CHRISTIAN WOLFF

on ARS INVENIENDI

and PERFECTION
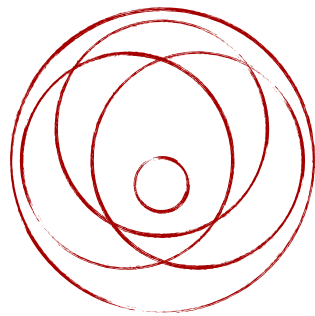
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CONTENT

INTRODUCTION — CONSENSUS IN VARIETATE; PLURIUM IN UNO.
On perfection in creations

Descartes, Leibniz, Bacon, Spinoza, Locke and Hume have in common that they are all seventeenth and early eighteenth century thinkers that sought to discover a rational system to formulate an order of certain knowledge about the world. On the basis of evident principles, like the *cogito,* a paradigmatically rigorous and systematic account of philosophy is constructed by way of deductive reasoning. In order for these systems to sustain the changes of the world, inherent to the passing of time, enough space and openness for genuine innovation has to be maintained. To discover truth, rigorous argumentation has to be formulated on the basis of unwavering principles, without compromising on certainty along the way. At the same time, new discoveries should be able to alter or add to what is established in this system of certainty. The task these thinkers committed themselves to, is to find a balance and theoretical consensus in the variety of propositions describing the world, by searching methodically to maintain both certainty and flexibility. The present thesis addresses the question of how Christian Wolff (1679-1754) implemented the possibility of innovation in his system of knowledge and how this possibility for innovation is related in the system to the possibility to realise perfection in knowledge and being in actuality. It is my intention to demonstrate that we can work with Wolff's philosophy in contemporary discussions of art and science, even though his philosophy has been developed in a profoundly different philosophical context.

For a period of circa fifty years, stretching from the late seventeenth century towards the first half of the eighteenth century, Wolff was *the* teacher of philosophy in Germany. It was through his schoolbooks that Immanuel Kant (1724-1804) became acquainted with philosophy.[1] Wolff, who was the pupil of Gottfried Wilhelm Leibniz (1646-1716), sought to synthesise the ideas of Leibniz and René Descartes (1596-1650) with those of scholars that came before, such as Thomas Aquinas (1225-1274), Johannes Duns Scotus (1266-1308) and William of Ockham (1285-1347). Especially Francisco Suárez (1558-1612) influenced Wolff's thinking. Even Baruch Spinoza's (1633-1677) thinking is detectable in Wolff's philosophy, even though he denounced it.[2] Wolff intended to unify knowledge of the variety of beings in the world. Old thoughts have good points and deficiencies, and therefore a consensus between the old and the new should be formed.

Wolff regarded the purpose of artificial and natural creation to realise qualitatively perfect beings. The purpose of knowledge, on the other hand, is to describe the world quantitatively as

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[1] Frederick C. Beiser, *Diotima's Children*, (Oxford: Oxford University Press, 2009), 70.

[2] DP, §167; Sébastien Neveu, "Secondary Author's Influence on the Wolffian 'System of Truths'", *HbW,* 67; Robert Theis, "Theologie", *HbW,* 224; Clemens Schwaiger, "Ethik", *HbW,* 262.

best as possible. Both types of perfection are purely rationally understandable, according to Wolff. My intention with the present study is to offer an original interpretation of Wolff's ideas, and thereby focus on the unity of art and science for the possibility of creativity, as an addition to the corpus of Wolff-studies.

Wolff led a turbulent academic life. He was banished from Halle by the Prussian king in the years 1723-1740 for his philosophical ideas, but simultaneously he was accredited for his work in the Royal Academy of Sciences in Paris. The political discussion took a twist for Wolff after the succession of the throne in Prussia. Subsequently, he was reinstated in Halle in 1740 and appointed as *rector magnificus* of the university after having first received a barony by the new king. In the German scholarly field of the late 17th and early 18th century, he was one of the first who, besides writing in Latin for his fellow philosophers, devoted many hours to publishing in German. Wolff's philosophy was provocative, but also influential partly due to his substantial production of writings. He published 57 books, 34 smaller texts, 40 journal articles, and 25 forewords to other publications.[3] The first twenty years of his life Wolff wrote his works in German with the intention to reach the young audience at the universities. To that extent, his German publications are written in a more accessible and explanatory manner.[4] Teachers in schools used Wolff's books in the classroom to teach philosophy, although sometimes in a less condensed and simplified version. It was through one of these edited versions that Kant became acquainted with Wolff's views.[5] Yet, the writings by Kant, who is known to be better in presenting his own ideas than presenting those of others, should therefore be read as a response to Meier's oversimplified presentation of Wolff's ideas rather than directly opposing Wolff himself, as Frederick Beiser notes.[6]

It was partly due to Kant's determined critiques on Wolffian thought, that the Wolffian school eventually had to make place for Kantians as leading philosophical school in Germany in the final decades of the eighteenth century. Of course, it would be too much to claim that this is the reason why today the philosopher of Halle is not studied as thoroughly as the philosopher of Königsberg. It does indicate, however, the importance of reading primary sources, rather than

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[3] For a comprehensive list with references to the republication by Olms, see Gerhard Biller, "Biographie und Bibliographie", *HbW*, 20-27.

[4] Charles A. Corr, "Philosophia prima sive ontologia, and: Cosmologia generalis, and: Psychologia empirica (review)" in *Journal of the History of Philosophy,* Volume 9, Number 4, (Johns Hopkins University Press, October 1971), 513.

[5] Corr, "Philosophia prima", 514.

[6] Beiser, *Diotima's Children*, 70-71.

relying on merely secondary texts. In another possible world possibly very bright ideas might arise if Kant had given a more nuanced presentation of Wolff, but for now this is only a *fabula rationalis*.[7]

Despite these attacks, Wolff did leave his traces on our thinking indirectly. This is to say that his thoughts are mediated and presented through his pupils and successors, including well known thinkers as Hermann Samuel Reimarus (1694-1768), Alexander Baumgarten (1714–1762), Johann Heinrich Samuel Formey (1711–1797), Johann Christoph Gottsched (1700–1766), Martin Knutzen (1713–1751), Georg Friedrich Meier (1718–1777), Johann Georg Sulzer (1720-1779), Moses Mendelssohn (1729–1786), and the young Kant. Formey might be lesser known than some of the others, but his efforts should be accredited here, for he published *La belle Wolffiene* (six vols. 1741–1753) in which he sought to explain Wolff's philosophy to women.

If we take into consideration that his successors have been much discussed, it is all the more remarkable that Wolff has be neglected by many for a long time. This is not to say that Wolff was completely forgotten, authors such as Johann Eduard Erdmann (1805-1892), Hermann Cohen (1842-1918), and Ernst Cassirer (1874-1945) have studied and written about Wolff in the last two decades of the nineteenth and the first two decades of the twentieth century.[8] The study of Wolff's philosophy received an increase in interest with the republication of Wolff's *Gesammelte Werke* by Olms, that started in 1962. This republication altered the field of Wolff-studies significantly. Where first few German and French authors studied Wolff, now the doors to an intercontinental discourse on Wolff's thoughts are opened. The project of *Gesammelte Werke* was initiated by Jean École and Hans Werner Arndt, two leading 20th century scholars on Wolff.[9] Together with Charles A. Corr, they contributed to reassess positively Wolff on his own, rather than as a copyist of Leibniz or a forerunner to Kant.[10] The authors, who mostly wrote in German and French, published substantially on Wolff, most of which is included in or related to the republication series by Olms.

With the turn of the millennium, interest for Wolff-studies increased and especially English-speaking countries outside the continent. Where before only Richard J. Blackwell (1963) had made the effort to translate Wolff's work into English and Louis White Beck (1969) had written a

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[7] DM, §§245, 571; Beiser, *Diotima's Children,* 50; Stephanie Buchenau, "Wolff's Rezeption in der Ästhetik", *HbW,* 409. The *fabula rationalis* is a term used by Wolff to indicate reasonable fictions that can contain truths if not in contradiction with itself. These fables are narratives of a different possible world, possibly actual parallel to our actual world.

[8] Johann Eduard Erdmann, *Versuch einer wissenschaftlichen Darstellung der Geschichte der neuern Philosophie.* Faksimile-Neudruck von Hermann Glockner [Leipzig: 1834–1853] (Stuttgart: Fr. Frommanns Verlag, 1932), 249-393; For the *Marburger Schule* of Herman Cohen and Ernst Cassirer see especially Ernst Cassirer, *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit,* Zweiter Band (Berlin: Bruno Cassirer Verlag, 1922), 521-548; and Ernst Cassirer, *Die Philosophie der Aufklärung,* [1932] (Tübingen: Mohr / Paul Siebeck, 1973), 160, 162, 234, 236, 445-447.

