Solution du fameux probleme de Galilei de la courbure qu'une corde ou chaine pendante prend par sa propre pesanteur; avec son rapport aux logarithmes, et l'usage d'une nouvelle Analyse des Infinis

de M. de Leibniz
Mons. D. L

Galilei s'est avisé, d'examiner la figure d'une chaine pendante, ou d'une corde soutenue par les deux bouts, mais il n'a point reussi dans cette recherche, car la ligne qui se forme par cette suspension n'est pas une parabole comme il avoit crû. c'est ce que M. Hugens et d'autres ont monstré il y a long temps. On peut dire que depuis ce probleme a reposé jusqu'à l'occasion suivante qui l'a renouvellé et qui l'a enfin fait resoudre. Il y a quelques années que Monsieur [illegible] publia dans les Actes des savans qu'on donne tous les mois à Leipzig ses essais d'une maniere de calculer toute nouvelle, où il se sert des sommes et des differences à peu pres comme l'on s'est servi jusqu'icy des racines et des puissances; et par le moyen de ces affections de la grandeur exprimées en certains caracteres nouveaux de specieuse, il donne moyen de calculer analytiquement dans les cas que M. Descartes avoit exclus de sa Geometrie, enfin de trouver les verites, d'assigner des Equations finies pour des lignes Transcendantes, que M. Descartes a tort d'appeller Mecaniques, et de resoudre les problemes où il seroit difficile d'arriver par d'autres voyes. comme il en a donné des preuves. Il appelle cela le Calcul des differences et des sommes; il va souvent aux sommes des sommes et aux differences des differences et encor plus avant. Toute cette Methode prise dans son etendue, se peut appeller l'Analyse des Infinis. Car la Geometrie des indivisibles de Cavalieri, et l'Arithmetique des infinis de M. Wallis est toute autre chose. Cependant M. [illegible] avoue que leur decouvertes luy ont esté utiles. et sur tout il reconnoist d'avoir profité des ecrits de feu M. Pascal, et de Mons. Hugens, ainsi que M. Barrow [illegible] la dessus, que [illegible]

15th Nordic Workshop in Early Modern Philosophy

August 21–22, 2025
Vilnius

The Nordic Workshop in Early Modern Philosophy–or NWEMP, for those in the know–has been fostering collaboration among scholars of Early Modern philosophy across the Nordic and Baltic regions for more than fifteen years. Since its launch in Tartu, Estonia in 2008, the workshop has been hosted by many leading universities across the region, travelling from Tartu to Jyväskylä, Helsinki, Tampere, or Turku in Finland, Uppsala, Umeå, and Gothenburg in Sweden, Oslo in Norway, Reykjavik in Iceland, and, on several occasions, returning home to Tartu. For the first time, we welcome NWEMP to Vilnius, Lithuania!

This year is especially significant as we celebrate the 15th anniversary of the workshop, marking a milestone in its continued success and growth.

We look forward to the engaging presentations, lively discussions, and opportunities to connect with colleagues old and new. We hope this gathering will inspire fruitful collaborations and deepen our collective understanding of Early Modern philosophy.

Find the full programme and abstracts online:

Conference venue: Vilnius University, Faculty of Philosophy (Universiteto str. 9)

For any inquiries, please contact kristijona.cerapaite@fsf.stud.vu.lt

Organisers: Kristijona Čerapaitė, Brigita Gelžinytė, Laurynas Peluritis, Marius Povilas Šaulauskas

Vilnius University, Faculty of Philosophy, Institute of Philosophy

Image: Gottfried Wilhelm Leibniz, 'Handschriften zur Mathematik' (LH 35, 6, 11), 1676. Courtesy of the Gottfried Wilhelm Leibniz Bibliothek – Niedersächsische Landesbibliothek. Public Domain.

Thursday, August 21st

08:30–9:00 Arrival and registration 2nd floor, room 201
9:00 Welcome remarks
9:15–10:45 Chair Roomet Jakapi **Keynote** **Julia Borcherding**. Thoughts Like Pancakes: Cavendish's Philosophical Epistemology
Coffee break 10:45–11:00 3rd floor, room 311
11:00–12:30 SESSION 1 Chair Vili Lähteenmäki **Laurynas Peluritis**. Political Descartes: A Thinker, a Warrior and a Spy? **Boxiang Yu**. Descartes on the Linguisticity of Pure Intellect **Kay Malte Bischof**. Finite Misconceptions of God: Spinoza's Critique of Descartes
Lunch 12:30–14:00
14:00–15:00 SESSION 2 Chair Osvaldo Ottaviani **Carlos Portales**. Spinoza on the Perfection of Natural Individuals: Reconciling Existence and Power **Melanie Salvi**. Infinity in Nature: The Relationship Between Finite Modes and Infinite Substance in Spinoza
Coffee break 15:00–15:15 3rd floor, room 311
15:15–16:15 SESSION 3 Chair Laurynas Peluritis **Andrea Christofidou** (online). The Self and the Absolute Conception of Reality **Brigita Gelžinytė**. A View from Nowhere: Modern Subject Between Invention and Disappearance
Coffee break 16:15–16:30 3rd floor, room 311
16:30–18:00 SESSION 4 Chair Jani Hakkarainen **Gabriele Ferrari**. G. E. Stahl: A Medical Philosopher Lost to History? **Ove Averin.** Petrus Lidenius and The Study of Logic in Livonia **Tuomas Pernu**. A History of the System: The Early Modern chapter

