

This is the penultimate version of the essay. For the final version, please see Brandon Look (ed.), *The Continuum Companion to Leibniz*, London/New York: Thoemmes Continuum Press (2011), 289–309.

## KANT, THE LEIBNIZIANS, AND LEIBNIZ

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### 1. Introduction

It is clear that Leibniz's philosophy was very important for Kant. This importance is reflected, for example, in the number of Kant's explicit references to Leibniz. He is the most mentioned philosopher in Kant's corpus overall.<sup>1</sup> What is much less clear is in what ways Leibniz was important for Kant, and how exactly the relation between Leibniz's and Kant's philosophy should be understood.

The historian of philosophy who is trying to clarify this relation is faced with various kinds of difficulties. To begin with, it is not easy to determine which of Leibniz's own writings Kant had access to, and even less easy to say which of them he actually read. More generally, in Kant's treatment of broadly speaking Leibnizian themes his sources and targets are often unclear. Is his discussion aimed at Leibniz himself, or at later Leibnizians (broadly conceived)? If we hope to understand Kant's relation to Leibniz, we have no choice but also to investigate Kant's relation to these later Leibnizians, and their relations to Leibniz. This reveals yet another difficulty. Which later Leibnizians are we to examine in this context? Some obvious candidates directly come to mind: Christian Wolff (1679–1754), the most well-known philosopher in early eighteenth-century Germany; Conrad Gottlieb Marquardt (1694–1749) and Martin Knutzen (1713–1751), Kant's teachers in Königsberg; and Friedrich Christian Baumeister (1709–1785), Alexander Gottlieb Baumgarten (1714–1762), Georg Friedrich Meier (1718–1777), and Johann

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<sup>1</sup> More precisely, a computer count returns 495 hits for Leibniz in all of Kant's writings (excluding the lecture notes). For comparison, Newton receives 275 hits, Descartes 225, and Hume 95. If one adds Wolff's respectable 200 hits to Leibniz's score, the importance of Leibniz-Wolffian ideas for Kant becomes even more evident.

August Eberhard (1739–1809), whose writings Kant used in his lectures<sup>2</sup>—but there are many more. A further difficulty is that Kant’s attitude towards the Leibnizian philosophy seems to have changed over time, and that this change appears not to be confined to the transition from the pre-critical to the critical period, i.e., the period after the publication of the *Critique of Pure Reason* in 1781, but to have continued in the critical period itself. This is puzzling because Kant’s critical philosophy is usually regarded as, by and large, stable (at least as far as his writings are concerned that were published during his lifetime), which makes it difficult to understand why he would continue to change his assessment of the Leibnizian philosophy.

In tandem with an increase in interest in Kant’s pre-critical philosophy, the question of Kant’s relation to Leibniz has received more and more attention in the scholarly literature over the last 30 years or so. Still, compared to other areas of Leibniz-, and certainly Kant-scholarship, the number of secondary titles dealing with their relation is vanishingly small, and it seems fair to say that the serious historical investigation of this topic is still in its infancy. Some useful initial pointers can be found in several survey articles,<sup>3</sup> the sections on the relevant period in some standard histories of philosophy,<sup>4</sup> or in more general works on either Leibniz or Kant,<sup>5</sup> and, in the latter category, in particular works dealing with Kant’s early philosophy.<sup>6</sup> Thanks in part to the recent steady increase in interest in the Leibniz-Kant connection, there are also several helpful specialized studies, which investigate the Leibnizian background for certain Kantian doctrines or arguments,<sup>7</sup> compare Leibniz’s (or Leibnizian) views and Kant’s views on a particular topic,<sup>8</sup> or examine specific criticisms by Kant of certain Leibnizian teachings.<sup>9</sup> But no detailed comprehensive study of the relation between Kant and Leibniz (and/or the Leibnizians)

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<sup>2</sup> Kant used Baumeister for metaphysics; Baumgarten for metaphysics, moral philosophy, and anthropology; Meier for logic; and Eberhard for rational theology, whose name is also known through the later famous controversy between him and Kant, on which more below. Kant used Wolff as well, for mathematics and mechanical science. Baumeister’s *Institutiones* also were the textbook for Johann David Kypke’s metaphysics lectures (1692–1758), ordinarius at Königsberg in Kant’s student days.

<sup>3</sup> See Wolff, 1967; Wilson, 1995; Wilson, 2004.

<sup>4</sup> See Fischer, 1867; Überweg, 1924; Vorländer, 1903; Copleston, 1964.

<sup>5</sup> See Schmalenbach, 1921, pp. 500–588; Martin, 1967, pp. 211f. [appendix]; Allison, 1973; also see Heinekamp, 1986.

<sup>6</sup> See Polonoff, 1972; Laywine 1993; Schönfeld, 2000.

<sup>7</sup> See Lenders, 1971; Schönrich, 1992; Watkins, 1995; Thiel, 1996; Kuehn, 1997; Radner, 1998; Watkins, 2003; Brogan, 2004.

<sup>8</sup> See Finster, 1982; Mittelstrass, 1985; Schneider, 2004; Sarmiento, 2005.

<sup>9</sup> See Parkinson, 1981; Kaehler, 1985; Wilson, 2005.

is available yet, and many aspects of this relation still await further illumination.<sup>10</sup> The difficulties attending the project of clarifying Kant's relation to Leibniz are compounded by the fact that much of early German philosophy in general still is underexplored territory. This applies both to the German school philosophy of the seventeenth century that is such an important background and source for both Leibniz and Wolff—and, mediated by them, for Kant—and to the philosophy of the German Enlightenment prior to Kant.<sup>11</sup> To be sure, Wolff's philosophy has received its share of attention, and Wolff scholarship has considerably gained in momentum over the last few decades—as is also reflected in the first International Wolff Congress that took place in Halle in 2004—so that a number of helpful studies on different elements of his system have accumulated by now.<sup>12</sup> But much remains to be unearthed, and in light of his preeminent position in his time and his considerable historical significance, the secondary literature on Wolff is still surprisingly thin. Much more still needs to be learned also about Wolff's followers and his opponents, including, in particular, Kant's immediate interlocutors in Königsberg, all of whom are important potential sources of Leibnizian ideas for Kant.<sup>13</sup>

An exhaustive treatment of the relation between Leibniz and Kant would require a multi-volume study—and, I fear, a lifetime of devotion to the project. So, providing such a treatment cannot be the goal of this essay. What I propose to do in the following is to sketch in general terms the main moments that characterize the relation between Kant, Leibniz, and the Leibnizians, viewed against the background of Kant's philosophical development (section 2). This will be followed by a brief discussion of the main Leibnizian themes that play a role in Kant's philosophy, again using Kant's development as a rough ordering principle (section 3).

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<sup>10</sup> An early, singular stab at a more comprehensive account is Nolen, 1875.

<sup>11</sup> Wundt, 1992a, and Wundt, 1992b, remain invaluable resources for a first orientation. Also useful for a general overview are Cassirer, 1951, and Wolff, 1963. The only reference work in English remains Beck, 1969.

<sup>12</sup> See Campo, 1939; Bissinger, 1970; Corr, 1982; Schneiders 1986; École, 1990; Paccioni, 2006; and Madonna, 2005.

<sup>13</sup> Of the few book-length works on Kant's teachers, Erdmann's study on Knutzen deserves to be singled out, See Erdmann, 1973. Also valuable in this respect are Kuehn, 2001a, and Kuehn 2001b. Many important background and source texts for Kant's philosophy are collected in English translation in Watkins, 2009.

## 2. Kant, Leibniz, and the Leibnizians: an outline

A popular ‘quick-and-dirty’ story about Kant’s relation to Leibniz that is particularly prominent in the Anglo-American Kant-world goes something like this: Kant started out as a Leibniz-Wolffian by education, i.e., as a proponent of Leibniz’s philosophy in the form given to it by Wolff who systematized and popularized it and turned it into the most prominent philosophical system in Germany. Inspired by his encounter with the teachings of Newton and Hume, Kant then took on the project of reconciling Leibniz-Wolffian metaphysics with Newtonian science and of responding to epistemological scepticism. This project led him further and further away from his Leibniz-Wolffian roots and culminated in the total rejection of the Leibniz-Wolffian philosophy in the *Critique of Pure Reason* as a prime example of illegitimate dogmatic metaphysics. This story has some modest merit as an initial, crude working hypothesis, but without several corrections and additional clarifications it is misleading, if not outright false, in a number of respects. In this section, I will highlight the four principal shortcomings of this story and briefly indicate how it might be amended and expanded in order to overcome them. Due to space constraints, my remarks will have to remain rather sketchy.