[9] Jean École, Hans Werner Arndt, Charles A. Corr, Robert Theis, *Gesammelte Werke,* (Hamburg: Olms, 1962-)*.* The references to Wolff's books are given in abbreviations and all correspond with the republication series by Olms

[10] Cf. Joann Findlay, *Kant and the Transcendental Object, A Hermeneutic Study,* (Oxford, Clarendon Press, 1981). ; John Cottingham, *The Rationalists.* in *A History of Western Philosophy.* (Oxford: Oxford University Press, 2010); Frederick C. Beiser, "Revenge of the Wolffians", in *The Fate of Reason,* (Cambridge, Massachusetts: Harvard University Press, 1987).

monograph on early modern German philosophy in English, now more publications in academia's current *lingua franca* started to be written.[11] Two publications from the field of philosophy and aesthetics were published by Frederick Beiser (2009) and Stephanie Buchenau (2013).[12] And, only recently, in 2018 did Springer publish an English-German general handbook on Wolff edited by Robert Theis. A cross-Atlantic revival of Wolff seems to be apparent. It seems only fitting that Dutch scholars should join the new discourse too, for they were historically the first to have a translation in their own tongue of Wolff's works.[13]

Nevertheless, despite these recent publications in English and Blackwell's translation of the *Discursus Praeliminaris,* none of Wolff's writings have been translated to English, which forms a barrier for those not acquainted with Latin and German. This loss might be overcome in the future, but either way, the Wolff-studies remain a fertile field that allows for many new historical-philosophical studies.

The present thesis is explanatory of nature, to present Wolff positively in the hope that the present exposition on his complex architecture of thought will stand its critiques after the last page has been turned. As Aisopos recalled in one of his fables: even constructions made by Zeus and Athena have room for perfection. In the text, Zeus condemned the man who kept criticising without making a constructive contribution for himself. In an attempt to avoid the damnation raised by Zeus myself, Wolff's thinking is presented in a manner that invites the reader to first understand it, and subsequently wonder what it entails.

The main body of the present thesis concerns itself with the question how innovation and creativity is according to Wolff. The second part of the thesis concerns itself with the question what the relation between innovation and creativity and perfection in actuality according to Wolff. In contrast to the implication of Aisopos' fable that even the Gods are unable to create perfection, Wolffian mortals are capable of discovering perfections and to recreate them. Perfection of beings in actuality by the handthe hand of God or man, that is what Wolff describes. This perfection in actuality is the best possible perfection and is temporary and limited. To be able to give meaning to this concept of perfection, Wolff offers a non-existential philosophy in order to understand the world and its metaphysical requirements. His ontological system makes no distinction between

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[11] Wolff, Christian. *Preliminary Discourse on Philosophy in General.* Richard J. Blackwell (ed. and transl.). (Indianapolis: Bobbs-Merrill company, Inc., 1963); Louis White Beck, *Early German Philosophy.* Cambridge, Massachusetts: Harvard University Press, 1969.

[12] Beiser, *Diotima's Children*; Stephanie Buchenau, *The Founding of Aesthetics in the German Enlightenment, The Art of Invention and the Invention of Art, (*Cambridge: Cambridge University Press), 2013.

[13] M.R. Wielema, "Leibniz and Wolff in the Netherlands. The Eighteenth-Century Dutch Translations of Their Writings", in ,62; Van Peursen is one of the few Dutch authors who has written about Wolff. C.A. van Peursen, *Ars Inveniendi, Filosofie van de inventiviteit van Francis Bacon tot Immanuel Kant. (*Kampen: Kok Agora, 1993).

things that exist and those that do not. All beings are either potentialities or actualised potentialities. From this existence-ignoring perspective on being, his understanding of creativity is remarkable. For the act of creation is often associated with the appearing of something that *was* not there before, as it did not exist earlier, but that now *is*, because it came into existence. This understanding, however, becomes obsolete when creating is an act independent of the concepts existence and not-being. But then, how should we understand the act of creation if the concept of being is separated from the concept existence? The matter becomes even more interesting when we take into consideration that in Wolff's world we can discover perfection in our thinking, creating and knowing. We can have a

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Innovation in knowledge

and perfection in form

I. What are science and philosophy according to Wolff and how are they ordered?

II. What is a non-existential world and what does it consist of?

III. What is creation in a non-existential world?

IV. How is knowledge of a non-existential world structured?

V. How to gain knowledge of that which is beyond the limits of observation? — On observation by the bodily senses and observation by the psyche.

VI. How can we uncover new knowledge and create beings artificially? — On experiments, *ars inveniendi*, and synthetic *a priori* knowledge.

VII. What is the place of creativity and innovation in the system of knowledge? — On *ars fingendi* and imagination as essential to *ars inveniendi* and perfection in form.

VIII. How is perfection in creations possible?

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perfect creation and perfect knowledge, but how do we obtain them? The following chapters seek to give an answer to these questions that arises when studying Wolff's philosophy.

The first chapter functions as an introduction into Wolff's terminology and system of science. It aims to offer the reader an understanding of science as the product of the studies philosophy, mathematics and history by answering question (I) "What are science and philosophy according to Wolff and how are they ordered?" Furthermore, the chapter welcomes the reader into thinking in terms of potentiality and actuality and helps to forget the old line of thinking where being and existing are two words for the same concept.

The following chapter treats ontology and logic. It addresses the questions of (II) "What is a non-existential world and what does it consist of?" by explaining the given domains of the possible and the actual, and (III) "What is creation in a non-existential world?" The chapter also discusses some difficulties that arise from this eighteenth century line of thought, such as a being's actuality as a mode of its ontological potentiality, while epistemologically a being's potentiality is

understood as abstraction from it's actuality. Likewise, ontology offers the foundation for logic, but logic is required to comprehend and understand ontology. What is possible is only knowable by the laws of logic, which are determined by the laws of ontology. Therefore ontology has to be known before science (and art) can be properly understood, but only after an introduction in science and logic to comprehend the ontology. The chapters in the thesis are ordered in line with this order by Wolff.

After ontology and logic, philosophy as the science of the possibles, can be further explained. The third chapter therefore deals with question (IV) "How is knowledge of a non-existential world structured?" Philosophy provides a system that has to know what is actual, why it is actual and, to an extent, what will be actual. This chapter provides an exposition of the various parts of philosophy and what the correct method is that is applied. It also introduces various ways of perception and apperception of the psyche by discussing the question (V) "How to gain knowledge of that which is beyond the limits of observation?" Lastly the chapter introduces the concept of the philosophical hypothesis, which will be further discussed in chapter IV.

Wolff has formulated a conception of philosophy as a science in which what is known has crystallised into an inclusive system that provides stability and reference for one who aims to know something. Yet at the same time, the author keeps the door open for new input gathered from experiment and observation. This entails, that the system containing an *a priori* determined ontological structure has to maintain the possibility to be changed, when new found knowledge requires it to do so. The questions are thus, (VI) "How can we uncover new knowledge and create beings artificially?", and (VII) "What is the place of creativity and innovation in the system of knowledge?" The chapter explains experimentation, and *ars inveniendi* as the art of discovering possibilities. The new knowledge is based on discovery, which can be *a priori* as well as *a posteriori*. It investigates how we can add new knowledge to the system presented above. *A posteriori* discovery might lead to a philosophical hypothesis, which can result in *a priori* discovery. Furthermore, the chapter exposes the tension that arises in understanding the act of creation, when knowledge of structures and perfections are *found* rather than *constructed*.

Now that we know what the requirements are of a world explained in terms of potentiality and actuality, and now that we can obtain new certain knowledge of the world, we wonder how this knowledge can be used for creation. More importantly, not just any creation, but perfect creation which includes a perfect system of knowledge. Question (VIII) is then "How is perfection in creations possible?" The chapter elaborates on the concept of perfection in actuality (*temporary perfection*), followed by a section on perfection of artificial created beings. Wolff's understanding of

perfection is rational, in the sense that perfection of knowledge is possible. The chapter ends with a hypothetical analysis of the difference between perfect propositions and true propositions.