Friday, August 22nd

11:00–12:30 SESSION 5 Chair Boxiang Yu **Vili Lähteenmäki**. Self–Cognition. Ideas all the way Down? **Harmen Grootenhuis**. Harmonized Agency: Berkeley's Solution to Solipsism **Roomet Jakapi, Uku Tooming**. Addressing the Threat of Anachronism: Could Aphantasia be a Problem for Hume?
Lunch 12:30–14:00
14:00–15:30 SESSION 6 Chair Kristijona Čerapaitė **Filippo Costantini**. Leibniz and Conrad Henfling on Musical Temperament **Peter Myrdal**. The Monad's Principle of Change **Niccolò Fioravanti, Osvaldo Ottaviani**. The Structure of Real Bodies in Leibniz's Metaphysics of Living Beings
Coffee break 15:30–16:00 3rd floor, room 311
16:00–17:30 SESSION 7 Chair Brigita Gelžinytė **Gareth Hugh Paterson**. Into The Void: Crusian Possible Space as "Imaginary" Extra-Cosmic Voidal Space **Valtteri Viljanen**. On the Crusian Origins of the Kantian Moral Agent **Jani Hakkarainen**. Is Metaphysics Possible as a Science? Revisiting Kant Through the Lens of Holistic Understanding
Short break 17:30–17:40
17:40–18:30 Ending notes: Past and Future of NWEMP

ABSTRACTS

KEYNOTE LECTURE

Julia Borcherding. "Thoughts Like Pancakes": Cavendish's Philosophical Epistemology

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In this talk, I aim to show that the unity of reason and the imagination is the hallmark of a cohesive alternative philosophical epistemology Cavendish develops throughout her works. Instead of emphasising its dangers, Cavendish reframes the imagination as a positive creative power, which advances rather than threatens natural philosophy, and which does not conflict with speculative reason, but is rather of a piece with it. This "philosophy of fancy" acknowledges our epistemic limitations, while the same time going beyond them by means of a methodology of imaginative, dialogical exploration which establishes the imagination as a legitimate source of philosophical knowledge.

Laurynas Peluritis. Political Descartes: A Thinker, a Warrior and a Spy?

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This paper explores René Descartes's political philosophy, emphasising his impact on the evolution of modern political thought and the Enlightenment. Although Descartes is regarded as a proponent of reason and scientific inquiry, his political views are paradoxical. Although at first glance he seems conservative and opposes changes to political practices, his philosophical principles subtly advocate for reforming entrenched social and political institutions. Although Descartes's method was not intended for political application, its universal scope leads to the reforming of existing structures. Furthermore, his egalitarian view of human nature contributed to the rise of individualism, a core tenet of modern democracy and liberalism. This paper discusses the tensions within Descartes's political thought and argues that, despite his cautious approach to practical politics, his work provides important insights into the philosophical underpinnings of political reform. Furthermore, his relation with political practice is far more complex than the image of a social recluse would suggest: his correspondence with prominent political figures, military career and possible intelligence work point to another aspect of Descartes' life and personality.

Boxiang Yu. Descartes on the Linguisticity of Pure Intellect

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It is commonly believed that the *Language of Thought Hypothesis* (LoTH) – the act of thinking is linguistically structured – gained its popularity in the medieval but somehow dropped in the early modern era (see Rescorla 2024, Aarsleff 1993, Condillac 2002). This paper advances an alternative: Descartes is indeed, while implicitly, committed to LoTH.

This paper proceeds in four sections: Section One provides the textual ground for attributing Descartes' LoTH: sensory ideas are mental images, whereas intellectual ideas are "conceptions" or mental words. Then, I argue that conceptions are composed of descriptions of their objects and hence instantiate semantic compositionality.

Section Two further explicates the linguistic feature of conceptions. As Nelson (1997, 2008) points out, for Descartes, there are four fundamental innate ideas: the idea of God, mind, body, and mind-body union. Following this, I suggest that all the other simple ideas in intellect are obtained by linguistically qualifying four fundamental ideas.

Section Three defends the linguisticity of pure intellect by arguing that the content of concepts cannot be altered by the finite mind without changing what they represent, because they possess *true and immutable nature* (TIN). By contrast to sensory ideas or mental images that are characterized by the *continuity* of their content, mental words are marked by the *discreteness*. Namely, similar to the components of linguistic expressions, the descriptions of which conceptions are composed are self-contained, instead of mediated by infinitesimal *continua*.

Section Four accounts for the discreteness of concepts by arguing that they *digitally encode* the properties of external objects. This understood through Descartes' principle of *formal-eminent containment*. For a concept *x* that represents an external object *y*, the properties contained formally in or exemplified by *y* are contained eminently or encoded in *x*. More importantly, the *x* eminently contains properties of *y* can be reduced to *x* formally contains its own properties. It follows that mental words are essentially and primitively representational.

Kay Malte Bischof. Finite Misconceptions of God: Spinoza's Critique of Descartes

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'If the idea [of God] were a mere figment, it would not be consistently conceived by everyone in the same manner', says Descartes in response to a set of objections aiming to undermine the idea that our idea of God is innate. However, while there was indeed a consensus among theists that God is a thinking but not an extended being, there was at least one philosopher who sternly opposed this consensus by claiming that God is both thinking and extended: Spinoza. Spinoza's disagreement on this matter is significant as his dissent diminishes our idea of God to a mere figment of the firmament.

But it gets worse. Our idea of God is not the only thing at stake here. The innateness of our idea of God is the foundation upon which the early modern rationalism was built. Descartes, Spinoza, and Leibniz (and their schools) argued (to different extents) that the finite can only be understood through the infinite. How we conceive of the finite depends on what idea of God we have. But different ideas of God yield different understandings of the finite. Thus, Spinoza's disagreement not only threatens the innateness of our idea of God, it also questions the rationalist approach to understanding the finite through the infinite.