To begin with, the view that Wolff merely systematized and popularized Leibniz’s philosophy, although still a widespread prejudice in the philosophical community at large, can be challenged.<sup>14</sup> It can be argued that, despite some undeniable common ground, there are significant differences between Wolff’s and Leibniz’s system, and that Wolff was not only influenced by Leibniz, but also (and arguably more so) by the earlier German school philosophy, by the Cartesians, especially Ehrenfried Walther von Tschirnhaus (1651–1708), whom Wolff knew personally, and even by (early) British empiricism. This is not the place to get into a detailed discussion of how exactly Wolff’s philosophy deviates from Leibniz’s—which, I should add, is a question that is far from settled in the secondary literature. But, just to list a few of the highlights, some of the differences that have been discussed concern their views on the nature and properties of the simple substances that constitute the fundamental ontological building

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<sup>14</sup> See Arnsperger, 1897; École, 1964; Beck, 1969, pp. 256–75; Corr, 1974; Corr, 1975; Zingari, 1980; École, 1990, esp. pp. 139–220; Schönfeld, 2002.

blocks of the universe (called ‘monads’ by Leibniz, and ‘elements’ by Wolff), the ontological status of bodies, the meaning and function of the doctrine of the pre-established harmony, and the relation between the principle of contradiction and the principle of sufficient reason. The label ‘Leibniz-Wolffian philosophy’ might be defensible as a name for Wolff’s philosophy if it is understood as indicating that his system includes Leibnizian ideas (which Wolff freely admits)—although even if understood in this sense it is misleading in creating the impression that Leibniz was Wolff’s main, or even only source. But Wolff is right to complain about the label, as he repeatedly does, if it is understood as indicating that his philosophy is more or less identical with Leibniz’s and that his own contribution is limited to casting this philosophy into a more systematic form.<sup>15</sup> It is not entirely clear who coined the expression ‘Leibniz-Wolffian philosophy’, but, contrary to Wolff’s own fuzzy recollection, which blames Georg Bernhard Bilfinger (1693–1750), one of Wolff’s supporters, it seems to have originated with his enemies, which makes Wolff’s antipathy toward it even more understandable.<sup>16</sup> Although Wolff might be slightly overstating his independence from Leibniz, he is, basically, on target when he says that, ‘it is not really true that I have cast the Leibnizian philosophy into a distinct system, since very little that can be found in my *Rational Thoughts on God, the World etc.* belongs to Leibniz; several controversial things are taken from St Thomas rather than from Leibniz’ (*Schutzschriften, welche zu der Grundwissenschaft gehören*, p. 269, in *Gesammelte Werke*, I.xxi.iv), and that Leibniz’s system ‘only begins, where mine ends’ (Letter to Ernst Christoph Graf von Manteuffel, 11 May, 1746, cited in Wuttke, 1841, p. 82).

It is also worth mentioning that while one can justly say, given Wolff’s enormous success and following, that there is a philosophical school of thought that deserves the name ‘Wolffian philosophy’ or ‘Wolffianism’, one must guard against oversimplifying the actual historical situation by assuming that all Wolffians are committed to exactly the same principles and

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<sup>15</sup> See *Eigene Lebensbeschreibung*, Wuttke, 1841, pp. 140–41. Also see *Christian Wolffens Ausführliche Nachricht von seinen eigenen Schriften*, in *Gesammelte Werke* I.ix, Preface.

<sup>16</sup> Franz Budde (1667–1729) uses the expression in his ‘Concerns about the Wolffian philosophy’ (1724), p. 104, and it occurs in Andreas Rüdiger’s (1673–1731) ‘Opposed View’ (1727), Preface, §16–20. See Wundt, 1992, p.150 note. The label also appears in the titles of several later prominent books on Wolff, written during his lifetime, e.g., Georg v. Hartmann’s *Guide to the History of the Leibniz-Wolffian Philosophy* (1737), and Carl Günther Ludovici’s *Latest Noteworthy Aspects [Merkwürdigkeiten] of the Leibniz-Wolffian Philosophy* (1738). See Corr, 1975, p. 243 note 8.

doctrines, namely, the ones presented in Wolff's writings—although, of course, there were devoted Wolffians who followed the master in almost every detail, as, for example, Wolff's student Ludwig Phillip Thümmig (1697–1728) who is the author of one of the first books on Wolffian philosophy, *Institutiones Philosophiae Wolfianae* (1725/26). Thümmig's book was popular with many professors as a textbook for their lectures, including Karl Andreas Christiani (1707–1780), who taught at the university of Königsberg when Kant was a student there.<sup>17</sup> A number of more entrepreneurial later Wolffians were not afraid to modify or develop Wolffian principles or combine them with ideas from other philosophers (or even with their own ideas). This led to versions of Wolffianism that are noticeably different from Wolff's, e.g., Baumgarten's, which is arguably more Leibnizian than Wolff's,<sup>18</sup> or the version by Knutzen, who famously argues against the pre-established harmony and defends a variant of the theory of physical influx.<sup>19</sup> The recognition that there are non-negligible differences between the philosophies of Leibniz, Wolff, and the Wolffians is a necessary precondition for developing an adequate account of Kant's relation to Leibniz. It remains to be worked out in detail what exactly these differences consist in.

Another problematic aspect of the popular story is that it creates the impression that Kant's education and intellectual background in his early years had only one thing to offer, namely, Wolffianism, and that the young Kant was a card-carrying member of the Wolffian school who subscribed to the official party line. It is true that when Kant entered the university in Königsberg in 1740, Wolffianism was still going strong in Germany (and in Königsberg), even though the supremacy it had gained in the 20s—in part as a result of the publicity generated by the attack on Wolff's philosophy by the pietists, led by Joachim Lange (1670–1744), Franz Budde, and Andreas Rüdiger, that culminated in Wolff's expulsion from Prussia by King Frederick Wilhelm I under the threat of death by hanging—was beginning to fade. But by the time Kant published his first philosophical essay in 1755 (the *Nova Dilucidatio* [ND]), it seems

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<sup>17</sup> The only other major work on Wolffian philosophy written in the 1720s is the *Dilucidationes Philosophicae* (1725) by Bilfinger, who also remains close to Wolff, although not as close as Thümmig. Bilfinger is also noteworthy in our present context because his writings are not only concerned with Wolff but also with Leibniz, whose philosophy he quite clearly recognizes to be distinct from Wolff's.

<sup>18</sup> See Casula, 1979.

<sup>19</sup> See Knutzen, 1735.

fair to say, the hegemony of Wolffianism had ended (as had Wolff's life in 1754)—not because another philosophical school had successfully replaced it as the main paradigm of German philosophy, but because of the gradual erosion it had suffered due to criticisms from various sides, leaving a vacuum that was not to be filled again in a similar way by a single dominant philosophical system until Kant's critical philosophy had completed its (initially only short-lived) victory march through the German lands. What one finds in Germany around the middle of the eighteenth century is a cacophony of many different philosophical positions, approaches, and ideas, all competing for the attention of Kant's quick and eager young mind. (Kant's stint as a private tutor (1747–1754), which falls into this period, must certainly still be counted as part of his education, despite the fact that he was no longer at the university—to which he returned in 1754 to take his official degree, and which he never left again.) To be sure, Wolffian ideas retained their prominence in the public discussion inasmuch as many proponents of other views undertook to criticize them. And, of course, there were still plenty of Wolffians around too, including such 'heavy-hitters' as Baumgarten, who, however, by that time was primarily working on aesthetics (rather than more typical Wolffian topics in metaphysics), Johann Christoph Gottsched (1700–1766), now mainly known as one of the founders of German literary theory, and Carl Günther Ludovici (1707–1778), who wrote, among other things, a widely popular history of Wolffian philosophy. But Wolffianism was no longer the only, or even the most prized horse in the running, so to speak.