Due to our post-Kantian position and views of creative practices, we tend to think that existence is determined by what is observable. This contests a theory which argues for a different order of beings might be refreshing. Wolff is an example of an early modern philosopher who considered artisans and scientists as part of the same project, namely, the human endeavour to demonstrate the structure of beings. This entails, showing how a being *works* (is *in actio*). If the conclusion of the thesis is correct, then Wolff makes no categorical hierarchical division between actuality and theory or between scholar and artisan, for they all methodically search for beings *in actu*. The purpose of both art and science is to methodically discover and understand new potential actualities. The works of art that are constructed on the basis of certain knowledge can then be seen as demonstrations of these beings *in actu*. I hope that by taking an extra step beyond explanation and analysis of Wolff's theory, by seeing what it entails, a door to new discussions of non-existential creativity and rational perfection is opened. This hope is supported by the postscript where I offer some Wolffian thoughts. There I also invite today's artists and researchers to move on and think about the creative unity underlying art and science. I invite creators to wonder 'how to discover perfection in creating and produce unity in diversity?'

LIST OF ABBREVIATIONS

O	*Philosophia prima sive ontologia, methodo scientifica pertractata, qua omnis cognitiones humanae principia continentur (1736)*	GW II/3
DM	*Vernünftigen Gedancken von Gott, der Welt und der Seele des Menschens, auch allen Dingen überhaupt* [Deutsche Metaphysik] *(1719)*	GW I/2.1 & I/2.2
DL	*Vernünftige Gedanken von den Kräften des menschlichen Verstandes* [Deutsche Logik] *(1712)*	GW I/1
DP	*Discursus praeliminaris de philosophia in genere*	FMDA I/1
L	*Philosophia rationalis sive Logica, methodo scientifica pertractata et ad usum scientiarum atque vitae aptata. Praemittitur Discursus praeliminaris de philosophia in genere (1728)*	GW II/1
ML	*Mathematishes Lexicon, darinnen die in allen Theilen der Mathematick üblichen Kunst-Wörter erkläret, und zur Historie der Mathematischen Wissenschaften dienliche Nachrichten ertheilet, auch die Schrifften, wo iede Materie ausgeführet zu finden, angeführet werden (1716)*	GW I/11
CG	*Cosmologica Generalis, methodo scientifica pertractata, qua ad solidam, inprimis Dei atque naturae, cognitionem via sternitur, (1731)*	GW II/4
PE	*Psychologica Empirica, methodo scientifica pertractata, qua ea, quae de anima humanaindubia experientiae fide constant, continentur et ad solidam universae philosophiae practicae ac theologiae naturalis tractationem via sternitur, (1732)*	GW II/5
HbW	*Handbuch Wolff (2018)*	

I. ON THE ONTOLOGIA ARTIFICIALIS

§1 Introduction

All that is known by humans has a relation to what is observed in the world. In Wolff's philosophy all knowledge is related to the world. The world functions as the central point of reference in knowledge as a whole. Wolff's *ontologia artificialis* is the clear artificial reconstruction of the *pre-established harmony* or *natural ontological order* that underlies the actuality of our world.[14] All our knowledge of the world is ordered clearly in the *ontologia artificialis.* This order of knowledge as a whole provides our knowledge a level of certainty because it is coherent, and it has a foundation in the world. The study that constructs the

> OUTLINE OF THE PRESENT CHAPTER
> *Introducing science and philosophy*
>
> - Introduction of Wolff's structure of the world in terms of actuality and potentiality
> - On the *ontologia artificialis* as the system of knowing the world
> - Introduction of philosophy as the science of possibilities
> - A presentation of the structure of the disciplines of science as a unity
> - Introduction of the realisation of certainty in knowledge and the risk of psychologism
> - Introduction of innovation in knowledge and the dependence of art in innovation

ontologia artificialis is called *scientia* or science. The present chapter is an introduction into Wolff's ideas on the structure of science and philosophy. This brief introduction will give coherence for what is to come in the next chapters. The present chapter will give an explanation of Wolff's system of science and philosophy and introduce the in Wolff's terminology. Furthermore, it will clarify why an investigation into innovation and perfection of knowledge requires an exposition Wolff's conceptions of ontology, art (German: *Kunst* and Latin: a*rs*) and science (German: *Wissenschaft* and Latin: s*cientia*).

Wolff aimed to create a system of knowledge that would encompass philosophy, science and art into one system, i.e. o*ntologia artificialis*. For present day readers, this aim might seem optimistic, for most twenty-first century thinkers tend to stay away from research on philosophy as a whole or science in general. In constructing his "system of truths", Wolff was inspired by the systematic models of knowledge as formulated by Aristotle, Descartes, Leibniz, and Spinoza. Wolff was of the opinion that Aristotelianism and scholasticism should not be discarded as out-dated and false. Aquinas, Agricola, Duns Scotus and Ockham had formulated ideas and concepts, Wolff argued, that, although still "dark" and "clouded", do contain valuable ideas and concepts, that

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[14] O, §23.

should be reviewed in the light of contemporary knowledge, in order to make them "bright" and clear.[15] Apart from these well known mediaeval scholastics, most of the scholastic inspiration came from sixteenth and seventeenth century thinkers, including Fransisco Suárez (1548-1612). As Christian Leduc argues in his article, Wolff's conceptions of the syllogism, the First Being or God, individuation, but also of perfection are borrowed from these late-scholastic

> WOLFF'S DEFINITIONS
> - **Science** is the study that aims to reconstruct with certainty the world and its ontological structure in the *ontologia artificialis*. (DL, §2 & O, §23)
> - All that is produced through the body is called **art**. The skills required to produce a work of art are called art as well. (DP, §§24, 25, 113)
> - **Philosophy** is the study of beings in terms of their potentiality, i.e. their ability to become actual.(DP, §29)

thinkers.[16] Wolff intended to keep valuable ideas of scholastic philosophy and combine them with new approaches as formulated by Descartes, Locke, Leibniz and himself. Wolff's separation of philosophy and metaphysics can be traced to Suárez' division of the various fields of metaphysics, and his conception of possible worlds is built upon Leibniz' ideas.[17] Likewise, Wolff's conception of a *pre-established harmony* is closely related not only to Leibniz', but also Spinoza's.[18]

§2 *The tree of science*

The present paragraph anticipates on themes discussed in the following chapters: the unity in science as study of potentiality and actuality (Chapters II and III), and the interdependence of philosophy, art and science in their practice (Chapter III and IV). The order of science, here depicted in the form of a tree, illustrated the unity of science as the study for the gathering of knowledge. This paragraph introduces Wolff's system that has to allow for innovation and perfection. Wolff developed his science as an attempt to understand the beings present in actuality as objects of perception, but also how they are generically in terms of potentiality. The totality of beings that are actualised from the pre-established harmony of potentials, is called the world (*universum*).[19] Wolff divided the question of actuality into three: 'what is it that is actual?', 'in what quantity can a being be actual?', 'and why can it be actual?'.[20] The previous questions include an investigation into the meaning of 'being actual'. Taken together, the three questions determine the

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[15] O, §§7, 11; Christian Leduc, "Sources of Wolff's Philosophy: Scholastics/Leibniz", *HbW*, 37.

[16] Leduc, *HbW*, 38-40.

[17] Leduc, *HbW*, 40-41.

[18] Neveu, *HbW*, 67.

[19] DM, "Das Erste Register", *677*; DM, §544.

[20] DP, §§, 3, 14, 29.

starting point from which human knowledge can be mapped systematically.[21] Each question is to be answered by a specific field: history, philosophy and mathematics. History is the discipline that generates knowledge about beings that are and were actual in the world as material or immaterial substance, this also includes the changes in the human psyche.[22]

Mathematics is the knowledge of the quantity of beings.[23] Mathematical knowledge is an abstract understanding of the necessary properties of beings in terms of quantity. In the present thesis a necessary property of a being is a property that determines what that being is, rather than how it is. For example, the theorem of Pythagoras that holds for all rectangular triangles (*what*), and thus also for each such triangle specifically (*how*). As such, mathematics is primarily concerned with quantity in terms of potentiality and only secondly with their concrete occurrence in actuality.

Philosophy is the study of beings as potentialities that can become actual. It seeks explanations why certain beings are actual, while other beings are not actual although logically possible.[24] In philosophy, and especially ontology, the possibility of beings is prioritised over actuality. Accounting what has been actual is the domain of history. The discipline ontology is the part of philosophy that formulates the *ontologia artificialis:* the order of beings in general and their common properties. The actuality of a being is complementary to its ontological possibility. According to Wolff, all beings that became actual have a reason for their actuality.[25] A reason for a being to become actual can be an external causal force by another actual being. To be able for a being to become actual it needs to be possible, and a being that is possible cannot contradict itself in essence, or the ontological order it is part of.[26] Philosophy investigates the question of why beings are possible.

Wolff states that Mathematics and history lack the ability to explain why beings are actual. In his *Discursus Praeliminaris,* Wolff explains that knowing that a being is the case or has occurred, i.e. knowing a fact, does not entail knowing the reasons for the actuality of that fact.[27] History requires philosophy to explain why some beings are actual, for the artificial order of ontology is able to yield insight into why beings occur. Similarly, philosophy requires history to provide observations that may lead to new research. The knowledge of the ontological structure does not

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[21] DP, §§17, 26-28.

