Folena vent'anni dopo*, ed. I. Paccagnella - E. Gregori, Padova, Esedra editrice, 2014, pp. 449-461, pp. 453-454: «Se Galileo voleva mettere di fronte due modi di pensare antagonisti, [...], la preferenza per il dialogo non è solo e tanto un'estrinseca scelta letteraria e formale, quanto e soprattutto il modo migliore e più congruente per valorizzare il criterio euristico della nuova scienza, che al pari del dialogo non procede secondo schemi prefissati».

¹⁴⁶ L. Gaudin-Bordes, *De la représentation à l'interaction: les figures d'énonciateur dans les textes scientifiques*, in «Noesis», 15, 2010, pp. 1-16, pp. 10-12. Cf. V. Höhle, *Der philosophische Dialog. Eine Poetik und Hermeneutik*, Munich, C. H. Beck, 2006, p. 108: «In der Tat besteht kein Zweifel, daß eine der Ursachen für die Beliebtheit der Dialogform von der Renaissance bis zum 18. Jahrhundert die Hoffnung war, auf diese Weise gewagte Thesen aufstellen zu können, ohne für sie einstehen zu müssen, also dadurch Problemen mit der Zensur zu entgehen».

¹⁴⁷ F. Hallyn, *The Poetic Structure of the World: Copernicus and Kepler*, trans. D. M. Leslie, New York, Zone Books, 1990 (originally published as *La Structure poétique du monde: Copernic, Kepler*, Paris, Éditions du Seuil, 1987), p. 283, emphasis original.

¹⁴⁸ *Ibidem*.

The thought processes embodied in the tropes have also been identified in Galileo's work¹⁴⁹. At a high conceptual level, metonymy was operative in Galileo's approach to scientific inquiry. The exchange of cause for effect and vice versa took place first at the level of interpretation of his astronomical observations: his interpretation was not an independent process but, in reality, the result (effect) of his belief in Copernicanism, as the cause. The effect was then used to justify the Copernican theory, and thus turned into its cause. Galileo's used metaphor in describing the surface of the moon in terms of terrestrial features. Since neither he, or anyone else, had actually seen the lunar surface, it was just an invitation to visualize the moon in a certain way. His was not the only metaphorical way of representing the moon; the play of light and shadows on the moon was also represented metaphorically as protuberances of polyhedra¹⁵⁰. Synecdoche played a role in his study of the stars; he recognized the existence of innumerable unknown stars, but was satisfied with knowledge of only a few of them which he took to represent all of them¹⁵¹.

The tropes are also present in Vico's own thought patterns. At a high conceptual level, metonymy is engaged by Vico when he asserts «that this civil world has certainly been made [*è stato fatto*] by men» (331), and then designates wisdom, metaphysics, logic, morals, economics, politics, physics, cosmography, astronomy, chronology, and geography as *poetic* in its core sense of “something made”. Similarly to Galileo, this characterization was the consequence, the effect, of a fundamental assumption, rather than independently arrived at, but then (insistently) presented throughout *Book Two* as the factual basis, or cause, of the incontrovertibility of his *ab initio* claim.

Vico also presents his entire treatise programmatically in a metaphorical way at the beginning of *On the Elements* in *Book One*: «we now propose here the following Axioms, both philosophical and philological, and some [...] postulates along with [...] definitions: these, like blood in a living body, must course through and animate those materials in all the reasoning which this science

¹⁴⁹ F. Hallyn, *Les Structures rhétoriques de la science. De Kepler à Maxwell*, Paris, Éditions du Seuil, 2004, pp. 37-83. See also Id., *Dialectique et rhétorique devant la “nouvelle science” du XVII^e siècle*, in *Histoire de la rhétorique dans l'Europe moderne 1450-1950*, ed. M. Fumaroli, Paris, PUF, 1999, pp. 601-628, p. 624, for Leibniz' comments about the tropes.