Of the many different philosophical camps at that time I will highlight a couple of important groups, whose ranks include two scholars who exerted an especially direct and clearly detectable influence on the young Kant. The first group consists of philosophers who stand in the tradition of Christian Thomasius (1655–1728), rightly considered the other main thinker (in addition to Wolff) to have shaped the German Enlightenment. In contrast to Wolff, Thomasius breaks rather sharply with the earlier school philosophy, with which Wolff's philosophy shows many more affinities. Thomasius is an eclectic whose philosophy includes empiricist, psychologist, mystic, and, above all, humanist elements, combined with a strong concern to be practically relevant and generally accessible.<sup>20</sup> The Thomasian tradition had its

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<sup>20</sup> For more on Thomasius, See Vollhardt, 1997.

first run of success from about 1690 into the 1720s, when it was overpowered by Wolffianism, but experienced a series of second springs in different forms, as it were, after the Wolffian philosophy had begun to decline. For example, Thomasius's influence is reflected in the 'popular philosophies' of the free spirits populating the salons and coffee houses of Berlin and Göttingen in the later eighteenth century, and can also be detected in such anti-Enlightenment thinkers as Johann Georg Hamann (1730–1788) and Friedrich Heinrich Jacobi (1743–1819). During the time period that concerns us presently, the most important philosopher who can be regarded as representing the Thomasian tradition is Christian August Crusius (1715–1775), who proved himself an especially acute and influential critic of Wolffian doctrines. Crusius made a strong impression on Kant, who discusses his ideas at several places in his pre-critical works and his lectures, and who says of this 'sharp man' that 'among the German philosophers, or rather those who lead philosophy forward, hardly a second can be placed next to him' (ND, Ak I, p. 397).

The second group to which I would like to call attention is the rather large anti-Wolffian faction in the Prussian Academy of Frederick the Great in Berlin, led by Pierre Louis Moreau de Maupertuis (1698–1759), who was the Academy's president from 1746 till 1759. The Berlin Academy, which at the time looked a little like a local chapter of the French Academy, played an important role in the dissemination in Germany of the ideas of the French and British Enlightenment and of French and British innovations in mathematics and the natural sciences.<sup>21</sup> The anti-Wolffian leanings of many members of the Academy are manifested in several of its prize contests in the philosophical division. The prize question of 1746 asked the contestants to examine the theory of monads. Prior to the award of the prize, Leonhard Euler (1707–1783), who would succeed Maupertuis as the Academy's president in 1759 and who shared Maupertuis' anti-Wolffian sentiments, launched an attack on (what he took to be) the Wolffian theory of monads in his widely read 'Thoughts on the Elements of Bodies' (1746), which he published anonymously. Samuel Formey, long-time secretary of the Academy, whose claim to fame is a Wolffian compendium for the ladies, *La Belle Wolffienne* (!), replied to the attack,

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<sup>21</sup> For more information on the Academy under Frederick and its warring factions, See Calinger, 1968a and 1968b.



similarly anonymously, in his 'Investigations on the elements of matter' (1747), apparently drawn up with assistance from Wolff himself.<sup>22</sup> Several others joined in the debate, and the prize contest was the talk of the day in the academic circles and salons of the town and beyond. After much lobbying by the anti-Wolffians, the winner was announced to be the essay by Johann Heinrich Gottlob von Justi (1717–1771), who argued against the theory of monads. Even Euler admitted later that Justi should have shared the prize with the Leibniz-Wolffian Gottfried Ploucquet (1716–1790), who had written a fine essay in support of the theory of monads and only received the *accessit*, i.e., honourable mention. The prize contest in 1755, thinly disguised as being about Pope's optimism, but really directed at the Leibniz-Wolffian thesis that the actual world is the best of all possible worlds, was similarly suspiciously won by a (rather disappointing) anti-Wolffian entry, written in French. This caused much protest, including an anonymously published, controversial pamphlet, co-authored by Gotthold Ephraim Lessing (1729–1781) and Moses Mendelssohn (1729–1786), entitled 'Pope a metaphysician!' (1755), in which they disassociate Pope from Leibniz, and, more generally, poetry from philosophy, and make fun of the Academy. A number of Kant's pre-critical essays address topics covered by the prize questions of the Academy—not all of which were submitted for the contests and none of which won; at least, his 'Inquiry into the Distinctness...' ['Distinctness'] (published in 1764) was accorded the *accessit*.<sup>23</sup> Especially noteworthy in our present context is Kant's *Physical Monadology* [PM] (1756), clearly connected to the prize question from 1746. In this work, he confronts for the first time the problem concerning the relation of the structure of matter to the structure of space, which turned out to be a key problem in the development of his transcendental idealism. The *Physical Monadology* shows clear traces of Euler's objections to the theory of monads from his 1746 essay, which can thus claim to have been an important influence on the young Kant.<sup>24</sup>

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<sup>22</sup> See Harnack, 1900, vol. i, p. 402–403.

<sup>23</sup> Kant was inspired to work on an Academy contest topic only once more in his later life, in the 1790s, namely, on the question of what progress metaphysics has made in Germany since Leibniz and Wolff.

<sup>24</sup> Kant also knew Euler's 1748 essay in support of the Newtonian theory of space and time; See 'On the first ground of the distinction of directions in space' ['Directions'], Ak, II, p. 378. And in his *Inaugural Dissertation* [ID] he quotes with approval Euler's *Letters to a German Princess* (1769), which contains many more objections to Wolffian teachings; See ID, Ak II, pp. 414, 419. Among Kant's other essays on Academy prize questions one also finds a brief essay on optimism, which doubled as announcement for his lectures, in which he defends Leibniz and

So, although there can be no question that Wolffianism was a strong presence in the intellectual milieu in which Kant developed, a presence that lasted throughout his formative years, he was also exposed to several competing views and to a multitude of explicit criticisms of Wolffian ideas. This is reflected in Kant's early publications. While it is appropriate to describe them as composed within a broadly Wolffian framework, the influence of the anti-Wolffian forces is clearly in evidence as well. Kant's own early contributions to the philosophical debate are invariably critical of Wolffian doctrines, or, at least, involve significant modifications of them, as we will see in the following section. This means that the description of Kant as a Leibniz-Wolffian by education is highly misleading and ultimately indefensible. Further sorting out the complex tangle of philosophical views in circulation during Kant's formative years, and identifying more precisely which of these views influenced Kant in exactly what ways are tasks for future research.

A further misleading feature of the popular story is that it misrepresents the role of Newton and Hume in Kant's philosophical development, and underestimates the fecundity of the Leibniz-Wolffian philosophy. Of course, it is indisputable that Newton and Hume did influence Kant in important ways. But, on my view, Newton's role in the genesis of Kant's transcendental philosophy was fairly limited, and Hume's influence did not get any real traction until fairly late, namely, the 1770s, i.e., after 'the year 69', of which Kant famously says that it 'gave [him] great light' (R 5037, Ak XVIII, p. 69), and after the publication of the *Inaugural Dissertation*, by which time many important elements of the critical philosophy were already in place, including one of the core tenets of transcendental idealism, namely, the distinction between noumena and phenomena. Kant's philosophical development was powered by a series of key problems that led him closer and closer to his critical philosophy, but the alleged conflict between Newtonian physics and Leibniz-Wolffian metaphysics was not among them. Most of the philosophical problems that Kant grappled with in his pre-critical writings before the *Inaugural Dissertation* and that determined the path that eventually led him to the critical

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in which he refers to the winning essay of the corresponding academy contest in 1755; See 'Attempt of a few observations concerning optimism' (1759), Ak II, pp. 27–35. All references to Kant's writings are to the Academy Edition, *Kants Gesammelte Schriften*, cited by volume and page number, except for references to the *Critique of Pure Reason*, which is cited according to the paginations of the first (A) and second (B) edition. All translations are my own.