[22] DP, §3.

[23] DP, §14.

[24] DP, §5.

[25] DP, §4.

[26] O, §883; Blackwell, Richard J. "The Structure of Wolffian Philosophy", in *The Modern Schoolman,* Vol.38, March, 1961 (St. Louis, Missouri: St. Louis University Press), 208.

[27] Wolff intended the *Discursus Praeliminaris de philosophia in genera* to be the introduction for his Latin volumes on systematic philosophy, which treat logic, cosmology, psychology, ontology, theology and practical philosophy. Wolff aimed to formulate a complete synthesis of all branches of knowledge. *DP,* 'Einleitung' by the translators, xviii.

entail knowing what happened or is actual.[28] Wolff summarises the relation between history and philosophy by explaining that one who understands the grounds someone else has given for a particular fact, has historical knowledge of someone else's philosophical knowledge. If one is able to prove the reasons for the actuality of a being oneself, one has philosophical knowledge as well.[29] The three parts of science are thus three types of inquiries into distinctive elements of knowledge that relates to ontological being. Experience of beings in actuality form the objects of study for all three types of science. History will understand a being as a matter of fact, philosophy is to recognise its grounds (*Gründe* or reasons) and mathematics has to determine its quantity. History is necessary for philosophy to give certain and clear grounds and distinct comparable examples for the proofs, whereas mathematics has to offer knowledge of the objects' necessary properties in order to complete the proof.[30]

In the *Deutsche Logik* Wolff defines science as follows:

"Durch die Wissenschaft verstehe ich eine Fertigkeit des Verstandes, alles, was man behauptet, aus unwidersprechlichen Gründe unumstößlich darzuthun. Welche Gründe unwidersprechlich sind, und wie man etwas auf eine unumstößliche Weise darthut, wird in gegenwärtigen Gedancken von dem Gebrauche der Kräfte des Verstandes in Erkäntniß der Wahrheit dargethan werden."[31]

According to Wolff, *Wissenschaft* is *die Fertigkeit* of reasoning, rather than the product of a mental act. *Die Fertigkeit des Verstandes* (*habitus mentis* in Latin) can best be translated as a trainable skill of reasoning of the psyche (a craft or skill).[32] In the case of science, the skill of reasoning rests not purely on the capacities of the psyche but also relies on the body, as we will see. The sense in which Wolff uses *die Fertigkeit* implies a successful use of the skill of reasoning: the discipline science is also the product of the proper use of the mental skill. If the skill of reasoning is applied consistently according to a specific method, an order of claims that support each other will be established.[33] The purpose (*Zweck*) of science (*Wissenschaft*) is *certitudo* (*Gewissheit,* certainty), which allows for the possibility to distinguish knowing from guessing. The formulation of certain propositions can thus be achieved in science by a methodological use of the skill of reasoning

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[28] DP, §11.

[29] DP, §8.

[30] DP, §35.

[31] DL, §2. *Through science I understand the mental skill to indisputably assert everything one says for irrefutable reasons. What reasons are irrefutable, and what is said in an incontrovertible way, will, in present thought, be explained by the use of the powers of the psyche in the knowledge of the truth.* (My translation, JSM)

[32] DM, "Das Erste Register", 674.

[33] Juan Ignacio Gómez Tutor, "Philosophiebegriff und Methode", *HbW*, 74.

Scientia

History   Philosophy   Mathematics

Theoretical philosophy   Practical philosophy

Ontology   Cognitive sciences   Appetitive sciences   Productive sciences (technology)

General cosmology   Logic   Ars Inveniendi   Jus Naturae   Grammatical philosophy

Physics   Teleology   Psychology   Experimental psychology   Universal Practical Philosophy   Rhetorical philosophy

                                      Rational psychology   Ethics   Poetical philosophy

Experimental physics   Dogmatic physics   Natural theology   Oeconomica   …

                                            Pneumetica (science of the spirits): psychology & natural theology   Politics

                                            Metaphysics: Ontology & general cosmology & pneumetica

                                            …

[*A Wolffian tree of science*]

(*Fertigkeit, habitus*) and connection (*Verknüpfung, connexio*) of propositions.[34] *Connexio* is the linkage of several premisses to a conclusion or the binding factor of a syllogism.[35] The skill of reasoning implies the use of other skills, such as observing, searching, discovering, and proving. The level of the skills depends on the capacities of the body, which is why Wolff also calls them arts. In the use of bodily skill Wolff's terms *habitus* and *ars* are synonyms, but like *scientia, ars* can also mean the product of using the skill which is not the case for *habitus*. A genius is someone who has a high level of skills involved to make new discoveries of nature.[36] Science is the skilful and methodological construction of an (artificial) order that provides certainty to the claims of reasonable beings concerning the world that are formulated according to the same method.[37]

The order of Wolff's science that arises when reasoning methodologically can be depicted as a tree with various branches, each representing specific fields of study. All the sciences are rooted in the philosophical method, which in the tree is represented by *philosophy*. Science is the philosophical method applied to propositions that describe the world. As such the ontological order of the world is mirrored in this order of science. Furthermore as our knowledge of the possibilities of the world develops, the tree grows just as well. Science as a whole is a dynamic reflection of what we know about the ontology of the world.

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[34] Tutor, *HbW*, 74-77.

[35] DP, §89.

[36] Buchenau, , 15, 16.

[37] DL, §§1-3; Arndt, "Anmerckungen der Herausgebers", in *DL*, 85-86.

Wolff makes a division of philosophy into philosophy of beings (theoretical philosophy) and of human actions (practical philosophy). The (schematic) division of the sciences, such as the tree above, is not absolute. It is possible to create multiple different schemes showing many sorts of the relations between the various fields of science, depending on the intentions of the scholar. For example, Wolff explicitly names two perspectives that result in very different structures of science. For the purpose of study and learning, he writes, it is better to treat logic first, since thoughts and proofs are formulated with the use logic. So to grasp how to formulate a sound proof or thought, a sufficient understanding of logic is required. However, this order is ill-suited when the scholar aims to demonstrate the validity of a claim about the world. All claims about the world are formulated in an objective formulation about the world, meaning that they presuppose an understanding of the structure of the world and how we come to know it. Therefore, Wolff states, in the order of demonstration, ontology and psychology have to premise logic. Principles from ontology (e.g. principle of sufficient reason, and principle of non-contradiction) and from psychology (e.g. the cogito-principle) are required to offer the theoretical justification for the laws of logic.[38]

The tree of science presented above is based on Wolff's paragraphs in the *Discursus Praeliminaris*. It is not a structure of science according to demonstration or study. Instead, it illustrates how fields of specific sciences root in Wolff's theoretical and practical philosophy.[39] By descending in the tree, the questions become less general. The division of practical philosophy coincides with Wolff's division of the abilities of the psyche.[40]

1. Theoretical philosophy: *How is the world structured?*
2. Practical philosophy: *How and what can we produce with the use of our body?*
   1. Cognitive sciences: *How and what do we think?*
   2. Appetative sciences: *How can we act?*
   3. Productive sciences: *How and what can we create?*

Theoretical philosophy is can be further divided into the six sciences of the possible: Ontology — the study of beings in general and their general affections; General or transcendental cosmology — the study of possible worlds in general; Natural theology — the study of those things that are possible through the God; Psychology — the study of those things that are possible through the human psyche; Physics — the study of those things that are possible through material bodies; Teleology — the study of the direction of beings. All these sciences are categorisable into further subdivisions and various interdisciplinary studies.

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[38] DP, §§89-91.

[39] DP, §§ 89-91.

[40] Blackwell, "The Structure", 213.

Because the world is ever changing and change is to be addressed in science, science has to be allow a possibility for innovation. One of Wolff's projects was for science to be adaptable and include potential to develop. Somehow Wolff manages to make his system adaptable to change, even though a collection of propositions is already determined to be true knowledge. Wolff thus created a system that does not fall when a proposition in his system of knowledge turns out to be vague or mistaken. Wolff's oeuvre is sometimes described as one systematic whole, written by a thinker who has not experienced any fundamental systematic alterations in his thinking. Perhaps this is the case because he successfully implemented space for innovation in his system of knowledge. The following chapters will investigate how he managed to this.

§3 The risk of psychologism

Wolff's system of knowledge is Cartesian in its primary set up. Like Descartes, he argues that philosophy deduces true metaphysical statements from certain and unshakeable principles, that are intuitively certain (*Anschauende Erkenntnis; cognitio intuitiva*).[41] In this context 'intuitive' has to be read as evident, i.e. 'we cannot think otherwise'.