¹⁵⁰ For the role of metaphor in science in general, see, for example, N. Carrillo - S. Martinez, *Scientific Inquiry: From Metaphors to Abstraction*, in «Perspectives on Science», 31, 2, 2023, pp. 233-261; M. Boudry - M. Vlerick - T. Edis, *Demystifying Mysteries. How Metaphors and Analogies Extend the Reach of the Human Mind*, in *Metaphors and Analogies in Sciences and Humanities*, cit., pp. 65-83; D. Dicks, *Analogies and Metaphors in Physics*, in *Metaphors and Analogies in Sciences and Humanities*, cit., pp. 191-213; B. Forgács - C. Pléh, *The Fluffy Metaphors of Climate Science*, in *Metaphors and Analogies in Sciences and Humanities*, cit., pp. 447-477; M. T. Stuart - D. Wilkenfeld, *Understanding metaphorical understanding (literally)*, in «European Journal for Philosophy of Science», 12, 49, 2022, pp. 1-20; A. Levy, *Metaphor and Scientific Explanation*, in *The Scientific Imagination*, cit., pp. 280-303; E. Camp, *Imaginative Frames for Scientific Inquiry: Metaphors, Telling Facts, and Just-So Stories*, in *The Scientific Imagination*, cit., pp. 304-336.

¹⁵¹ F. Hallyn, *Les Structures rhétoriques de la science*, cit., p. 74: «Galilée suppose que l'univers présente partout une dissémination d'étoiles semblable à celle de la partie observée».

does about the common nature of the nations» (119)¹⁵². Another metaphor invoked, this time for *Book Two. On Poetic Wisdom*, is the image of a tree trunk with two large branches, each of which sprouting smaller branches (367)¹⁵³. Vico did not only rely on memorable metaphors *de dicto*, for his own body of ideas, but also *de re*, substantively, saying that «[p]oetic speech [...] ran its course long into historical times, just as great, swift rivers spread far into the seas and continue to carry fresh waters along their violent course» (412).

Vico's metaphors comply with the fundamental characteristic of metaphors of involving two disparate domains, and consequent cross-domain mappings, in contradistinction to metonymy (and synecdoche) that function within a single domain¹⁵⁴. Similar conclusions have been reached with respect to Aristotle's views: «Analogies instead rely on the recognition of a similar relationship among several items in different taxonomic sets. [...] The result is a quasi-mathematical formula through which the analogy is created»¹⁵⁵. The reference to a «quasi-mathematical formula» is significant, as well as relevant in our context, as it alludes to underlying commonalities of metaphors (and other tropes), with science, mathematics, and logic, in the form of “universal mapping properties”. At this level of analysis, metaphors, science – like Galileo's analysis of the motion, or flight, of a bird, or the motion of a falling object —, multiplication of numbers, and the word “and” in formal logic (conjunction), all have the property of a “product”, a term used for convenience although arithmetic, in the form of multiplication, is just a special case of the underlying universal mapping property¹⁵⁶.

Synecdoche, as well, plays a significant role in *Scienza nuova*. The importance of the concept of the relationship of a part or parts to the whole, and vice ver-

¹⁵² See A. Battistini's interpretation of Vico's metaphor in terms of systole and diastole of the human cardiovascular system. (*La sapienza retorica di Giambattista Vico*, cit., pp. 94-104).

¹⁵³ Ivi, p. 99: «L'intenzione di Vico è quella di galvanizzare e revitalizzare l'universo meccanicistico di Hobbes e Cartesio». It should be noted that Descartes himself used the tree metaphor, comparing metaphysics to the roots, physics to the trunk, and all other sciences to the branches (A. Schmitter, *Responses to Vulnerability: Medicine, Politics and the Body in Descartes and Spinoza*, in *Rhetoric and Medicine in Early Modern Europe*, ed. St. Pender - N. S. Struever, Farnham, Ashgate, 2012, pp. 147-171, p. 153.)

¹⁵⁴ P. B. Schumacher, *Metonymy*, in *The Oxford Handbook of Experimental Semantics and Pragmatics*, ed. Ch. Cummins - N. Katsos, Oxford, Oxford University Press, 2019, pp. 316-330, p. 316). See also M. Prandi, *Conceptual Conflicts in Metaphors and Figurative Language*, New York, Routledge, 2017, p. 7: «First, a metaphor transfers a concept outside its conceptual domain, whereas metonymy activates a consistent relation between two concepts that each remains anchored in its conceptual domain. Whereas transfer triggers conceptual interaction, the consistent connection defuses the conflict and prevents transfer and interaction».