philosophy were home-grown, so to speak, and internal to the Wolffian philosophy, even though some of them were brought to the attention of the scholarly community by anti-Wolffians (sometimes even Newtonians), such as the problems with the theory of monads that Euler had identified in his pre-contest essay from 1746. These Wolffian problems include questions that were commonly discussed in Wolffian circles—be it because they were considered especially important, or because they had been left unanswered in Wolff’s writings, or because Wolff’s answers were found wanting—as well as more serious difficulties with particular Wolffian doctrines or principles, many of which were brought to prominence through the attacks against Wolffianism that led to its decline. These problems concern, for example, the possibility of a real connection of substances in one world, the nature of space, the structure of matter, and the individuation conditions of substances. The problems of reconciling the new deterministic science with a metaphysical view of the world that asserts the existence of final causes or purposes, human freedom, immortal souls, and God, and of providing metaphysical foundations for the new science, also belong on this list. It did not take Newtonian science for Kant (or anybody else) to realize that modern physics might pose certain challenges for traditional metaphysics; these problems had been recognized as soon as the new science had begun to take root in the 16<sup>th</sup> century, and they occupy a central position in Leibniz’s thinking as well.<sup>25</sup>

Scepticism arguably is one of the formative problems that shaped Kant’s thinking. But the form of scepticism that is most relevant in this context is not the kind of scepticism that Kant associates with Hume, but scepticism about the reliability of (pure) reason in general that finds expression in the so-called antinomies, i.e., in the four pairs of contradictory, yet provable statements (given certain assumptions) that we are inevitably stuck with unless, as Kant discovers, we adopt the transcendental idealist standpoint of the *Critique of Pure Reason* and regard empirical objects no longer as things in themselves but as appearances, i.e., as mind-dependent entities whose properties depend on our cognitive make-up. As Kant puts it, ‘[t]he antinomy of pure reason—‘The world has a beginning-: it has no beginning etc. up to the fourth

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<sup>25</sup> For a contrasting reading of Kant’s development that gives much more weight to Newton’s influence, see Adickes, 1924–25, Friedman, 1992, esp. pp. 1–52, and Schönfeld, 2002.

[sic]: There is freedom in human beings, -set against this one: there is no freedom, but all is natural necessity'—this was what first woke me from the dogmatic slumber and drove me to the critique of reason itself, in order to end the scandal of the seeming contradiction of reason with itself' (Letter to Garve, 12 September, 1798, Ak XII, pp. 257–58).<sup>26</sup> The antinomies, in turn, grow straight out of the confrontation of the Wolffian philosophy with its opponents in Germany in the middle part of the eighteenth century. Crusius' teacher, Adolf Friedrich Hoffmann (1707–1741), is especially noteworthy in this context, since he arguably anticipated important aspects of the antinomies in his 'Elements of proof of those basic truths of all religion and morality that are meant to be denied and abolished through the contradictions contained in the Wolffian philosophy' (1736).<sup>27</sup> And if any further impetus had been needed for Kant to confront this kind of scepticism about reason in general, Pierre Bayle (1647–1706), especially the articles on 'Phyrro' and 'Zeno' in his *Historical and Critical Dictionary* (1697, translated by Gottsched into German in 1744), would have been a more likely source than Hume. Put briefly, for Kant Hume's scepticism is rather limited and principally concerns our knowledge of causal relations.<sup>28</sup> This kind of scepticism became relevant for Kant's philosophical development only after the publication of the *Inaugural Dissertation* in 1770, by which point Kant was already half-way home, so to speak. Hume's scepticism about knowledge of causal relations as a result of the problem of induction 'clicked' with Kant's own views only when he had recognized the importance of the problem of justifying the assumption that our *a priori* representations refer to objects, as dramatically described in his famous letter to Herz from 12 February, 1772 (Ak XI, pp. 129–134). This problem includes as a special case the problem of justifying the assumption that our *a priori* concept 'cause' refers to objects, which, in turn, is equivalent to Hume's problem of justifying the assumption that nature is uniform, a problem that we would need to solve in order to be able to say that we can have knowledge of causal relations. So, while Hume's problem, especially in its more general form, is a formative problem for Kant, the function of Hume's analysis might best be understood as emphasizing the importance of the

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<sup>26</sup> For more discussion of the important role of the antinomies in Kant's development, See Erdmann, 1884.

<sup>27</sup> See Heimsoeth, 1926; Wundt, 1992, pp. 246–48.

<sup>28</sup> See *Prolegomena*, Ak IV, 257: 'Hume based his investigation mainly on a single, but important concept of metaphysics, namely, the concept of the connection between cause and effect...'

problem to Kant rather than first opening his eyes to it.<sup>29</sup>

As I see it, Newton's influence on Kant is twofold. First, Kant was impressed by Newtonian science, and he incorporated many aspects of Newtonian physics into his own physical theory of the sensible world, although even here the situation is more complicated than the prevalent 'slam dunk for Newtonianism' reading lets on. Second, Kant drew inspiration from the Newtonians for the solution or alleviation of some of the problems that he had encountered in his Wolffian studies. For example, by conceiving of the forces of substances according to the Newtonian model as acting on other substances, rather than conceiving of them according to the Leibniz-Wolffian model (as understood by Kant) as acting exclusively internally, Kant was able to provide an improved explanation of the possibility of a real connection of substances in one world (and of 'refuting' idealism—or so he thought initially, at least for a short while).<sup>30</sup> But Newton was not the only early modern thinker to have played such a suggestive, as opposed to formative, role in Kant's thinking. Others who deserve to be mentioned in this context are Thomas Hobbes (1588–1679), René Descartes (1586–1650), John Locke (1632–1704), the Earl of Shaftesbury (1671–1713), Arthur Collier (1680–1732) George Berkeley (1685–1753), Francis Hutcheson (1694–1746), Jean-Jacques Rousseau (1712–1778), Johann Heinrich Lambert (1728–1777), Johannes Nikolaus Tetens (1736–1807), and, surprising as this may sound, Leibniz himself. Wundt uses the apt expression 'Leibniz Renaissance' (Wundt, 1992, p. 317) to describe the (re-)discovery of the 'real' (or, at least, 'more real') Leibniz in the second half of the eighteenth century who, due to the somewhat limited accessibility of his writings and Wolff's absolute reign, had heretofore been largely unknown. But now the time was ripe for Leibniz's ideas, some of which for the first time reached a wider audience through the publication of the multi-volume editions of his writings by Rudolf Erich Raspe (1765), which included, most importantly, the hitherto unpublished *New Essays* (which came out in German in 1768), and by Louis Dutens (1768). Also noteworthy in this context is Huth's revised re-edition in 1740 of Heinrich Köhler's selections of writings by Leibniz in German translation (originally published in 1720), including the *Monadology* and the Leibniz-

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<sup>29</sup> For a more detailed analysis of Hume's influence, ascribing to it a more central role and dating it somewhat earlier, See Paulsen, 1876, pp. 125–45; and Kreimendahl, 1990. Also see Waxman, 2005.

<sup>30</sup> See ND, Ak I, esp. pp. 411f.