Wolff defined actuality as that which exercises an effect (*Würckung; in actio*) on something else.[42] However, not all propositions about actuality are intuitively certain. Some statements rely upon observation of actuality for their meaning and require a logical construction to ascribe that meaning certainty. Logic is the discipline that provides the rules that guide the psyche in its methodological reasoning processes.[43] Wolff explains that every proposition should be proven in a logically conclusive fashion if it is to be part of the system of knowledge.

According to Wolff, one of the principles of logic is that if one intends to prove a proposition logically, the principles of ontology and psychology have to be known. For the principles used for proofs of logic rely on ontology, since that is the part of philosophy that investigates the beings as potentials, and about which logic aims to formulate certain propositions.[44] Next to ontology, psychology is the second part of philosophy that logic relies upon. For psychology teaches us how cognition operates in the psyche and what our abilities and limits are in knowing actuality.[45] In present terminology, we might state that ontology treats the objects of scientific investigation as independent from our cognition of them. Psychology is similar

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[41] DP, §1; DM, "Das Erste Register", 673; Leduc, *HbW*, 44.

[42] DM, §§12-14; "Das Erste Register", 677.

[43] DP, §61.

[44] DP, §§61, 73, 87, 89.

[45] DP, §§58, 87, 89.

in aim to present day epistemology and the cognitive sciences. The discipline investigates what we can know and how we can know it. According to Wolff's system, one requires science and logic to be able to understand ontology and psychology while the validity of logic relies on the ontological structure of the world and the cognitive means we use to know the world.

This circle conclusion is not necessarily problematic because it demonstrates the limits of human understanding. Wolff's position is, however, at risk of being judged a psychologism. This is the idea that an epistemological problem can be solved on the basis of a psychological study of the development of mental processes. In Wolff's philosophy the risk psychologism is that a true representation of the ontological structure of the world can be formulated with the use of logic, because a study of our psyche explains as much. Chapters III and IV will analyse whether Wolff's system of knowledge is indeed grounded upon a psychologism. The topic of certainty will be further discussed in chapters II and III.

§4 Contributing to the history of knowledge

The previous paragraph introduced how science is structured and certainty of knowledge is established, according to Wolff. At the same time, Wolff intends to keep the door open for new input in the process of acquiring knowledge, gathered from experiences, experiments and observations. The following two paragraphs introduce how innovation of knowledge relies on art and skill.

In the *Discursus Praeliminaris* Wolff summarises the process of acquiring knowledge by saying: "In philosophy the grounds have to be derived from experience. Proofs have to be confirmed by experiments and observations, while one is looking for mathematical knowledge."[46] According to Wolff science starts at the perception of something which we want to understand.[47] We can understand this thing in two ways. First we understand it as a particular object of our perception at one instance in time, and as such the object is a particular object in a specific context. On the basis of these still confuse observations from actuality ideas (hypotheses) are formulated, which the philosopher subsequently aims to formulate more distinctly by means of skilful experimentation, ratiocination and disputation. For example, he can determine that it is a complex whole, consisting of smaller parts, having beginnings and ends for themselves.[48] In these acts the complex confused hypotheses are analysed to simple ideas and basic definitions. This process of

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[46] DP, §34.

[47] DP, §1; O, §2; L, §562.

[48] O, §§7, 36,37; L, §141.

dividing the object into smaller parts, which in turn can be further separated into subparts, Wolff calls analysis.[49]

Secondly, after having sensed many more other objects, we are able to notice similarities (*Ähnlichkeit*) among the elements of multiple objects.[50] The elements an object consists of are the properties of that object. By analysing complex ideas to their most important properties, the ideas can be related to what is already known or *ontologia artificialis.* The *ontologia artificialis* could then also be called Wolff's clear and distinct history of knowledge — a historical account of what people have discovered to be true about the world and its ontological structure.[51] By using the syllogism (*connexio*) skilfully (*habitus*), the simple ideas are then synthesised to a composite whole, which offers certain knowledge (*certitudo*) about the being studied. This synthesising process of reasoning from parts to wholes Wolff calls deduction.[52] Hypotheses postulated on the basis of *a priori* discovery (as result of perceptions by reasoning and sensing with imagination) as well as those that result from *a posteriori* discovery (as result of perceptions of reasoning and sensing with the body) rely on these general principles of analysis and synthesis.[53]

Wolff's definitions of analysis and synthesis are identical to Descartes' and have an identical function within logic.[54] Now the crucial question in the interplay of analysis and synthesis within a system of consistent reasoning that bears the character of necessity is, whether an to what extent the system can be open to innovations, new insights, and creativity, without loosening its consistency in systematic reasoning, and falling prey to contingencies in its lines of argumentation. When synthesising we are constructing the object *in mente* and thus work towards its composite whole, as we have understood it from perceptions. Analysis is merely the division of the object of study into smaller elements, and offers no certain knowledge, the process of synthesis offers certainty, for this process relies upon methodological reasoning and placing it in the order of knowledge.[55] And it is in synthesis that Wolff has created space for innovations and creativity, as will be discussed in chapter IV in more detail.

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[49] Paola Cantù, "Mathematics. Systematical Concepts", 361.

[50] O, §18.

[51] O, §§21, 23, 24.

[52] Arndt, "Einführung des Herausgebers", DL, 86-88.

[53] O, §§48-50.

[54] Cottingham, *Rationalists,* 45-46; Stephen Gaukroger, "The nature of abstract reasoning: philosophical aspects of Descartes' work in algebra" in *The Cambridge Companion to Descartes,* ed. John Cottingham (Cambridge: Cambridge University Press, 1992), 106.

[55] DP, §34; Descartes, "Objections and Replies," Vol. II, 110.

All knowledge in Wolff's system is thus based on experience, perceived by the senses.[56] Wolff is often understood as opposing empirical enquiry, since he is regarded to be rationalist.[57] It is a misconception to think that Wolff, or 17th and 18th-century a rationalists for that matter, does not include empirical enquiry into his scientific system.

§5 Art and ontology

Wolff calls the philosophy of the arts and of works of art, technology.[58] Technology is a subdivision of what Wolff calls universal practical philosophy, which investigates how to use the faculty of local motion together with mental actions.[59] In chapter VI I intend to capture the products of this harmony between body and psyche.

Technology is the philosophical explanation of the rules that are required for a work of art to be produced as well as to be regarded as such. Wolff primarily applies the term "technology" to the *artes manuales,* the practice of producing beings with the use of one's body, and particularly the hands.[60] Philosophy of the liberal arts, on the other hand, teaches the rules of the *artes mentales,* the practice of producing beings, such as a phrase or an imagination, by using one's mental capacities. An example for a philosophy of the latter kind is the grammatical philosophy.[61] From the definitions of the *artes manuales* and *mentales* we can deduce that a general definition of art has to be at least twofold: it is the production of beings by the capacities of the human body, including both mental and physical capacities, and the products themselves. The first can be summarised under Wolff's term skill (*Fertigkeit* or *habitus*). The latter I refer to as works of art. For Wolff thinking or reasoning is a skill, and a work of art, just as well.

The production of a work of art is a process of creation. Beings can be distinguished into those that are created *naturally* and those that are created *artificially*.[62] A detailed analysis of the process of artificial creation will be given in chapters II and V. On the basis of Wolff's discussions of creation, artificial creation can be defined as a purposeful interaction of an artist with (local) beings, in order to actualise another being. Natural creation is actualisation of beings as result from

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[56] Cf. O, §48, for reasoning as sense perception in Wolff.

[57] Cf. Blackwell, "The Structure", 203-218.

[58] DP, §§113, 114.

[59] DP, §70.

[60] DP, §71.

[61] DP, §72.

[62] DP, §24, 113.

interactions that are not artificial. All actualisation ultimately trace back to the First Being as the creator.