And even worse! Rationalists have a hard time dismissing Spinoza's idea of God. From a rationalist standpoint, disagreements about our idea of God if voiced by a non-rationalist philosopher could be dismissed for employing empiricist principles. According to empiricists, such as John Locke, we are able to 'enlarge' the ideas of finite things in order to understand the infinite.

Rationalists deny that enlarging finite ideas helps us to understand an infinite God. But being a rationalist himself, Spinoza's disagreement cannot be dismissed for using an empiricist approach to the question concerning God's nature.

And yet, there is light at the end of the tunnel for the disagreements about our idea of God among rationalists might turn on a failure to rigorously follow their rationalist approach. Focusing on Descartes' and Spinoza's respective ideas of God, I shall argue that this is indeed the case. In section 1, I shall outline Spinoza's view in the *Ethics* that disagreements with his concept of God stem from not strictly following what he calls the proper order of philosophizing, which demands that God cannot be understood through the finite. In section 2, I will argue that Descartes fails to follow the proper order of philosophizing in the *Meditations* when he conceives of extension through finite things, such as a piece of wax. In section 3, I consider an interpretation of Descartes proposed by Schechtman, according to which we need finite ideas in order to render our idea of God clear and distinct. I shall argue that a partial desertion to empiricism does not rescue Descartes' position.

Carlos Portales. Spinoza on the Perfection of Natural Individuals: Reconciling Existence and Power

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In E4pref, Spinoza proposes a criterion—one he seems to deem appropriate—for evaluating the perfection of natural entities while avoiding Aristotelian teleology: comparing a thing to the most general *genus* of all, namely being. A thing's degree of perfection is determined by its degree of being or existence, which, in turn, corresponds to its degree of power or activity. However, this formulation creates a tension between perfection as *existence* and perfection as *power*. For Spinoza, a thing's power is equivalent to its essence; thus, the magnitude of its power determines what the thing *is*—that is, its very existence. If a thing's power increases significantly, its degree of perfection would rise, but this could also transform said thing into something else, thereby ending its existence. Here I propose a possible resolution to this tension. I argue that when Spinoza links a finite thing's perfection with its power, he generally refers to a subjective ascription made by an observer affected by the thing in a particular way, at a specific time and place. In simpler terms, the greater a thing's effect on us, the greater

the power we experience from it and, thus, the greater the perfection we attribute to it. Since perfection is attributed based solely on the power that affects the observer, the thing's identity and existence become secondary—merely inferred from the perceived effect of its power.

Consequently, there is no place for contradiction between existence and power. That said, this does not mean perfection is purely subjective for Spinoza. An impartial and non-relative standard of perfection exists, one that considers only a thing's being or existence—independent of its effects on the observer. Yet Spinoza seems to apply this standard with full confidence only in the case of divine perfection, since God's infinite perfection is the only instance where an objective degree of perfection can be unequivocally affirmed.

Melanie Salvi. Infinity in Nature: The Relationship Between Finite Modes and Infinite Substance in Spinoza

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In this presentation I discuss the problematic relationship between the finite and the infinite in Spinoza. While, finite things, modes, must be grounded in infinite Substance in some way, it appears that for Spinoza, only infinity can follow from infinity. The tension between these diverging claims is compounded with Spinoza's attribution of antithetical features to finite modes and infinite Substance. To address this problem, I introduce and evaluate three solutions which have been presented in the literature. The first is to deny the reality of modes; the second is to claim that two causal chains contribute to the production of finite modes in such a way that the infinite only causes the infinite, yet the causal activity of Substance is connected in a clear manner to the creation of finite things; finally, it is possible to give a description of modes in which they inherit the infinity of Substance while remaining finite in a relevant sense.

Andrea Christofidou. The Self and the Absolute Conception of Reality

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A recalcitrant philosophical problem that has exercised philosophers through the centuries, raising some of the profoundest philosophical questions, is the reality and nature of the self, and its place in the universe.

I approach this complex area of philosophy by focusing on a set of crucial interconnected questions:(i)what is the absolute conception of reality? (ii)what is the nature of reality? (iii) where does the impetus for the absolute conception come? (iv) what is the nature of self? (v) what, if any, is the place of the self in the absolute conception? Implicit is the general question regarding the relation between philosophical enquiry and the absolute conception of reality.

A central concern is the misappropriation of the absolute conception in contemporary debates. I aim to retrace our steps and restore its nature and status by drawing on some of the great philosophers of the past, focusing especially on Descartes and Spinoza. This is not a rehash of historically situated conceptions, but a philosophical engagement with this complex area of metaphysics, stressing the relevance and importance of the history of philosophy, done philosophically, and questioning some of our own philosophical assumptions.

I shall also draw on some contemporary philosophers who have grappled with the problems regarding the nature and reality of the self and the nature of reality itself. Addressing such contemporary attempts, grappling with the idea of the absolute conception, will enable me to begin disentangling the absolute conception from its misappropriation. It is in fact reflection on contemporary discussions that brought me to see the need to return to the past philosophers, to the inexhaustibility and richness of thought contributing to our concerns.

Our understanding of what the absolute conception is, however, leads to something odd: the paradox of the self. Is it irresolvable?