¹⁵⁵ Th. Cirillo, *Taxonomic flexibility: Metaphor, genos, and eidos*, in *The Poetics in its Aristotelian Context*, ed. P. Destrée - M. Heath - D. L. Munteanu, London, Routledge, 2020, p. 190-191.

¹⁵⁶ F. W. Lawvere - St. H. Schanuel, *Conceptual Mathematics: A first introduction to categories*, 2nd ed., Cambridge, Cambridge University Press, 2009, pp. 3-9, 47-49, 216, 236-244, 257. The preceding comments may be considered as complementing, at a different level of analysis, D. Di Cesare, *Sul concetto di metafora in Giambattista Vico*, in *Prospettive di storia della linguistica. Lingua linguaggio comunicazione sociale*, ed. L. Formigari - F. Lo Piparo, preface T. De Mauro, Roma, Editori Riuniti, 1988, pp. 213-223.

sa, is reflected in Vico's repeated references to *genera*, *universals*, and their subordinated *particulars*.¹⁵⁷

These brief observations serve to show, on the one hand, that rhetoric and law are closely linked, and that rhetoric and science are intertwined as well. If law and rhetoric share commonalities, and rhetoric and science have things in common, it follows that law and science must be homomorphic, thus resulting in a triple of strands bound together by virtue of a common core of rationality and logic¹⁵⁸. In the context of the relationship between law and science, Vico's engagement of, and indebtedness to, Francis Bacon becomes particularly relevant. In addition to naming Bacon as a major influence in his autobiography, Vico made specific reference to Bacon in *Scienza nuova* with respect to Bacon's philosophy of science (163, 359, 499)¹⁵⁹. As Marta Fattori points out, Bacon's philosophy of science was an outgrowth of his legal and jurisprudential knowledge and experience: «He was familiar with the refutation techniques of the adversary system, with the theory of pleading and with the law of evidence, and could see the merits of the logic of the judicial system as a model for research methodology, providing the procedures by means of which one could gradually integrate and emend human knowledge»¹⁶⁰. Bacon's great achievement consisted in the “symbolic transformation” of the principles and methods of civil law into scientific methodology, rendering them not just homomorphic, but even isomorphic or structurally indistinguishable¹⁶¹. It is entirely

¹⁵⁷ Metonymy, synecdoche, and irony are instances of other universal mapping properties, such as “sum”, “subobject classifier”, and “negation”, respectively (F. W. Lawvere - St. H. Schanuel, *Conceptual Mathematics*, cit., pp. 173-174, 265-267, 287, 335-344). Furthermore, topics share universal properties of “map objects”, of which phase spaces in science, and exponentiation in mathematics, are special cases. (Ivi, pp. 313-334). In fact, topics jointly with the tropes, that is, collectively, can be considered a high-level model of a “topos”, here used in a defined technical sense (ivi, pp. 338, 352).

¹⁵⁸ Cf. D. Luglio, *La science nouvelle ou l'extase de l'ordre*, cit., p. 145: «C'est pourquoi, les interprétations de la SN qui tendent à éliminer la composante rationnelle et logique de sa construction, ou qui la reconduisent à une logique mythologique, perdent totalement de vue l'ordre».

¹⁵⁹ The Vico-Bacon relationship, in depth, will not be addressed here, for which see M. Fattori, *Idola fori and language*, cit., pp. 1-21, including discussion of critical Vico scholarship, going back to Benedetto Croce and Giovanni Gentile.

¹⁶⁰ Ivi, p. 11; F. Steinle, *From Principles to Regularities: Tracing 'Laws of Nature' in Early Modern France and England*, in *Natural Law and the Laws of Nature in Early Modern Europe: Jurisprudence, Theology, Moral and Natural Philosophy*, ed. L. Daston - M. Stolleis, Farnham, Ashgate, 2008, pp. 215-231, pp. 215-26: «Rather than stressing theological considerations, Bacon emphasized the analogy to the legal realm». Cf. B. J. Shapiro, *Testimony in seventeenth-century English natural philosophy: Legal origins and early development*, in «Studies in History and Philosophy of Science Part A», 33, 2, June 2002, pp. 243-263.