II. ON THE HARMONY OF BEINGS

§1 Introduction

New knowledge is discovered by investigating the realm of possibilities, therefore, it is this realm that we should discuss next. If we understand Wolff's exposition of the order of the world, then we know what it means to formulate a hypothetical proposition on the possibilities of a being. Beings in general are studied in the discipline called Ontology. In its practice it operates philosophically, rather than historically. The discipline ontology does not provide a historical lexicon of all potential beings, but it does present the terminology used

> OUTLINE OF THE PRESENT CHAPTER
> *On the ontological order of the world*
>
> - On ontology as the study that investigates the harmony of potential beings to which actuality is a *complementum*.
> - On *Kraft* as a fundamental force of actuality — That what is actual has an effect or is in action.
> - On the constitution of beings in terms of *essentialia, attributa* and *modi.*
> - On the creation of potentialities and actualities

to explain *why* a possible being has become actual and what beings in general have in common. It has to formulate answers to the questions concerning the possibilities and impossibilities of the world and its relation to the first cause and the final end. It investigates what being "a being" is; and how beings came to be.[63]

In his Latin work, *Ontologia,* Wolff uses the word *ens* to name the thing that is.[64] The word Wolff uses in his German version of the work is at odds with the original Latin. He gives preference to the word *Ding*, which corresponds to the English "thing". The two should not be used interchangeably. In line with Dirk Effertz' remark in his re-publication of Wolff's *Ontologia,* in the present thesis the term *being,* as translation of *ens,* is preferred to *thing.*[65] Thing corresponds to the Latin word *res* and is often understood as a material thing. Wolff, however, is not discussing things that are material at this point, but all things that are: beings. For Wolff a being is a unity of potentiality. A potentiality that has the ability to become actual. The domain of being thus bears the characteristic of the distinction between actuality and potentiality, where actuality is a mode of being supplementary to potentiality. A being is therefore a whole which *can* become actual.[66] If it is

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[63] O, §25.

[64] O, §85; L, §311.

[65] This distinction is also important for comparing Wolff's philosophy to Descartes', who makes a clear distinct use of the concepts *res* and *ens.* Christian Wolff, *Erste Philosophie oder Ontologie,* trans. Dirk Effertz, (Hamburg: Felix Meiner), xxxi, n. 66.

[66] O, §§85, 134; L, §311.

in contradiction with itself, there is no being in potentiality because it is ontologically impossible. Beings that are possible, and were actual in the past and or will be in the future also *are* according to Wolff, as they are actual in potential.

By introducing actuality and potentiality Wolff distinguishes being from existing. Often, being and existing have been taken as synonyms, but for Wolff they are not. This has also been called Wolff's 'deexistentialisation of being'.[67] A being is either only in potentiality or in potentiality (*Möglichkeit*) *and* in actuality (*Würcklichkeit*), as it is a mode of potentiality.[68] However, the being does not exist, because the term existence has no distinct ontological status. Wolff's philosophy of being is therefore a non-existential explanation of the world. What this world consists of and what is ontologically required for its being will be presented in the first part of this chapter. The second paragraph on logic, discusses the question of how we can formulate certain statements about this world in actuality. If we want to understand perfection in actuality and know how to innovate our knowledge of the world, we have to know how creation (or synthesis) is possible in a non-existential world. The act of creation will be addressed in the last two paragraphs of the present chapter.

§2 Ontology

Actual beings can be distinguished into material and immaterial beings. A material being is called a *body* or a *thing* (*res*), such as an ant or a *narcissus*. Immaterial beings can be mental constructions, such as numbers, concepts, narratives or fictional characters. The God and the human psyche are also actual, but cannot be defined as immaterial or material. Instead, they are defined as acting (powers) in both domains.[69] Reasonable beings can discern all types of beings in actuality, Wolff states in a version of Descartes' cogito-argument.[70] Ontology is the part of philosophy that investigates that which all possible and actual beings have in common, including but not limiting to mental beings, natural beings and artificial beings.[71]

Der Bücherwurm of Carl Spitzweg below might help to make sense of the terms and terminology. The bookworm stands on his never ending steps before the bottomless bookcase, titled "Metaphysik". The shelves of the library are filled with books, faced inwards, leaving only the spines visible. The books stand silently, waiting for the bookworm to pick them up and to
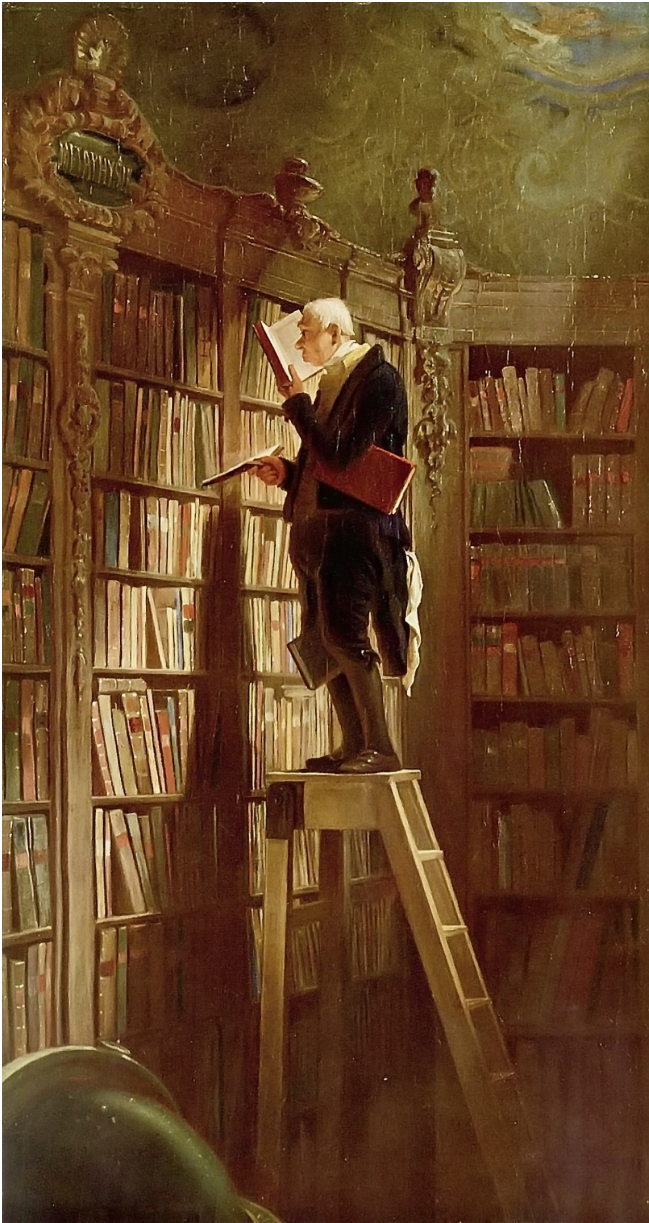
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[67] Dirk Effertz, "Ontologie", *HbW*, 144.

[68] DM, §§12-14.

[69] DP, §73.

[70] DP, §1.

[71] DP, §73.

[Carl Spitzweg, "Der Bücherwurm", 1850, Museum Georg Schäfer.]

discover their being and potential. As a whole the library represents the realm of possibility. The books can be read and when the act of reading is enacted, they become actual. The book is actual when the Bookworm performs the act of reading — albeit only for a limited time. After a while the book is closed again and returned to its place on the shelf. Actuality is thus a temporal state of being. The shelved books, however, still are, but only as possibilities. They are beings on stand-by, as it were, waiting to become actual again. To some extent the bookworm remembers the books he has read, as the *ideas* and recollection about the book remain actual, while the book itself has already ended its time in actuality. I will address the idea of being actual in more detail below.

The bookworm, working his way along the shelves, visualises the temporary contingent state of actuality. The bookworm chooses his books carefully, after having read a previous book that has led him to the new one. But it is possible that another reading sequence had occurred. Just like the bookworm's reading sequence, beings become actual contingently. There are reasons for the being actual at a specific time, for example as a result of another being, but it could have been otherwise. Beings can become actual by accident or as a result from acting intentionally and methodologically. Take a *narcissus* (daffodil) for example. The *narcissus* has become actual, because of another *narcissus* before it spread its seeds. The older *narcissus* is the effective cause of the actuality of the younger *narcissus*, although another *narcissus* could have emerged from the spread seeds. This is the contingent state of actuality.[72]

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[72] CG, §83.

The *narcissus*-example discloses another aspect of Wolff's ontology. According to Wolff, a being has an essence (*essentia*), attributes (*attributa*), and modes (*modi*).[73] The mode can be seen as a state of expression or self-unfolding of the being. The possible *narcissus* is a being and as such has an essence and attributes. The essence consists of the first properties necessary for the *narcissus* to be a *narcissus*. The attributes are secondary properties of the being. They are secondary for they rely upon the essential properties for their being. The possible *narcissus* is a being consisting of various properties, that together make it a *narcissus*. The *narcissus* serves as the constitution of its parts, i.e. its properties. This complex whole of properties — an interplay of wholes and parts, cf. chapter V — can become actual in various states. It can have many flowers or just a few. The roots and branches can vary in size and shape. Many different *modi* that vary in self-disclosure are imaginable when thinking of a *narcissus*. Chapter V will explain that the perfection of the *narcissus* depends on how well it unfolds itself.