Brigita Gelžinytė. A View from Nowhere: Modern Subject Between Invention and Disappearance

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This paper delves into the ambiguity surrounding the conventional narrative that links the rise of early modern philosophy to the emergence of the epistemological subject. For the so-called "invention" of the subject can also be interpreted as its own erasure. Rather than merely functioning as a ground and source of objective knowledge, as a neutral and unproblematic "view from nowhere", cogito, it is argued, still emerges as a view from a certain site—a site of an absence. Becoming an infinitely vanishing point that nevertheless both infinitely empowers and limits itself, the cogito acquires a ghostly character that operates beyond classical dichotomies. Building upon G. Schäffner's essay, which addresses the early modern shift in the concept of the point—where its understanding in modern sciences evolves from being equivalent to one to zero—I will attempt to articulate the implications of this transition for the observer's "point of view" as a "zero point."

Gabriele Ferrari. G. E. Stahl: A Medical Philosopher Lost to History?

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G. E. Stahl is often regarded as being on the losing side of the Scientific Revolution in several respects: first, philosophically in comparison to Leibniz; second, in relation to the "more" scientific medical school of Montpellier; and third, regarding his phlogiston theory, which has gone down in history as being definitively surpassed by Lavoisier.

Leaving aside this final point and turning to his contributions to medicine and physiology, we may ask: did he develop a theory that deserves little attention because it was more rooted in the past than engaged with contemporary debates? Did he truly advocate for the existence of a rational soul, understood as a metaphysical spiritual substance – a remnant of his Pietist upbringing – capable of governing every aspect of the body?

In this paper, I aim to deconstruct this image, drawing on an analysis of some texts that have been largely overlooked by secondary literature. I argue that Stahl developed a form of "heuristic vitalism" that transcends the Cartesian *impasse* and emphasizes the interconnection between the soul – understood as a vital principle, both *logos* and *logismòs* – and the body, that is, the organism, a structured reality with an inherent teleological dimension, that surpasses and subsumes the mechanism.

Based on this reinterpretation, I believe it is necessary to reassess the medical work of the physician from Halle. Even though his writing is often verbose and lacks systematic structure, he nonetheless sought to lay the theoretical groundwork for an autonomous field of physiology. Moreover, while working in medicine, he also began to address questions that today would be categorized as "biological".

Ove Averin. Petrus Lidenius and The Study of Logic in Livonia

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At the end of his 1652 disputation, Petrus Lidenius, a professor of logic and ethics in *Academia Gustaviana* (modern-day University of Tartu), wrote, "Therefore, it is our duty here to imitate the bees, who gather honey from all flowers, but leave the poisons contained in them to the wasps."[1] Such a metaphor was, however, neither novel nor rare. Nor was it always used to achieve the same goal. Seneca, for instance, used it to claim that it was never enough to *simply* gather knowledge. It

[1] "Nostrum proinde est apiculas hic imitari, quae ex omnibus floribus mella colligunt, venena autem in iisdem contenta vespis relinqvunt" (Arbogensis and Lidenius 1652, fol. c4r).

was also necessary to synthesize the collected materials into new knowledge. Macrobius (fl. 400), on the other hand, emphasized gathering and ordering while almost entirely omitting the process of making honey. Johannes Murmellius (1480–1517) also found it relevant to point out the "sexless" nature of bees that illustrated the life of chastity a scholar had to adhere to in search of knowledge.[2]

Lidenius uses bees and honey in yet another way. In this instance, this metaphor helps him to vindicate the use of authors with somewhat dubious reputations in the Early Modern Swedish Academia—Aristotele and Ramus. However, as I will argue, that does not mean his use would be cynical or that he would not, in general, practice gathering knowledge from wherever he may find it. Quite the contrary. As I will show, although Lidenius broadly follows the Aristotelian way of thought, in specific instances, he might be employing Ramus, Scheibler, Eifler, Keckerman, Alsted, Zabarella, Burgersdijk, Meisner, Goclenius, Nassius, and many even more obscure authors to prove his claims. Put differently, in his search for a true system of logic, Lidenius did not shy away from pointing out that some otherwise great authors (*author alias celeberrimus*) can be gravely mistaken (*graviter hallucinantur*).

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Tuomas Pernu. A History of the System: The Early Modern chapter

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The notion of system is essential to all of science. But what are systems? Is the term "system"referring to the same thing in all the wide range of disciplines it is being used in? There is no philosophical discussion addressing these questions. Recently, however, they have received attention in engineering (Hitchins 2009; Dori & Sillitto 2017; Sillitto & al. 2017; Yang & al. 2019; Dori & al. 2020; Kasianiuk 2021; Salado & Kulkarni 2021). This is not surprising, given that the aims of engineering are in providing us with efficient and robust devices – systems – for the manipulation and control of nature.

In this project, I'm approaching the issue of defining "system" historically. Five stages are identified. First, the etymological roots of the term are in antiquity, and the origins of the idea of

[2] For more, see Moss 1996 in general and pp 11, 14, 87 in particular.

control or feedback system can be traced to these times (Mayr 1970). Second, important elements of the modern notion were defined during the enlightenment. Third, a decisive step was taken during the 19th century, with the rise of thermodynamics and statistical mechanics; the term "system" becomes ubiquitously used in mathematics and physics. Fourth, systems come in explicit focus in the mid-20th century, with the rise of cybernetics (Wiener 1948) and systems theory (von Bertalanffy 1968). Finally, in the 21st century a variety of methods, in a wide range of fields, are aimed at analysing complex systems (cf. Ladyman & al. 2014; Ladyman & Wiesner 2020).

In this talk, I focus on the second stage: the development of the notion of "system" in the early modern era. Two things are central here.

First, this is when "system" starts to be used in an astronomical sense, and this is where the current notion of "solar system" originates. In fact, although it is unclear how and when "solar system" became entrenched, the moment "world system" appears can be precisely designated: this happens in 1540 (Lerner 2005). Soon after this, the notion becomes a paradigm of natural philosophy.