Clarke correspondence (with a preface by Wolff). To be sure, a number of important writings by Leibniz already had appeared previously. Apart from the selections by Köhler just mentioned, these include the *Theodicy* (1711), Leibniz's only book that was published during his lifetime, and several essays that he had submitted to various academic journals such as the *Acta Eruditorum* or the *Journal des Savants*, including 'Meditations on Cognition, Truth, and Ideas' (1684), the first part of the 'Specimen Dynamicum' (1695), the 'New system of the Nature and Communication of Substances' (1695), which was known in larger circles due to Bayle's discussion of it in note 'H' to the article 'Rorarius' in his *Dictionary*, 'On Nature Itself' (1698), and the 'Principles of Nature and Grace' (1718). Moreover, another collection of Leibniz's writings, by Pierre Des Maizeaux, had come out in 1720, which, among other things, contained several of the previously published essays, the Leibniz-Clarke correspondence, a number of letters (e.g., to Remond), and some reflections on Lock's *Essay*. But during the heyday of Wolffianism the in principle availability of these resources does not seem to have had much of an impact on the scholarly debate in general. This changed, starting in the late 1760s. In contrast to Wolff's influence, which was rapidly declining even further, Leibniz's influence ascended to unprecedented heights. Even the Prussian Academy sensed the changing of the tides. The only instruction for the essay contest in 1768 seems to have been 'Eulogy on Leibniz', which, not entirely surprisingly, was won by an essay praising Leibniz. It is not entirely clear when Kant perused the newly published Leibniz material, but it can be argued that the *New Essays* were partially responsible for the introduction of the all-important distinction between the sensible and intelligible world that he first articulated in the *Inaugural Dissertation*.<sup>31</sup>

So, all in all, the Leibniz-Wolffian philosophy can be seen to play a much more central and active role in Kant's philosophical development than the popular story suggests, while Hume and Newton play a different and, especially in Newton's case, more limited role. In the following section, we will look at some of the main problems with the Wolffian philosophy that proved instrumental in steering Kant toward his critical philosophy. A more detailed, comprehensive defence of the sketched account of Kant's philosophical development will have

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<sup>31</sup> See Windelband, 1877, pp. 234–37; Vaihinger, 1881, e.g., p. 48. Further aspects of the influence of the *New Essays* on Kant are discussed in Tonelli, 1974. Also see Tonelli, 1963.

to wait for another occasion.

Last but not least, the popular story's ascription to Kant of a wholesale rejection of the Leibniz-Wolffian philosophy in his critical period is cause for concern. A first problem is that it reinforces the widespread but false assumption that the transition from Kant's pre-critical to his critical philosophy involves a radical break, while in truth it is fairly smooth with much common ground on both sides. More importantly for our present concerns, by indiscriminately lumping together Leibniz, Wolff, and the Wolffians, the popular story suggests that the mature Kant is equally opposed to all of them, which, however, can be contested. Although Kant rejects many central claims of the Wolffian philosophy—some of which he also attributes to Leibniz—there are also several passages in which he speaks in highly laudatory terms of Leibniz, going so far as to claim that the *Critique of Pure Reason* is 'the true apology for Leibniz' ('On a Discovery...' ['Discovery'], Ak VIII, p. 250). In these passages, Kant defends Leibniz against his self-appointed disciples, in this case Eberhard, who had claimed that the *Critique of Pure Reason* contains, basically, nothing that Leibniz had not already said before, but who, on Kant's view, misunderstood both the *Critique* and Leibniz.<sup>32</sup> Kant maintains that a correct reading of Leibniz reveals that his own and Leibniz's views are in fact very close, albeit not in the ways suggested by a confused Eberhard, and that with regard to many issues Leibniz had intended to say what Kant himself then made explicit in his critical philosophy. Specifically, Kant proposes to understand Leibniz's emphasis on the importance of the principle of sufficient reason as an (implicit) recognition of the need for a special principle of justification for synthetic judgments, in addition to the principle of contradiction, which can only 'ground' analytic judgments.<sup>33</sup> Moreover, Kant argues that Leibniz should not be understood to hold that matter is literally composed of monads, but only that it is grounded in an intelligible unknowable substratum, which we are naturally compelled to conceive of as composed of simple parts.<sup>34</sup> Accordingly, Leibniz's proposal to treat space as ideal must also not be misunderstood to suggest a distinction between the ideal mathematical space of the geometer and the physical space of the actual world, which supposedly corresponds to the order of relations between things in

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<sup>32</sup> See 'Discovery', Ak VIII, p. 247.

<sup>33</sup> See 'Discovery', Ak VIII, p. 248; Draft notes for 'Discovery', Ak XX, pp. 363–64.

<sup>34</sup> See 'Discovery', Ak VIII, p. 203.

themselves; rather, Leibniz should be read as proposing that space is the order of relations between appearances in the phenomenal world.<sup>35</sup> Finally, what Leibniz dimly saw in his doctrine of the pre-established harmony between mind and body, Kant speculates, is the harmony between our two main faculties of knowledge, i.e., sensibility and the understanding, whose mutual correspondence, indeed, cannot be explained otherwise than by ascribing it to the purposeful arrangement of a divine designer.<sup>36</sup>

These passages are puzzling, precisely because they stand in uncomfortable tension with the more familiar, usually harshly critical remarks about the Leibniz-Wolffian philosophy that dominate Kant's discussion in the *Critique of Pure Reason*. I want to submit that in these pro-Leibniz passages Kant is neither betraying an exceptionally bad memory with respect to his own earlier criticisms, nor is he joking or speaking ironically, nor is he simply trying to score some cheap shots against Eberhard. Rather, Kant ought to be taken at his word: by the late 80s—possibly reinforced by a closer study of Leibniz's now available writings, which, in turn, might have been reinforced by Eberhard's accusations—he has come to *believe* that with respect to several central issues Leibniz's philosophy, if properly understood, is very close to his own, if properly understood.<sup>37</sup> This is not to say that Kant came to think that there are no significant differences between himself and Leibniz, or that none of his earlier criticisms of the Leibniz-Wolffian philosophy affect Leibniz. But it is to say that he recognizes that at least some crucial criticisms apply only to Wolffian doctrines.

In addition to erroneously ascribing to Kant an indiscriminate rejection of all things Leibniz-Wolffian, the popular story also misleads with its suggestion that Kant's reasons for this rejection are directly connected to his alleged general onslaught on traditional metaphysics and its aspiration to *a priori* synthetic cognitions of supersensible matters. It is, of course, correct that part of the main result of the *Critique of Pure Reason* is that such cognitions are impossible—a result that is not to be found anywhere in Leibniz's writings and that represents

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<sup>35</sup> See *Metaphysical Foundations of Natural Science* [MFN], Ak IV, pp. 507–8; 'Discovery', Ak XIII, pp. 248–49.

<sup>36</sup> See Letter to Marcus Herz, 26 May, 1789, Ak XI, p. 52; 'Discovery', Ak VIII, pp. 249–50.

<sup>37</sup> In fact, I even think that this assessment is, by and large, correct; but this is bound to be a controversial claim whose defence will have to wait until another occasion.



one of the respects in which Kant goes (far) beyond Leibniz, which, of course, he undisputedly and clearly does in several ways. But it is equally important to see that Kant shares the aspiration to cognize the supersensible, and that much of his subsequent work, in ethics as well as aesthetics, is devoted to the project of finding a different way of achieving precisely that. While theoretical cognition of the supersensible is not possible for us, we can cognize it ‘in a practical respect’, namely, (to make a long story very short) based on the factum of the moral law, which allows us to cognize freedom, and the demand of the highest good, i.e., of a state of the world in which morality is realized and in which happiness is in exact proportion to morality, which allows us to cognize God and the immortality of the soul.<sup>38</sup> Through this methodological correction to Leibniz-Wolff, Kant opens up a different path to a similar destination, so to speak, namely, the cognition of the supersensible that represents the ‘final end’ of metaphysics (‘Progress’, Ak, XX, p. 295).<sup>39</sup> As Kant remarkably puts it in a letter:

‘I shall be permitted to state that my efforts, which so far have been directed at critique, are by no means intended to work against the Leibniz-Wolffian philosophy, as it might have appeared (for I have been finding it neglected for quite some time now). Rather they are intended to lead this philosophy through a roundabout route onto the same track of a schooled procedure, which these great men, it seems to me, judged superfluous, and by means of it [the procedure] to the very same end, but only through the combination of the theoretical philosophy with the practical—an intention that will become clearer if I live long enough to present metaphysics in the form of a coherent system, as I am planning to do.’  
(Letter to Kästner, 5 August, 1790, Ak XI, p. 186)

### 3. Leibnizian doctrines in Kant’s philosophy

In this section, I will collect some of the main Leibnizian doctrines that play a significant role in Kant’s philosophy. This collection makes no claim to be exhaustive; and I shall not attempt to identify Kant’s sources for these doctrines, or sort out which philosophers Kant

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<sup>38</sup> See ‘On Progress in Metaphysics...’ [‘Progress’], Ak XX, p. 295; *Critique of Practical Reason*, Ak V, pp. 47, 48, 56, 122–34, 141ff.; *Critique of Judgment*, Ak VI, pp. 175f., 195f.