The theories postulated in the field of ontology argue for what beings are as pure possibles, as well as how they can occur in specific contexts. Wolff gives an example concerning similarity. A specific being is structured in a particular fashion. It has certain particular traits, which one can study independently from the space in which the being is encountered. To do so, one abstracts a mental version of the being from many similarly structured beings to study it in the absolute sense. A requirement to study beings as pure possibles (or in absolute sense) is to understand it in a particular context or space, for example by observing it with the senses. In both cases the beings' traits are discernible in terms of similarity or difference to other beings.[74] Next to the explanation of specific beings and their properties, ontology has to provide information for definitions of the principles that concern all possible beings, such as the notions of similarity and dissimilarity.[75]

§2 Logic

Wolff is in line with Aristotelian metaphysics when he states that what all beings have in common is that they *are*. This means that all beings we can think of, whether it is a house, a triangle or Frodo Baggins, are ontological beings. We can refer to them in a logical sense, because they are. Logic relies upon the laws of ontology for its judgements of beings. According to Wolff, one has to learn logic to be able to learn ontology, to subsequently be able to understand that the former requires

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[73] O, §§173, 764, 768; CG, §§177, 181; Simmert, *HbW*, 208.

[74] DM, §§825, 828, 832.

[75] O, §8.

the latter for its certainty.[76] This is to say that Wolf as established a correlation between logic and ontology, in which the one cannot be comprehended without the other.

For Wolff, logic is the study of judgements by reason about all that is or that attributes to all that is. Reasoning and cognition in general are governed by the rules of logic.[77] The rules of logic guide the mind in thinking towards the truth, according to Wolff.[78] The rules owe their validity to two ontological principles: (1) principle of non-contradiction, which determines what is logically possible and impossible, and (2) principle of sufficient reason, which determines "that there is nothing without a sufficient reason why it is rather than is not".[79] All other logical rules rely upon these two for their formulation. The relation between logic and ontology is very important to Wolff. He is of the opinion that something is logically impossible because it is ontologically impossible. Similarly, a positive logical judgement does need to have a *fundamentum in ente,* i.e. an ontological being, for it to be meaningful, Wolff articulates.[80] Searching for certainty in knowledge , as well as for innovation and perfection of knowledge, is thus searching for the correlation between a proposition and this *fundamentum in ente*. A logical statement is a judgement relating to observed actuality, by referring to ontological structures.

The well-known example used in this distinction is the ontological impossibility of the square circle. The ontological essential qualities of a square conflict with those of the circle, resulting in an impossibility. Because the square-circle is ontologically impossible, it is logically incomprehensible. This position entails that the structure of a being is to ensure its possibility. This is to say that the structure of a being is a necessary structure for that is what permits the beings possibility and meaning-fullness.[81] Meaning is here best understood as the logical judgement of a rational being about the character of a being. This entails that for Wolff a notion of any kind requires a referent, in this case the structure of the being, for it to have meaning.[82] A correct logical description is corresponds to the ontological structure of the being.[83]

A positive logical argument explaining why correct logical judgements about the world correspond to ontological structures of the world Wolff is unable to give in for that extends beyond the limits of actuality, upon which positive human reasoning is based. It would require God's

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[76] DP, §§87-89.

[77] DP, §61.

[78] O, §21.

[79] DP, §§4, 89; O, §71; Blackwell, "The Structure…", 206.

[80] O, §8; Effertz, *HbW,* 144-145.

[81] O, §286.

[82] Camposampiero, *HbW,* 119, 120.

[83] L, §68; O, §8.

perspective to confirm in logical terms the correspondence between ontological beings and how they are understood by the human psyche. The result is an ad absurdum argument. Logical judgements have to correspond to the ontological structure of the world, for if it were not the case, any judgement concerning the structure of the world would be meaningless, which would make science and knowledge impossible. However, when we see a bag of gold coins, it is not suddenly gone when we intend to grab it. Propositions are thus meaningful because they correlate to potentialities, that can be understood when actualised. A being, however, does not cease being when de-actualised. A de-actualised being is a being that is not active, meaning it has no force (*Kraft*) or action left and returned to stand-by.[84]

The correspondence between thinking and actual beings is a central point of discussion in seventeenth and eighteenth century Western philosophy. Wolff discusses the matter in similar terminology as Descartes did, namely by determining the difference between dream and reality. The world is constructed in order, Wolff writes.[85] All beings in reality have a reason for being. They function as a link in the orderly ontological net. When the order, the net, becomes more clear (*Klar*), a more consistent explanation about actual events can be given.[86] This is impossible in a dream, where beings come and go inconsistently and in an obscure way (*Dunckel*). It seems that according to Wolff, in dreams beings still have orders, for the square circle is still unthinkable, it is however impossible to establish coherence among the variety of beings. When awake, the clearer an explanation is the more it coheres into the known order of the world.[87] If you go along this path, Wolff writes, one finally reaches truth in correspondence. This is perfection in human knowledge, albeit still distinct from knowing being from God's perspective.[88]

The order of ontological beings too, relies upon the ontological principle of non-contradiction.[89] The ontological principle includes that a being that is in a particular structure, cannot simultaneously be not in that structure. A being consists of *essentialia*, *attributa* and *modi*. The *essentialia* of a being are positive qualities, or pure possibles, not determined or limited by anything prior. The *essentialia* only need to be consistent with the principle of non-contradiction, meaning that the essence of a being cannot be in contradiction with itself.[90] The attributes of a being are determined by the *essentialia*, for their character trait is that they require the *essentialia* as

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[84] DM, §§115-118.

[85] DM, §142.

[86] DL, §§1-17, 1. Cap.

[87] DM, §§143, 156-170.

[88] DM, §§820-832.

[89] O, §85.

[90] O, §143; Blackwell, "The Structure…", 206.

a premise for their possibility. Since the attributes are always united the *essentialia*, they are unable to contradict with the *essentialia* or with themselves. Remember the square-circle which is ontologically impossible due to its internal conflict. A unicorn, however, is ontologically possible for it does not contradict itself. The *modi* are the elements of a being that are contingently present. The *modi* cannot contradict with themselves, the attributes or the *essentialia* and are either determined externally, by previous *modi* or other beings, or internally, by the being's *attributa* or *essentialia*.[91] As has been explained above, an example of a modus is the *narcissus* in state of actuality next to the *narcissus* as a possible being. The principle of non-contradiction is at very root of Wolff's ontological system. It is the principle that makes all beings possible.[92]

It is because of the fact that the principle of non-contradiction is an ontological starting point, that the principle is translatable into versions corresponding to different fields of knowledge. In logical terms, the principle states that judgements about beings are meaningful because they are determined by this first principle. This results in the formulation that a logical statement cannot be or stated to be simultaneously true and false. In psychological terms the principle can be illustrated with the well-known phrase that 'we cannot simultaneously think and not think about a pink elephant'. In terms of observation of actuality the principle is also known as the principle of excluded middle: a being either is actual or not, there is no middle option. However, the fact that a being is ontologically possible does not entail that it is actual, since possibility is not a sufficient reason for actuality. Possibility requires an additional reason to become actual.

According to Wolff this sufficient reason of a being's actuality can be: (1) An internal cause: the actuality of a being is caused by its essence, or (2) an external cause: the actuality is actualised by another being.[93] All beings as well as events, a group of beings in a certain constellation that occurs, have a *ratio,* i.e. a cause or a ground (*Grund*) according to Wolff (*Nihil est sine ratione).*[94] A ground is understood as a condition that (partially) explains the actualisation of a being. This entails that all changes in the world are explainable, but also that all changes are a process of actualisation. Force (*Kraft*) is the source of change, according to Wolff. Therefore, to be actualised means to have the capacity to be changed or to change other beings.[95]

It might the case that a being starts or stops to be actual, creating an event by changing the current state of affairs. Wolff distinguishes efficient causes from final causes. An efficient cause is

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[91] O, §143.

[92] DM, §§12, 28.

[93] O, §71.

[94] DM, §30; DM, "Das Erste Register", 674.

[95] DM, §§115-118.

the explanation of the change of affairs by referring to the direct source of the change.[96] Most often the cause will be another being or beings: one of the efficient causes of a *narcissus'* actuality is its parent-plant. Efficient causes are always context-dependent. While an efficient cause can explain why an effect occurred in actuality, whereas the final cause explains the origin is of all changes in the world as a whole. It has to be the reason why all current actual beings as well as all that have past actual beings became actual. The efficient cause is thus logically related to final cause. The final cause of the actual *narcissus* relates to the essence *narcissus.* The final cause thus explains why all *narcissuses* have a parent-plant as an efficient-cause for their actuality. If one investigates the essence of the *narcissus*, one wonders about the *narcissus* as a possible being.