Second, this is the era when discussion in natural philosophy is dominated by the principle of sufficient reason (PSR). Perhaps one could say that although "world system" is an important innovation of the era, it is only a *terminological* one, and PRS is more central in terms of the *idea* of system (regardless of whether the term was use in association with PSR). Central to PSR – and to the whole era – is the conviction that the world can be rationalised: that reality forms a *system* that we should strive to *systematise*. This (through the work of Leibniz in particular) is at the root of the idea of "closed system" – an idealisation that becomes central to the development of physics in the 19th century.

Can the evolution of the idea of system be viewed as a continuous and consistent narrative? Not without heavy reinterpretation. The system theoretical (entity based) notions, currently in focus in engineering and complexity analyses, seem fundamentally different to the abstract (phase space based) notions used in mathematics and physics. Perhaps unifying these views is possible. Perhaps – but not without acknowledging the historical roots of the differences.

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Vili Lähteenmäki. Self–Cognition. Ideas all the way Down?

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Scholarly debate about cognition in the historiography of early modern philosophy has centered on the status of ideas, particularly in relation to representationalism and its implications for our understanding of extramental reality: whether so many early modern thinkers are vulnerable to the so-called 'veil of ideas' critique, which suggests that ideas create a barrier severing our cognitive and epistemic connection to the world. A philosophically significant feature of theories of ideas, particularly among Cartesians and Lockeans, has been overshadowed by the 'veil of ideas' discussion and received little scholarly attention. Namely, regardless of the position attributed to a particular early modern philosopher, it is commonly accepted that the mind enjoys an immediate cognitive access to its own acts and existence. Locke's claim in the Essay about the general role of ideas is widely believed to express an essentially Cartesian principle shared by many early modern thinkers:

> 'For since the Things, the Mind contemplates, are none of them, besides it self, present to the Understanding, 'tis necessary that something else, as a Sign or Representation of the thing it considers, should be present to it: And these are Ideas.' (E 4.21.4)

Nevertheless, the immediacy of the mind's relation to itself is seldom explicated and argued for. The aim of my talk is to go against the grain and show that it is not unproblematic for the early moderns to grant unmediated self-cognition. One reason is textual. Locke does not explicate the alleged immediate self-cognition, much less offers it as a ground for any philosophical aim of his, while he does repeatedly point out that *all* forms of cognition involve ideas. Strikingly, given his commitment to absolute certainty about our own existence, the same holds for Descartes. He neither ever says that this certainty is grounded on an immediate relation to our own mind, nor even says that the immediate relation is there.

Another reason is systematic. These philosophers, and many of their contemporaries, are philosophically unmotivated to grant two kinds of cognitive access: ideational regarding extramental things and non-ideational regarding intramental things. Granting two accesses is indeed problematic. Psychologically, our mental life is unified in a way that it is not apparent to us that we cognize external objects ideationally and our own mental acts directly with no involvement of ideas.

As a natural response, we might think that this is because consciousness characterizes our cognition: in so far as we are conscious of our perceptions—be they inner or outer directed—we can't tell whether an idea is involved. While this might plausibly explain why the alleged bifurcated nature of cognition is psychologically obscured to us, it does nothing to alleviate the bifurcation itself. Moreover, it means assigning consciousness with a double role. Consciousness must be capable of having things of two different kinds as its object: representations (ideas of things) and things in themselves (the mind/mental acts).

I will argue that early modern philosophers developed a sustained line of thought in which ideas extend to the mind's relations with itself, forming a unified model of cognition by equating inner and outer cognition. I will suggest that it actually undermines representationalism and supports the Aristotelian view of a metaphysically robust cognitive connection between mind and world.

Harmen Grootenhuis. Harmonized Agency: Berkeley's Solution to Solipsism

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George Berkeley is known for his theory of idealism: to *be* is to *be perceived* (Berkeley 1913, [3] 31). He rejects a metaphysics of matter, arguing that materialism separates the mind from the reality it is supposed to perceive, which results in skepticism. Ironically, the theory of idealism has itself been criticized for ending up in skepticism and this paper focuses on a version of that critique, which labels Berkeley a *solipsist* who inadvertently commits himself to the view that minds are "distinct, self-enclosed, private worlds" (Dicker 2011, 281; cf. Fogelin 2001, 141).

The central claim of this paper is that, according to Berkeley, all minds share the same objective reality. The solipsism objection assumes that ideas of sense are the real things and that reality is a feature of these things. Therefore, if an idea of sense (e.g., the tree in front of my window) is a private idea, other minds cannot perceive it (I would be the only one able to see that tree).

However, according to Berkeley, reality is not a feature of ideas, but of the *perceptions* that cause ideas. 'To be real' means 'to be perceived in an orderly and constant manner' and God guarantees that order for ideas of sense (Berkeley 1913, [71], 71). God guarantees the objective reality of things by harmonizing the *agency* of the perceiving minds, which is to say that the reality of an object (the existence of the tree in front of my window) consists in an act of perception under the direction of God (seeing the tree) and this perceptive act can be performed by anyone.

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Roomet Jakapi, Uku Tooming. Addressing the Threat of Anachronism: Could Aphantasia be a Problem for Hume?

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In this talk, we will discuss methodological issues related to research that combines contemporary philosophy and psychology with the history of philosophy. As the authors of a research paper on Hume's theory of imagination, we have criticised Hume's imagistic account of thought in light of recent evidence about aphantasia. The evidence, not available to Hume, suggests that many individuals who are unable to form mental images can still effectively function as cognitive agents. We claim that the phenomenon of aphantasia poses a challenge to Hume's understanding of how human thinking works.