¹⁶¹ H. Wheeler, *Science out of law*, cit., pp. 122-131; Id., *The Invention of Modern Empiricism*, cit., pp. 98-115. Wheeler provides a detailed account for the «claims that the terms used to describe matters of positive law and the juristic methods used to produce it served Bacon as models for the conception and discovery of secularized scientific laws» (*Science out of law*, cit., p. 122).

consistent with, and faithful to, this state of affairs that Vico, in turn, could endeavor to “contraject” scientific method into the study of the civil world¹⁶².

6. Conclusion

In philosophy of science, at a metalevel, scientific theories can be approached, on the one hand, in a so-called *syntactic* perspective, but also, alternatively, according to a *semantic* view¹⁶³. Metaphorically, these approaches play on the role of syntax and semantics in language, where syntax captures the rules to be followed in correctly formulating sentences while semantics, by contrast, focuses on their meaning. Broadly analogously, the syntactic view of science is concerned with establishing and following valid principles and procedures whereas the semantic approach seeks to determine whether scientific claims fit the data and reality under investigation.

Against this background, this essay has largely focused on *Scienza nuova* from the syntactic perspective, seeking to identify features that reflect scientific principles and procedures, such as presuppositions, first principles, and theoretical-empirical data. It argued that *fantasia* and *poesia* – contrary to commonly-held views – perform key epistemic functions, not just in Vico’s philosophy of science, but in any scientific endeavor; indeed, the topicalization itself of *fantasia* (as “making apparent”) and *poesia* (as “making”) renders a service to science by making explicit human agency and alternative possibilities, both at the level of *de dicto* and *de re*. Additionally, viewed “syntactically”, rhetoric and science prove to have more in common than traditionally assumed.

Little, if anything, has been said about the scientific “syntax” of the theoretical-empirical part (“philology”), evident in Vico’s use of terms such as axioms (*degnità*), postulates, corollaries, proofs, demonstration, discovery, analogy, abstract, ideal, universal and eternal, and others¹⁶⁴. Their prevalence in *Scienza nuova*, nonetheless, testifies to the intended thrust of Vico’s *magnus opus*¹⁶⁵.

¹⁶² J. Barnouw, *Vico and the Continuity of Science: The Relation of His Epistemology to Bacon and Hobbes*, in «Isis», 71. 4, December 1980, pp. 609-620, p. 609: «Vico claims that his conception of science, derived from the mathematical, constructive, and experimental ‘natural science’ of the preceding century, can be carried over into the study of socially and historically constituted realities».

¹⁶³ R. G. Winther, *The Structure of Scientific Theories*, in *The Stanford Encyclopedia of Philosophy* (Spring 2021 Edition), ed. E.N. Zalta, <<https://plato.stanford.edu/archives/spr2021/entries/structure-scientific-theories/>>, last accessed 6 November 2023; St. French, *The Structure of Theories*, in *The Routledge Companion to Philosophy of Science*, 2nd ed., ed. M. Curd - St. Psillos, London, Routledge, 2014, pp. 301-312; M. Ghins, *Laws of Nature: Do We Need a Metaphysics?*, in «Principia», 11, 2, December 2007, pp. 127-149, p. 135; D. Krause - O. Bueno, *Scientific Theories, Models, and the Semantic Approach*, in «Principia», 11, 2, December 2007, pp. 187-201; St.M. Downes, *Models, Pictures, and Unified Accounts of Representation*, cit., p. 420.