<sup>39</sup> See ‘Progress’, Ak XX, p. 260.

believes himself to be talking about, or determine whether these doctrines are actually to be found in the writings of the philosophers that Kant seems to take himself to be addressing. Having already noted the importance of these tasks within a more ambitious, comprehensive study of the relation between Kant and Leibniz, for our present purposes I will fall back on the blanket term ‘the Leibnizians’, which should be understood as intentionally vague between Leibniz, Wolff, or some later Wolffians or Leibnizians. I will focus on the most important Leibnizian doctrines that Kant explicitly objects to in his critical period and that played a part in leading him to his transcendental philosophy. The Leibnizian doctrines to be discussed (as understood by Kant) will be stated in italics at the beginning of the respective sections devoted to them; the order in which the doctrines are listed roughly corresponds to the order in which they took on importance in Kant’s philosophical development.

1. *The monadology, part I—the conception of substance: Substances are completely self-sufficient and simple. (a) The complete self-sufficiency of substances means that all of their essential properties, including, in particular, their causal powers and forces, are intrinsic. (b) Since we know no other intrinsic properties apart from our perceptions and other mental powers, we must conclude that substances are monads, i.e., souls.*<sup>40</sup>

Kant focuses his critique on (a). (If (a) is false, it also no longer follows that substances are monads.) Kant’s main objection consists in giving a counterexample to (a). The essential properties of substances in space and time include forces of attraction and repulsion. But these forces are extrinsic properties. Hence, (a) is false.<sup>41</sup> Kant’s view that all moving forces of substances, in particular, the forces of repulsion and attraction, are to be understood as extrinsic properties, goes at least as far back as 1755.<sup>42</sup> Pinpointing exactly when he decided that these forces are part of the essence of a substance would require a more detailed discussion than I can give here. Suffice it to say that one finds a number of considerations in Kant’s writings of the 1750s that bear witness to his growing doubt about (a), including worries

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<sup>40</sup> See B321–22/A265–66; ‘Progress’, Ak XX, pp. 284–85.

<sup>41</sup> See B321/A266; B330/A274; B339–42/A282–86; ‘Progress’, Ak XX, p. 283. In fact, Kant goes even further and asserts that substances in space ‘consist entirely of relations’ (B341/A285; also see B66–67). It takes some work to figure out in detail what exactly this is supposed to mean, which is why we will set it aside for now.

<sup>42</sup> See *Universal History and Theory of the Heavens* [UH], Ak I, pp. 234, 250; ND, Ak I, pp. 410; MP, Ak I, pp. 481f. See already *True Estimation of Living Forces* [TE], Ak, I, p. 19f.

about the principle of the identity of indiscernibles, to be discussed below.

2. *The pre-established harmony: The substances that make up one world are connected through a pre-ordained harmonious coordination of their perceptual states.*<sup>43</sup>

In his critical works Kant does not bother to explicitly argue against the pre-established harmony and rejects it due to its implausibility, calling it ‘the most miraculous figment that philosophy has ever come up with’ (‘Progress’, Ak XX, p. 284). Kant’s main dissatisfaction, more explicitly articulated in his pre-critical works, seems to be that the pre-established harmony only yields ideal, as opposed to real, connections between substances, which is not robust enough for their collection to make up a genuine whole that can be counted as a world. In order to form a real whole, substances need to be really connected, namely, through physical dynamical interactions.<sup>44</sup> For a while Kant even seems to have believed himself in the possession of an argument to the effect that the pre-established harmony is impossible. The basic premise of this argument is the claim that all moving forces, including the ones moving the mind, are essentially extrinsic in the sense that any change of any entity E requires E to be acted upon by an entity wholly distinct from E. This rules out the self-propelled evolution of the perceptual states of causally isolated substances that the pre-established harmony requires.<sup>45</sup> But by 1763, Kant has reversed himself on this point, stating explicitly that while ‘the state of matter can never be changed except by an external cause, the state of a spirit can also be changed through an inner cause’ (‘Attempt to introduce negative magnitudes into metaphysics’ [NM], Ak I, p. 192).

3. *The Principle of the Identity of Indiscernibles (PII): Individuals a and b are identical if, and only if, a and b are intrinsically indiscernible, i.e., if, and only if, a and b are indistinguishable as far as their intrinsic properties are concerned.*

Kant rejects PII by appeal to a thought experiment that represents a counterexample to PII. Imagine two intrinsically indiscernible individuals, e.g., two qualitatively identical drops of

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<sup>43</sup> See B330–31/A274–75.

<sup>44</sup> See ND, Ak, p. 413; ID, Ak II, p. 409; ‘Progress’, Ak XX, pp. 283–84. Also see TE, Ak I, p. 22; UH, Ak I, p. 332.

<sup>45</sup> See ND, IV, pp. 410–13.

water, that are located at different spatial positions. A situation like this is perfectly possible. Hence, PII is false.<sup>46</sup> Kant's dissatisfaction with PII can be traced as far back as 1755.<sup>47</sup>

4. *The monadology, part II—the composition of matter: (a) Matter is composed of monads, i.e., souls. Or, more weakly, (b) matter is composed of simple elements.*

Kant focuses his criticism on (b). (If (b) is false, (a) is false as well, assuming that souls are simple.) Before taking a look at this criticism, it is interesting to note that at least the pre-critical Kant does not seem to regard (a) as obviously more problematic than (b). He explicitly points out at several places that the fact that the soul is not matter does not imply that an appropriate aggregate of souls cannot be matter either.<sup>48</sup> Turning to Kant's objection to (b), in the critical period (b) appears as the thesis of the second antinomy in the *Critique of Pure Reason*.<sup>49</sup> Kant shows that the thesis as well as its anti-thesis (which implies that matter is not composed of simple elements and [is supposed to be understood as implying] that matter contains infinitely many parts) are false on the grounds that both are based on the same false transcendental realist presupposition, namely, that the magnitude of the multiplicity of parts in a given chunk of matter is determinate, in particular, that it is either finite or infinite. The presupposition is false, because material bodies are not things in themselves but appearances, which means that there are no prior parts that compose them. Although it is legitimate to say that matter is infinitely divisible, one cannot say that it is composed of an infinite number of parts. Appearances only have as many parts as we 'give' them by actually dividing them. In Kant's words, '[t]he multitude of parts in a given appearance is in itself neither finite nor infinite, since appearance is nothing that exists in itself, and since the parts are first given through and in the regress of the decomposing synthesis, a regress that is never entirely given, neither as finite nor as infinite' (B533/A505).<sup>50</sup>

The problem concerning the proper conception of the composition of matter is one of

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<sup>46</sup> See B319–20/A263–64; B327–28/A271–72; B338/A282; 'Progress', Ak XX, p.282.

<sup>47</sup> See ND Ak II, pp. 409–10.

<sup>48</sup> See 'Inquiry into the Distinctness...' (1764) ['Distinctness'], Ak, II, p. 293; *Dreams of a Spirit Seer* (1766), Ak II, pp. 322, 328.

<sup>49</sup> See B462/A434.

<sup>50</sup> See B541–43/A513–15; A523–27/B551–56; Prolegomena, Ak IV, p. 342; MFN, Ak IV, p. 506; 'Progress', Ak XX, p. 289.

the most fruitful problems that Kant engaged with throughout his philosophical development, and one with respect to which he underwent several changes of mind. The form in which the problem exerted its greatest fascination on Kant is in the cast of an alleged clash of Wolffian metaphysics with geometry, which he addresses for the first time in the *Physical Monadology* (and which is reminiscent of Euler). At that time, Kant still believes (b) to be true—indeed, he provides a proof for it whose main idea is recycled later on in the proof of the thesis of the second antinomy.<sup>51</sup> Kant's purpose in the *Physical Monadology* is to show that, appearances to the contrary notwithstanding, (b) does not conflict with the theorem of geometry that space is infinitely divisible—a conflict that is also recycled later on, namely, in the proof of the anti-thesis of the second antinomy. The conflict is said to arise because (b) implies that matter is not infinitely divisible, which, in turn, implies that space is not infinitely divisible either. Kant agrees with the first inference, but not the second. The latter inference depends on a certain view about how matter 'fills' space, namely, that for every region of space that is filled with matter there is a one-to-one correspondence between the parts of space and the elements of matter. Kant rejects the inference by proposing an alternative view about how matter fills space. The elements of matter fill space, not by being coordinated with the parts of space, but through their forces of repulsion by means of which other elements are prevented from penetrating them. So, while it is true that the infinite divisibility of space implies that the spheres of activity of the simple elements of matter can be infinitely divided, this does not mean that the simple elements themselves are further divisible. This allows Kant to assert both that matter is composed of (a finite number of) simple elements, and that space is infinitely divisible.<sup>52</sup>

5. *The principle of the non-opposition of realities (NO): Realities do not stand in opposition to each other, i.e., if one combines them in one subject their effects do not cancel each other.*

Kant's argument against NO is, again, an argument by counterexample. Imagine two moving forces that have the same non-zero strength but point in opposite directions. Since these forces have non-zero strength they must be counted as realities, but if they are combined

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<sup>51</sup> See PM, Ak I, p. 477.