While writing the paper, we encountered several methodological concerns regarding our approach. Firstly, we were faced with the criticism that interpreting Hume in such a manner is intolerably anachronistic. Secondly, our research has shown that relevant concepts in contemporary work on imagination, such as mental imagery, are significantly different from those in Hume's theory, such as individual ideas. Finally, it remains unclear how precise our approach needs to be in terms of exegesis.

In response to these challenges, we have provided a balanced mixture of historical and philosophical reconstruction, identifying a common core in contemporary and Humean concepts. We believe that in order to treat Hume as an equal conversation partner with contemporary philosophy, one needs to consider how he would respond when faced with an actual agent who seems to constitute a clear counterexample to his theory. However, that kind of consideration

requires a willingness to find a fit between contemporary psychological categories and the concepts that Hume uses. In the talk, we will offer a detailed justification for our approach and introduce the findings it led to regarding Hume's theory of imagination.

Filippo Costantini. Leibniz and Conrad Henfling on Musical Temperament
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In a letter to Goldbach (April, 17th1712), Leibniz defined music as "an exercise in unconscious arithmetic, where the soul counts without being aware that it is counting" (*Musica est exercitium arithmeticae occultum nescientis se numerare animae*). In this talk, I will elucidate the meaning of this definition by examining the correspondence between Leibniz and Conrad Henfling on music theory. Among the various topics they discuss, that of musical temperament—i.e., the problem of determining into how many parts the octave should be divided—is certainly the most significant. My overall hypothesis is the following: if we take seriously the idea that the soul counts, then Leibniz's conception of counting and his general view of number can shed light on both his approach to the problem of temperament and the definition of music cited above.

The talk is divided into three parts: first, I introduce some basic mathematical concepts from Leibniz's theory of measurement (notably, what Euclid called *anthyphairesis*), which lies at the heart of both his conception of number and the way he and Henfling approached the problem of temperament.

Second, I present Henfling's proposal to divide the octave into 50 parts. I explain the method he uses to determine this number, and why he believes this division is to be preferred over other proposals.

Third, I analyze Leibniz's reply to Henfling's proposal. Leibniz offers his own solution (a division into 60 parts). More importantly, I show that the core issue in all these proposals is the need to strike a compromise between competing desiderata, such that any solution inevitably involves a degree of *approximation*. In music, counting is essentially approximating; and thus, when the soul counts intervals, it approximates the incommensurable ratios between them with commensurable ones.

I conclude by reflecting on the significance of this anti-Pythagorean element in Leibniz's conception of music.

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Peter Myrdal. The Monad's Principle of Change

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In section 11 of the *Monadology*, Leibniz introduces an idea central to his account of substance: monads contain an internal *principle of change*. This principle of change or activity is what he elsewhere characterizes as the *nature* of substance. Section 11 presents the need for such an internal principle of change or activity as following from the arguments against causal interaction between created substances set out in section 7. In this paper, I argue that the connection between the no-interaction thesis and Leibniz's conception of a substance's principle of activity is less straightforward than what the beginning of the *Monadology* suggests.

I first show that the argument in section 11 is importantly incomplete. The move from the denial of interaction to the need for substances to contain an internal principle of change bypasses an important alternative position. Occasionalists—most prominently Malebranche—appeal to similar difficulties about interaction to support the thesis that God is the *sole* causal agent in the universe, which amounts to denying precisely what Leibniz affirms: the need for any internal principle of change in created beings. Section 11 thus presupposes the falsity of occasionalism.

In other writings Leibniz, of course, devotes considerable effort to rebutting occasionalism. Yet in that context he offers a defense of the need for creaturely principles of activity independent of the no-interaction thesis. Appealing to considerations having to do with the nature of substancehood itself, he presents himself as championing a broadly Aristotelian conception of the role and nature of substance. Somewhat curiously then the argument needed to complete section 11 actually renders the no-interaction thesis redundant.

This means that we should revisit the centrality to Leibniz's conception of substance not only of the no interaction thesis, but also of the closely connected *spontaneity thesis*—the thesis that a substance is the only source (barring God's concurrence) of all its states. These theses are usually taken to determine Leibniz's conception of the nature of substance as a *primitive force* or *law-of-the-series*. In contrast, I propose that that conception is prior to and independent of the no-interaction and spontaneity theses.

Niccolò Fioravanti, Osvaldo Ottaviani. The structure of real bodies in Leibniz's metaphysics of living beings

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At the beginning of the 1680s Leibniz dedicates a series of writings and letters to a mechanical and physiological description of animal bodies. There we find him concerned with two main problems: (1) explaining the natural perpetual motion which characterizes animal machines as counterposed to artificial ones and (2) providing a model for the source and presence of force within living bodies and in all of their parts. An answer to (1) and (2) is articulated through the elaboration of models that rely on elasticity as a structural principle of matter. Besides the obvious epistemological interest of these models, they can very well be considered as fulfilling two fundamental requirements of Leibniz's metaphysics of corporeal substances: (a) the internal origin and distribution of force, (b) the transformation of one body via substitution of parts. Leibniz's goal in these writings is evidently that of providing a fundamental structure for bodies to satisfy (a) and (b).

However, Michel Fichant (2003) has characterized the aim of these texts as exclusively epistemological and counterposed it to the ontological definition of the problem given by the concept of 'machine de la nature' introduced in the 1695 *New System*.