¹⁶⁴ A. Fáj, *Vico as Philosopher of Metabasis*, in *Giambattista Vico’s Science of Humanity*, ed. G. Tagliacozzo - D.Ph. Verene, Baltimore, The Johns Hopkins University Press, 1976, pp. 87-109; G. Gisoni, *Giambattista Vico and the Problem of Method between Rhetoric and Experimentalism*, in *Zwischen Sprache und Geschichte. Vicos Methode beim Umgang mit Recht und Naturrecht*, ed. G. Cacciatore - M. Kaufman - F. Lomonaco, Berlin, Peter Lang, 2020, pp. 103-119; Id., *Vico e il problema*

Also largely, but not entirely, absent has been the semantic view, that is to say, discussion of the substantive contents of *Scienza nuova*¹⁶⁶. In fact, Vico's metaphysical presuppositions and first principles are directly related to the real (human) world, or rather more specifically, the civil world; these presuppositions are that human nature is sociable; that all humans have in common a sense of justice; and the principle of free choice. But a more specialized discussion of how Vico's theories "fit" historical reality has not been undertaken here¹⁶⁷. Such a study would therefore need to address the apparent factual in-

del metodo tra sperimentalismo e retorica, in «Laboratorio dell'ISPF», XIII, 2016, pp. 1-14; D.L. Marshall, *Giambattista Vico, aphorism, and aphoristic machines*, in «The Italianist», 37, 3, 2017, pp. 324-347.

¹⁶⁵ This is discounted in P. Rossi, *Che tipo di scienza è la "Scienza nuova" di Vico?*, cit., p. 425: «Per costruire una scienza nuova del mondo delle nazioni, [Vico] non ritiene necessario discutere dei rapporti fra deduzione e induzione, geometrismo e sperimentalismo, valori degli assiomi e dei postulati e forza delle prove e degli esperimenti». Rossi also opines that «Vico non assomiglia per nulla a un professore di filosofia della scienza e ritengo [...] che non vada trattato come se lo fosse». (Ivi, p. 424). As discussed in this article, through rhetoric and law, Vico had the requisite conceptual tools and wherewithal to practice science, both at the philosophical and theoretical-empirical level. His scientific orientation is also evident in his membership in Neapolitan scientific academies (Accademia del Medinacoeli, Accademia degli Investiganti, for which see R. Mazzola, *Vico all'Accademia del Medinacoeli*, in «BCSV», XX, 1990, pp. 131-139; M. H. Fisch, *The Academy of the Investigators*, in *Science, Medicine and History*, ed. A. Ashworth Underwood, New York, Arno Press, 1975, pp. 521-563). A poignant example of his "scientific" mindset is the funeral oration for Angela Cimmino. Its classical rhetorical structure notwithstanding, Vico departed from the classical genre by including medical information, describing Angela Cimmino's specific symptoms which were suggestive of gastrointestinal disease (like possibly Crohn's disease): «avendo ella lo stomaco di una stravagante ferocia o risentimento; [...] quindi come di sì fatto morbo amalata, no pontendo indursi in sua casa a patto veruno nè pur a gustar alcune vivande, quantunque dilicate e laute, che non l'annojassero, [...] la Fanciulla, triste ed in grave mistizia rassegnata e composta, no di altro che di abbondanti lagrime si nudriva; disposte di morire della fame più tosto, che di leggiermente assiaggiarle» (*Opuscoli di Giambattista Vico nuovamente pubblicati con alcuni scritti inediti da Giuseppe Ferrari*, Milano, Società Tipografica de' Classici Italiani, 1837, pp. 287-288; online at <<https://www.giambattistavico.it/opere/altriscritti>>, last accessed 10 November 2023; A. Battistini, *La struttura retorica dell'orazione di Vico in morte di Angela Cimmino*, in «BCSV», IX, 1979, pp. 76-88. On the importance of medical studies in Vico's Naples, see P. Zambelli, *Un epigono degli Investiganti, amico e «supplente» del Vico: Il medico Francesco Serao*, in «BCSV», III, 1973, pp. 132-146; M. Cambi, *Giacinto Gimma e la medicina del suo tempo. Storia di una polemica nella Napoli di G.B. Vico*, in «BCSV», XX, 1990, pp. 169-184; N.S. Struever, *The Medical-Theoretical Background in Naples of Vico's New Science*, in «New Vico Studies», 15, 1997, pp. 10-24; R. Mazzola, *Vico e la cultura medica. Storiografia e prospettive di ricerca*, in «BCSV», XLIV, 2014, pp. 33-48; S. D'Alessio, *Medicina e storia naturale nella Napoli del Settecento*, in «Laboratorio dell'ISPF», XVIII, 2021, pp. 1-8.)