<sup>52</sup> See PM, Ak I, pp. 475–83. Also see 'Notes on Kästner', Ak XX, pp. 421–22; 'Distinctness', Ak II, p. 287; MFN, Ak IV, p. 504.

in one subject, their effects cancel each other. Hence, NO is false.<sup>53</sup> Kant talks about this kind of ‘directional’ opposition, as one might call it, already in 1763 in his essay on negative magnitudes.<sup>54</sup>

In order to see the wider relevance of Kant’s objection to NO it is worth spelling out NO’s most important corollary: *If there is an opposition of properties, it is an opposition between a reality and its negation.* Kant’s refutation of NO, and, with it, the corollary, has repercussions for a number of other Leibnizian doctrines that depend on the corollary, most prominently, the claim that evil is a mere privation or absence of good. If the corollary is false, the property of being evil might itself be a reality and not merely a privation, which, in turn, would have a number of interesting implications, e.g., it would make it even more difficult to devise a satisfactory theodicy.<sup>55</sup>

6. *The relationalist theory of space and time: (a) Substances are logically and ontologically prior to space and time. Space is an order in the community of substances and time is an order in the states of substances. (b) Our representations of space and time are empirical, confused concepts. The confusion explains why space and time are often regarded as being independent from substances.*<sup>56</sup>

In the critical period, Kant holds that, contrary to (a), space and time are logically prior to objects. While one cannot imagine that there is no space and time, one can imagine space and time without any objects in them.<sup>57</sup> His main complaint about (b) is that it renders the *a priori* synthetic nature of the mathematical sciences unintelligible. The Leibnizians are caught in a dilemma. They can either choose to explain the applicability of the mathematical sciences to the world, i.e., their synthetic nature, by insisting that our representations of space and time, due to their empirical origin and despite their confusedness, properly capture the spatiotemporal structure of the physical world. But this leaves them without an explanation of the *a priori* character of the mathematical sciences. Or they can choose to explain the latter by

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<sup>53</sup> See B320–21/A264–65; B328–29/A272–73.

<sup>54</sup> See NM, AK II, p. 171f. Directional properties also play a key role in Kant’s argument against the Leibnizian theory of space in his 1768 essay on the distinction of directions in space, on which more below.

<sup>55</sup> See B329/A273; ‘Progress’, Ak XX, pp. 282–83.

<sup>56</sup> See B323–24/A267–68; B331–32/A275–76.

<sup>57</sup> See B38–39/A24; B46/A31.

arguing that although we might initially acquire the representations of space and time on which the mathematical sciences are based only on the occasion of experience, these representations are nevertheless *a priori* and represent an ideal space and time that is distinct from the real space and time of the physical world. But now they are left without an explanation of the applicability of the mathematical sciences to the physical world.<sup>58</sup> According to Kant, the only view of the nature and origin of our representations of space and time that allows us to account for the *a priori* synthetic character of the mathematical sciences is his own, according to which our representations of space and time are *a priori* intuitions that express the forms of our sensibility. Their *a priori* nature explains the *a priori* character of the mathematical sciences, and the fact that they express the forms of our sensibility explains their applicability to the physical world, because, as Kant shows in the *Transcendental Aesthetic* of the *Critique of Pure Reason*, all empirical objects, i.e., all objects of experience, necessarily conform to the forms of our sensibility since only through sensibility can objects be ‘given to us’ in the first place.<sup>59</sup>

For most of the pre-critical period Kant subscribes to a relationalist theory of space (and does not say much explicitly about the nature of time). He identifies space with the totality of spatial relations between substances, which, in turn, are determined by their dynamic interactions.<sup>60</sup> Kant’s conception of the nature of space undergoes a radical change in 1768 in the essay ‘On the first ground of the distinction of directions in space’, in which Kant argues against Leibnizian relationalism and for a version of absolutism about space based on the phenomenon of incongruent counterparts, i.e., objects that are similar in shape and equal in size but that cannot be brought into coincidence by rigid motions, e.g., a left and a right hand. Simplifying somewhat, he argues that the handedness of an object cannot depend solely on its spatial relations to other objects or the spatial relations among its parts by appeal to a thought experiment. Imagine the first object that was created to have been a human hand. Surely, this hand must have been either a left or a right hand. But, by stipulation, there was no other object around yet with respect to which the hand’s handedness could have been determined, and the

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<sup>58</sup> See B56–57/A39–40.

<sup>59</sup> See B41–42; B56/A39; B65–66/A48; Prolegomena, Ak IV, pp. 280–94.

<sup>60</sup> See TE, Ak I, p. 22; UH, Ak I, p. 308; ND, Ak I, p. 414; PM, Ak I, p. 481; ‘The Only Possible Ground...’, Ak II, p. 71.

relations among the parts of a left hand are exactly the same as the relations among the parts of a right hand. Thus, the hand's handedness had to be determined by something else, and that something else is its relation to absolute space, which, accordingly, must be assumed to exist.<sup>61</sup> Strictly speaking, what this argument establishes (assuming that it is sound, which can be debated) is not that absolute space exists, but that space is logically prior to, and independent of bodies. This is the part of the conclusion of the argument that Kant did not depart from anymore for the rest of his life. But he quickly departed from absolutism about space, namely, only two years later, in his *Inaugural Dissertation*, in which he presented an idealist theory of space and time, which already incorporates many features of his later critical theory.

*7. Sensibility and the understanding: We have only one basic faculty of representation. The only difference between sensibility and the understanding concerns the degree of confusedness of their respective representations. Sensible representations are confused concepts.*<sup>62</sup>

The criticism of the Leibnizian philosophy that occurs most frequently in Kant's critical writings is that this Leibnizian conception of the difference between our sensible and intellectual faculty of cognition and, accordingly, between sensible and intellectual representations, is deeply mistaken. The Leibnizians conceive of the difference as a merely 'logical' one, as Kant puts it, while in truth it is a difference in *kind*. Our faculty of cognition comprises two distinct stems, an active one, the understanding, and a passive one, sensibility, each of which has its distinctive important contribution to make for cognition to be possible for us.<sup>63</sup> For ease of communication, I will call this Leibnizian mistake the 'Misconception'. In Kant's judgment, the Misconception is the most fundamental mistake of the Leibnizians, because most of their other mistakes depend on it in some way. At many places where Kant brings up the Misconception, he uses it to develop an error theory, as one might put it, to explain how the Leibnizians, who, after all, are smart people, could have endorsed so many false doctrines. Incidentally, this is the less flattering part of the 'apology' of Leibniz that Kant offers with the

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<sup>61</sup> See 'Directions', Ak II, pp. 381–84.

<sup>62</sup> See B332/A276.

<sup>63</sup> See B29/A15; B74–76/A50–52; *Anthropology*, Ak VIII, pp. 140–41.



*Critique of Pure Reason*. I will confine myself to presenting the most important error here, one whose recognition is also the next crucial step in Kant's philosophical development as we have so far traced it.