In what follows, contrary to Fichant's reading, we will try to show why the texts from the early 1680s have a metaphysical relevance and are meant to define the material structure of corporeal substances. In section 1, we will address these texts and identify the relationship between the structure of bodies there analyzed and the ontology of corporeal substances. In section 2, we will examine a text contemporary to the *New System*, where Leibniz presents a characterization of the natural machine that strikingly resembles that of the early 1680s. Thus, we will show how he uses this model to account for the presence of a substance's force in its whole body and in each part of it. Finally (section 3), will explore further the interconnections between the two models discussed in the previous sections with that of dominant and subordinate monads, which is typical of later articulations of Leibniz's ontology of corporeal substances.

Gareth Hugh Paterson. Into The Void: Crusian Possible Space as "Imaginary" Extra-Cosmic Voidal Space

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The current interpretation of Christian August Crusius' (1715-1775) conception of space is problematic because it contradicts essential elements of his multiversal cosmology. Crusius,

opponent of Leibnizian-Wolffian rationalism, and an important influence on early Kant, is being rediscovered in contemporary scholarship. Thus, honing our interpretations is ongoing. In this vein, I argue toward an improved understanding of Crusius' conception of inter-and extra-cosmic space, i.e., space internal to our universe and the external void. The fullest treatments thus far appear in the context of examining Crusius' theory of other worlds (universes). The space-conception offered, however, undermines the very possibility of any Crusian multiverse theory, because it (i) misrepresents Crusian space generally and (ii) conflates intra-cosmic space and extra-cosmic voidal space. This, I will show, clashes with Crusius' requirement that distinct worlds share no external, including spatial, relations. Consequently, this interpretation may be flawed, and we must reassess our position.

Proponents of this view describe Crusian space generally as Newtonian and substance-like. Crusius, though, denies that space is a substance. Rather, substances are "complete things", while space is "incomplete" in itself, being a necessary condition for substances' existence. Furthermore, they conflate intra-cosmic space with the extra-cosmic voidal space between worlds, claiming worlds are essentially sharing in the same space, thus breaking Crusius' forbidden relations condition. However, Crusius clearly differentiates between real (intra-cosmic) and "possible" space (where things could exist if God willed it). Referencing historical debates and Crusius' own works, I advocate we understand Crusian possible space through older conceptions of "imaginary" extra-cosmic voidal space, conceived as dimensionless, potentially infinite, undetermined. This avoids conflict with the forbidden relations condition since no spatial dimensions means no spatial relations, rescuing the possibility of a Crusian multiverse theory. Additionally, this approach places Crusius within a historically broader conversation that may enrich further related interpretative work.

Valtteri Viljanen. On the Crusian Origins of the Kantian Moral Agent

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As recent scholarship has shown, Kant the faculty theorist is very much influenced by Crusius. Generally and in line with his predecessor, Kant is rather liberal concerning the number of faculties—he is often happy to posit faculties as required to explain phenomena—although the amount of basic faculties is quite restricted: for Kant there are three, for Crusius two fundamental faculties or powers (*Grundvermögen* or *Grundkräfte*) of the mind. Crusius calls the basic faculty of action will (*Wille*), Kant perhaps more appropriately the faculty of desire (*Begehrungsvermögen*). For both, despite slight terminological differences, that faculty is the power to act according to one's

representations, to make the represented things real (*Anweisung* §1; KpV 5:9n); for both, what we do depends on the way in which that faculty is determined (*Anweisung* §39; GMS 4:401, KpV 5:30); for both, the moral task is to be self-determined (*Anweisung* §39; GMS 4:436). Unfortunately, this side of Kant's moral thought has received scant attention in scholarship eager to emphasize the role of maxims and downplay all metaphysics, also that of the mind. I will argue that giving proper weight to Kant's theory of faculties and acknowledging the way in which it draws on Crusius' view of the will throws, in two major respects, new light on the inner structure of the Kantian moral agent. First, lest our virtue be a matter of mere luck (*Anweisung* §40) and freedom that of a *Bratenwender* (KpV 5:97), our choice (*Willkür*) is to be conceived along the lines of the Crusian power of freedom to spontaneously choose between desires (*Entwurf* §43) and moral incentives. Second, given that faculties are causally efficacious entities, both Crusius and Kant take the intensity of desires into account but locate it differently within their respective systems.

Jani Hakkarainen. Is Metaphysics Possible as a Science? Revisiting Kant Through the Lens of Holistic Understanding

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In his *Prolegomena* (1783), Kant famously posed the question whether metaphysics at all is possible and how metaphysics in general and as a science in the broad sense (German *Wissenschaft*) is possible. This question remains unresolved.

In this talk, drawing upon my original work and the latest historical scholarship, I argue first that Kant presupposes metaphysics to be *demonstrative and a priori* if it is science and that it is a presupposition that originates in his immediate historical context of the conceptions of metaphysics in Christian Wolf (1679–1754) and Alexander Gottlieb Baumgarten (1714–1762), for instance. Wolf's conception was shaped by his background in mathematics as well as by the influence of Second and Reformed Scholasticism, exemplified respectively by Francisco Suárez (1548–1617) and Rudolf Göckel (1547–1628). I then show that, although this conception is historically understandable, nowadays we need to have a critical attitude towards it because of both not simply assuming it and understanding it more clearly.

Accordingly, I argue that a completely new avenue for shedding light on Kant and answering the above-mentioned question is opened up if we consider that the primary epistemic aim of metaphysics is holistic understanding about the subject matter of metaphysics rather than a priori demonstrable truth or knowledge. If progress can be achieved in acquiring holistic understanding within the domain of metaphysics, then metaphysics can indeed be classified as a

science in the broad sense. In this capacity, metaphysics would meet the general criteria of science regarding understanding: it would constitute a peer-reviewed, systematic, free, publicly accessible, and collective endeavour in the pursuit of holistic understanding. Importantly, its validity would not be contingent upon any individual subject but would remain open for scrutiny or discovery by peers.