¹⁶⁶ These two views may be related in certain ways to the two parallel levels discussed in M. Sanna, *La métaphysique comme question de méthode*, in «Noesis», 8, 2005, pp. 1-10, p. 1: «la métaphysique comme procédé méthodologique», on the one hand, and «la métaphysique comme histoire de la pensée», on the other hand.

¹⁶⁷ For studies that seemingly combine the "syntactic" and "semantic" views, see, for example, L. Pompa, *La scienza di Vico*, in «BCSV», II, 1972, pp. 13-51; Id., *Reflections on the ideal eternal history*, in «BCSV», XLI, 2, 2011, pp. 15-32; G. A. Gualtieri, *La concezione della scienza nella filosofia di Giambattista Vico*, in «I castelli di Yale online», VII, 1-2, 2019, pp. 125-170.

accuracies in Vico's account, and their role in Vico's overall theoretical framework¹⁶⁸.

It has been said that the list of approaches to Vico and his work would seem to be endless, some of which are idealist, humanist, historicist, metaphysical, political, linguistic, historical-philological¹⁶⁹. This essay therefore suggests still another direction to Vico reception, and reception of *Scienza nuova*, in particular: in the direction of another discipline, namely, history and philosophy of science.

¹⁶⁸ C. Rice, *Leveraging Distortions: Explanation, Idealization, and Universality in Science*, Cambridge, Mass., The MIT Press, 2021; I. Lawlor, *Scientific understanding and felicitous legitimate falsehoods*, in «Synthese», 198, 2021, pp. 6859-6887.

¹⁶⁹ P. Girard, *Giambattista Vico. Rationalité et politique. Une lecture de la Scienza nuova*, Paris, PUPS, 2008, pp. 9-10.



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– «An eternal golden braid»: Rhetoric, law, and science in Vico's *Scienza nuova*

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ABSTRACT

This essay examines Giambattista Vico's claim that *Scienza nuova* is a legitimate work of 'science', not just by virtue of its programmatic title, which, as such, can be added to a list of 'new sciences' publicized during the early modern period, but in terms of its contents and substance. The main interest or agenda of the essay is to bring out the intricate nexus, rather than discordance, of rhetoric, law, and science. This examination first deals with the literary form of *Scienza nuova*, and draws on Francis Bacon and Galileo to explain certain features of the work. It then explores the meaning and role of imagination (*fantasia*) and poetics (*poesia*) in *Scienza nuova*, and their relation to science, both past and present. Finally, rhetoric, law, and science are scrutinized in terms of underlying commonalities, providing a basis for being intertwined in Vico's *magnus opus*. As an upshot of this study, it is suggested that Vico's work be part of history and philosophy of science.

KEYWORDS

G. Vico; *Scienza nuova*; *Fantasia*; *Poesia*; Rhetoric; Science

SOMMARIO

“Un’eterna treccia d’oro”: *Retorica, diritto e scienza nella Scienza nuova di Vico*. Il saggio esamina l’affermazione vichiana secondo la quale la *Scienza nuova* è legittimamente un’opera di “scienza”, non solo in virtù del suo titolo programmatico, che può essere inserito in un elenco di “scienze nuove” diffuse durante la prima età moderna, ma anche in termini di contenuti e di sostanza. L’obiettivo principale è far emergere l’intricato nesso, piuttosto che la discordanza, tra retorica, diritto e scienza. Il saggio esamina inizialmente la forma letteraria della *Scienza nuova*, basandosi su Bacone e Galileo per spiegare alcune caratteristiche dell’opera. In seguito, esplora il significato e il ruolo dell’immaginazione (*fantasia*) e della poetica (*poesia*) nell’opera, nonché il loro rapporto con la scienza, sia passata che presente. Infine, la retorica, il diritto e la scienza sono esaminati in termini delle comunanze di fondo che ne giustificano l’intreccio nell’*opus magnus* di Vico. Su queste basi, si suggerisce che l’opera di Vico vada inclusa nella storia e nella filosofia della scienza.

PAROLE CHIAVE

G. Vico; *Scienza nuova*; *Fantasia*; *Poesia*; Retorica; Scienza

Please note. This article has been edited on 30/01/25 to correct formatting in the quote on pages 10-11.