The most portentous mistake of the Leibnizians that follows from the Misconception is that they confuse noumena or intelligible objects with phenomena or sensible objects. That is, they fail to realize that the objects that our sensible representations present to us are distinct (type-type and token-token) from the objects that we can (fully) represent in purely conceptual terms. Kant calls this mistake a 'transcendental amphiboly', which he explains as a 'confusion of the pure object of the understanding with the appearance' (B326/A270). Kant introduces the distinction between sensible and intelligible objects in his *Inaugural Dissertation* where he also articulates the Misconception objection for the first time.<sup>64</sup> In the *Dissertation*, Kant still believes that we can acquire knowledge about noumena, namely, in terms of pure concepts through the use of our intellectual faculty of cognition (which is why these objects are called 'noumena' or 'intelligible objects'). One of the main changes in his thinking that takes place in the (almost) silent decade between the publication of the *Dissertation* and the publication of the *Critique* is that this belief is given up. Things in themselves, which are the heirs of the noumena from the *Dissertation*, so to speak, are not only beyond the reach of our sensible knowledge, they are beyond the reach of our knowledge in general. But the complaint about the Leibnizian conception of sensibility and its relation to the understanding remains:

'The Leibniz-Wolffian philosophy, thus, gave a completely illegitimate perspective to all investigations concerning the nature and origin of our cognitions, in that it considered the difference between sensibility and the intellectual as merely logical, even though it is obviously transcendental and does not merely concern the form of distinctness or indistinctness [of representations] but their origin and content, such that by means of the former we do not merely cognize the nature of things in themselves indistinctly but rather not at all, and as soon as we take away our subjective nature, the represented object with the properties that sensible intuition gave to it, is nowhere to be found, nor can be found,

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<sup>64</sup> See ID, Ak II, p. 395.

insofar as this subjective nature precisely determines it as appearance.’ (B61–62/A43–44)<sup>65</sup>

The Leibnizian confusion of phenomena with noumena lies at the heart of what Kant calls ‘the amphiboly of the concepts of reflection’, which is the key ingredient in his error theory for a number of central Leibnizian doctrines.<sup>66</sup> The details are a bit complicated and do not have to concern us here. The bottom line of Kant’s diagnosis is that because of their failure to realize that phenomena and noumena are distinct kinds of entities and their privileging of our intellectual faculty of cognition in their theory of the mind, the Leibnizians were led to believe that certain principles that can be deduced if one considers objects in purely conceptual terms are universally valid, even though, in truth, these principles are valid only for noumena, i.e., for things in themselves as naturally conceived by us according to pure concepts (which, *nota bene*, does not mean that they are provably valid for things in themselves). These principles include PII, NO, the thesis that the essence of a substance comprises only intrinsic properties (and, with it, the pre-established harmony), and the central tenet of the relationalist theory of space and time that substances are logically and ontologically prior to space and time. And although Kant does not explicitly discuss the thesis of the composition of matter by simple elements in the ‘amphiboly’ chapter of the *Critique*, the same kind of error theory also applies in this case, as Kant himself indicates at several other places. If objects are only considered in terms of pure concepts, one can indeed prove, Kant believes, that there must be simple elements in the world in order for there to be anything at all. But the thesis is not valid for sensible objects or appearances, which exist in space and, thus, inherit space’s structural features, including its divisibility *in infinitum* and the priority of the whole compared to its parts.<sup>67</sup> (And, as we have seen, the thesis is also not provably valid for things in themselves. If it were assumed (with the Leibnizians and the Kant of the *Dissertation*) that how we conceive of things in themselves in terms of pure concepts is actually how they are, it could be concluded that the Leibnizian principles in question are valid for things in themselves. But the critical Kant does no longer share this assumption.) In sum, the problems with all of the six Leibnizian doctrines that we considered above can be traced back to the Leibnizian misconception of the relation between

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<sup>65</sup> See Prolegomena, Ak IV, p. 290; Progress, Ak, XX, p. 278.

<sup>66</sup> See B316–46/A260–89.

<sup>67</sup> See MFN, Ak IV, pp. 507–8; ‘Discovery’ Ak VIII, pp. 201, 209–210.

sensibility and the understanding and the concomitant failure to properly distinguish between things in themselves and appearances. Put positively, the problems can be solved by adopting the standpoint of transcendental idealism, whose central tenet is that empirical objects are not things in themselves but appearances, which illuminates how the listed doctrines and Kant's objections to them contributed to his gradual ascension to this standpoint.

8. *Truth and its consequences: A judgment (proposition) is true if, and only if, the predicate concept is contained in the subject concept. This implies: (a) All true judgments are analytic. (b) There is a reason for every truth. And, hence, (c) every event has a cause.*

Kant agrees that the containment of the predicate concept in the subject concept is necessary and sufficient for the truth of analytic judgments, which, accordingly, can be proved *a priori* through conceptual analysis by application of the principle of contradiction alone. But in his critical period, Kant disagrees with (a), the claim that all true judgments are analytic. For some true judgments, namely, the synthetic ones, it is not the case that the predicate concept is contained in subject concept. Accordingly, the principle of contradiction is not a sufficient basis for the justification of synthetic judgments. And while it is fairly obvious that *a posteriori* synthetic judgments rely on experience as their justifying ground, the question of whether and how *a priori* synthetic judgments can be justified, especially the kind of judgments that cover the pages of traditional metaphysical text books, requires a much deeper investigation, an investigation that occupied Kant during his silent decade and is a central concern of the *Critique of Pure Reason*. Kant repeatedly stresses that the failure to draw the distinction between analytic and synthetic judgments, and, accordingly, the failure to raise the question of how synthetic judgments *a priori* are possible, is what prevented previous philosophers, in particular, the Leibniz-Wolffians, from appreciating the importance of subjecting pure reason to a critique.<sup>68</sup>

In contrast to his rejection of (a), Kant endorses (b), the claim that every true judgment has a ground for its truth, which he regards as a general logical principle.<sup>69</sup> But he insists on the important difference between this logical version of the principle of sufficient reason (PSR) and

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<sup>68</sup> See B13; 'Progress', Ak XX, p. 265.

<sup>69</sup> See Logic, Ak, pp. 51–53.

the causal version expressed in (c). The thesis that every event has a cause is a substantive, synthetic *a priori* principle about objects and the nomological structure of the world. The causal version of PSR does not follow from (b) (or the principle of contradiction, as some Wolffians had tried to establish) and stands in dire need of justification, as also shown by Hume.<sup>70</sup>

It is not entirely clear when exactly Kant discovered the existence of true synthetic judgments (and recognized them as such), and when he succeeded for the first time in clearly formulating the analytic-synthetic distinction. He had approached relevant territory already in his 1764 prize essay, but the first explicit discussion in his published works occurs in the *Critique of Pure Reason*. His concerns about the justification for the causal version of PSR and his puzzlement about the difference between the relation of a cause to its effect and the relation of a subject to the properties that can be predicated of it in an analytic judgment go back at least as far as 1763.<sup>71</sup>

There are many more Leibnizian themes and doctrines that left their mark on Kant's pre-critical and critical philosophy, both as (eventual) targets for criticism and as sources of inspiration. To name only a few examples, the further targets include the Leibnizian proofs for the existence of God, Leibnizian compatibilism about freedom and determinism, and Leibniz's theodicy. Among the sources of inspiration are Leibniz's theory of innate ideas, which bears striking resemblance to Kant's critical account of the original acquisition of our representations of space and time and the pure concepts of the understanding, and Leibniz's doctrine of the harmony between the order of efficient causes and the order of final causes as well as between the kingdom of nature and the kingdom of grace. This doctrine is the constant background to Kant's (critical) moral philosophy and his discussion in the *Critique of Judgment*. Without question, Kant's engagement with the Leibnizian philosophy was deep and lasting, as was the influence that the Leibnizians, and especially Leibniz, exerted on him.

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<sup>70</sup> See Prolegomena, IV, pp. 270, 271, 368; 'Discovery', Ak VIII, pp. 193ff., pp. 239ff.; Letter to Reinhold, 12 May, 1789, AA XI, pp. 36–37; 'Progress', Ak XX, 277–78.

<sup>71</sup> See NM, Ak II, p. 202. Also see ND, I, 391–98.

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