Consequently, given that metaphysical study can progress in terms of holistic understanding, it is possible that metaphysics is a *hermeneutical science*, that is, a science of understanding in this specific sense. This also helps us understand Kant better due to the contrast to this particular hermeneutical conception of the scientific status of metaphysics.

OR = OB; OR − AR = Nξ; OR + AR
= (N)(ξ). pour la Tangente les Triangles
OAR et CBT sont semblables. La
dimension de la courbe AC = AR
ou bien CA(C) = ωψ = deux fois AR
sont proportionnelles
Quadrature de l'espace. Rectang.
RAO = quadriligne AONCA.
Centre de gravité de la courbe, soit
G celuy de la chaine CA(C), et
et β celuy de la partie AC. Faisons
OH à OA, comme BC à AR ou AC,
et OG sera moyenne aritmetiq entre
OH et OB. puis TC coupant
l'horizontale par A en E remplit.
servira a donner
le rectangle GAEβ
β. Centre de Gravité de
l'Espace comme par exemple de
AONCA, soit Ω,
prenons
pour l'avoir, Oβ moitié d'OG, et
remplissons le rectangle
EAβΩ. il est fort remarquable
que non seulement les Arcs AC
sont proportionnels
aux espaces, mais que les distances
de leur centres de gravités
proportionnelles de l'horizontale
par O, aussi bien que de l'Axe
sont aussi. si les Tan-
gentes Cπ et (C)π se recontrent, AM
la distance de π de l'Axe (à avancer
AB sera celle du
centre de gravité de l'Arc (C)C.C)
et si CN, et
(C)N coupent
AE en j et (j), alors
(j)j en AC moins
(C)C en (j)M
sera = (B)B
en OA. Messieurs
Hugens et Bernoulli
ont encor marqué
des proprietés

(± avant que d'aller
d'un extreme
à l'autre de venir
au moindre
changement assignable)

accomplissons le rectangle BAEΩ, et Ω sera le centre de Gravité du
Quadriligne AONCA, d'ou l'on tirera encor le centre de tout autre espace
tel qu'on a dit. il est remarquable que non seulement ces quadrilignes
sont proportionnels à leur arcs AC, mais encor les distances de leur centres
pris de l'horizontale par O; puisque OG est toujours le double d'Oβ
et les distances de ces memes centres, de l'Axe OB, sont tellement propor-
tionnelles qu'elles sont tout a fait egales, sçavoir βG et Ωβ. par le
le moyen les centres de ces centres, il est aisé de trouver les
les les contenus et les sur la dimension des contenus et des surfaces
des sur solides faites faits par l'espace compris entre la l'arc de la
chaine et des droites par le tournoyement de l'espace quelconq
susdit à l'entour d'une droite quelconq. On peut resoudre
bien d'autres problemes par exemple le sommet A, un point C, et
la longueur de l'arc de la chaine compris AC estant donnés
trouver le parametre OA. puisq B est donné et AR (egale à AC)
joignons BR et de B faisons sortir Rm en sorte que les
Angles ABR et mRB soyent egaux, et le concours des droites
BA, Rm sera le point O qu'on demande. et bien d'autres semblables = il faudroit un traité entier pour
expliquer toutes ces choses, et pour les demonstrer a la façon ordinaire des Geometres
mais Monsieur de . . . qui n'en a ny le loisir ny la volonté, juge qu'il
que ceux qui voudront entendre sa façon de calculer sa nouvelle methode ou quelq chose d'
equivalent, n'en auront pas besoin, et sa Nouvelle Methode, ou
quelq chose d'equivalent, n'en auront pas besoin car le calcul meme d'autre demonstration
mene à tout cela. Et il n'estime ces choses, qu'autant qu'elles servent
[illegible] de l'art d'inventer. Monsieur Bernoulli cependant
[illegible] reconnu la facilité surprenante qui se et servent d'exemple
pour expliquer nous expliquer En effect, comme la nature ±
passe dans ses operations par une infinité de degrés mitoyens, on peut
dire qu'il n'y a que cette Analyse des infinis ne contribue pas peu
à rompre la barriere qu'il y a entre la physique et la Geometrie.
Monsieur Bernoulli apres en avoir pesé les consequences et l'usage
reconnu l'usage et les consequences, dit dans son addition
à ce probleme publiée au mois may de juin des A dernier
avec les autres solutions de à Leipzig dans les actes de Leipzig au
mois de juin de cette année qu'il trouve ce calcul merveilleuse-
ment propre à ces sortes de recherches, et qu'il le tient pour une
des premieres plus considerables inventions de ce siecle. Aussi
l'a-t-il porté plus avant, pour determiner les figures des
chaines dont l'espaisseur seroit inegale, ayant même marqué des cas
ou ce seroient des lignes ordinaires; et quelle figure viendroit si la chaine
ou corde se peut estendre; item si la figure d'une lame Elastique estant courbée
par un poids attaché. Il a aussi examiné la figure que le vent donne
aux voiles. il sans pesanteur affermie par en bas, estant char-
gée au bout d'en haut par un poids, qui le tire jusqu'à ce que
la direction du poids soit perpendiculaire à la ligne de la lame,
il en donne la figure sous un enigme, voulant attendre ce que
d'autres donneront en donneront avant la prochaine foire de Leipzig
du mois d'octobre. il a aussi examiné la figure que le vent
donne aux voiles, qu'il juge plus difficile, et utile dans la
dont il juge la recherche plus difficile, et utile dans la navigation