The distinction between actual being and potential being offers the possibility to create two types of encyclopaedia. An encyclopaedia that depicts actual beings: showing them a collection of particular specimen as encountered in the world; and an encyclopaedia of potential beings: depicting a being according to our ideas of the essence and attributes of that being. The first would show a snowflake exactly as how it was once observed in the encounter, the latter as how it was observed but with its perfect geometrical forms.

If one wishes, it is possible to reconstruct a chain of causes that go from the actuality of one particular being, all the way back to its final cause.[97] The essence and attribute, in turn, are created by the First Being, according to Wolff. Wolff's philosophy is deistic and not theistic, meaning that the definition of the First Being solely relies upon systematic experience based reasoning. To demonstrate the importance to think about God and the world in a rational manner, Wolff opens his preface of his *Deutsche Logik* with the following lines:

> "Der Mensch hat nichts vortreflichers von GOtt empfangen, als seinen Verstand:
> denn so bald er nur in demselben verrücket wird, so halb wird er entweder ein
> Kind, oder ärger als ein wildes Thier, und ist also ungeschickt, GOtt zu ehren und
> den Menschen zu dienen. Solchergestalt kan einer um so vielmehr ein Mensch
> genennet werden, je mehr er die Kräfte seines Verstandes zu gebrauchen weiß."[98]

In line with the scholastics and especially Petrus Ramus (1515-1572) Wolff regarded the rational power of the psyche to be the primary distinctive characteristic that separates humans from animals.[99] The possession of rational powers demonstrates that the human psyche mirrors

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[96] DP, §85.

[97] DP, §85.

[98] Wolff, "Vorrede" in DL, 105. *Humankind has received nothing more excellent from God than his intellect: for as soon as he becomes maddened in itself, he becomes either a child, or even worse as a wild animal, and therefore unable to honour God and to serve the humankind. Such a figure can all the more be called a human, the more he knows how to use the powers of his intellect.* (My translation, JSM)

[99] Wolff, "Vorrede" in DL, 105, cf. fn. 1

God's intellect. God is by nature the necessary being, which is a being that has to be actual independently of what else is actual due to its structure. Furthermore God is also the creator of all potential beings, which entails that God knows them in a Godly manner. One can also state in Aristotelian fashion that since all beings in actuality have a cause, there has to be a first being that is the cause of everything. This is the unforced-forcer (*vis primitiva; Ursprüngliche Kraft*): the source of all change, that itself has not been forced.[100] Wolff's concept of a being is thus a mixture of both an essential substance of potentiality and a functioning force, when in actualised.

[Actualisation]

Actualization originates from the Necessary Being.

Possible

Actual

A cause

Extrinsic: another being

Intrinsic: essence
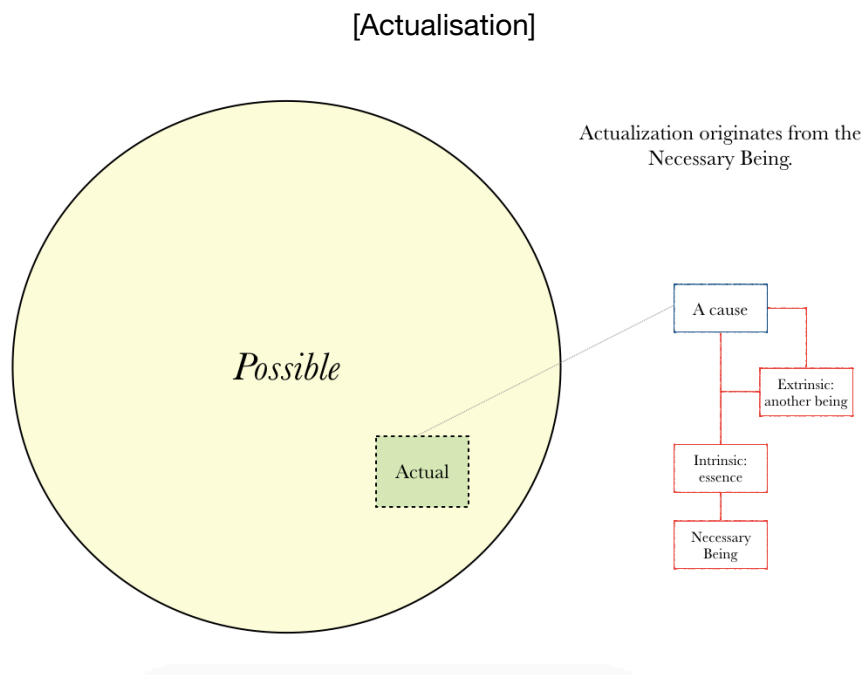
Necessary Being

§3 The first type of creation: actuality

The previous section presents Wolff's argument for the claim that the first being, or necessary being, *creates* all contingent beings, and that beings can be *created* by other beings as well.[101] Creation and change are both related to actualisation. The act of creation can be distinguished into two types. Type (1) the act of actualisation: a change of mode or state of a being from not-actual to actual, and type (2) is the creation of a possible being. The primary distinction between the two is that God has created all beings in potentiality, but not all that are actual.[102] Works of art as well as works of science, whether they are mental or physical constructions, are creations of actual beings, that previously were only as possibilities.

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[100] DM, §§933-943, 1053; "Das Erste Register", 677; Robert Theis, "Theologie", *HbW*, 230.

[101] DM, §§948-950.

[102] DM, §996.

In the image above, the black circle limits the possible from what is impossible. In chapter V we will see that this circle is God. What is actual is placed within the circle of the possible, showing that only a small part of what is possible is also actual, besides illustrating that actuality is a mode of the being that remains in the domain of the possible. Upon actualisation an actual being remains a potential being, while actual. The edge of actuality is dotted, symbolising that actuality is a process of creating or becoming actual. This process requires a cause (blue box). Creation is either extrinsically caused, as result of another being, or intrinsically, as result from the being's essence. If a being is actual as a result from its essence, then it is a necessary being.[103] The definition of a necessary being does not exclude the possibility that more than one necessary being can be actual, but according to Wolff there can only be one first being.[104]

Wolff distinguishes beings that are actual as a result of actualisation by human beings, from those that are actual by virtue of other beings or the first being. The former he calls artificial actualisation or artificial creation, while the latter is called natural actualisation or natural creation.[105] Similarly to artificial ontology and natural ontology, "artificial" seems to indicate that which has been created by, reasoned about, acted upon by human beings, rather than other sources of creation resulting in a change of affairs. One can wonder whether reasoning results in a change of the state of affairs.

In my reading of Wolff, reasoning does enact a change of affairs, because an idea, as product of reasoning, is a being, for example the representation of a being observed.[106] A new idea is therefore a change in the constellation of beings.[107] According to Wolff, the only requirement for something to be a being, is that it is not ontologically and logically in conflict with itself. A consequence of speaking in terms of beings that are actual or not, is that questions like 'has Homerus existed?' or 'was Socrates real?' become irrelevant in respect to the truth-value of the thoughts ascribed to their ideas. Even if Socrates was a fictitious figure that has fictitious dialogues that are all made up by Plato, the figure and his dialogues remain as actual beings. Socrates is an actual being, as long as we think of him and does not require material components for his actuality. The figure Socrates that is currently actual and the material body Socrates that once might have been actual are not ontologically the same being, although they are related to each other. Only when interested in giving a complete chronicle-like account of what has been materially actual

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[103] DM, §§937-940.

[104] DM, §§928, 933; Theis, *HbW,* 230.

[105] Buchenau, *HbW,* 408.

[106] Camposampiero, *HbW,* 120, 121.

[107] O, §§16-18; DM, §832.

does the actuality of Socrates' body become relevant for investigation.[108] The point is that the material body is irrelevant for the value of the philosophical lessons the actual Socrates might provide us, for even fake historical figures can provide us knowledge of the structures of the world.

How the process of actualisation is to be understood, remains a difficult part of Wolff's philosophy. The reason it is difficult is because actualisation is the force that creates, and which therefore necessarily remains on the edge of human reasoning. It is, therefore, no wonder that this was one of the targets of Kant's later critique. Beck presentation of Kant's critique can be rephrased to the question that if all beings are possible beings, is *the process of actualisation* a possible being too?[109] If actualisation is a being, then it has the status as a potentiality. This results in the difficult situation where the process of actualisation is itself understood as a possible that requires something to change its mode into actuality, for it cannot actualise a being if it is purely a potentiality. On the other hand, if it is not a possible being, then what remains for actualisation and actuality is impossibility. According to Beck this is an indication why Kant wanted to leave the ontological *modi* possible and actual as explanations for reality.

But Beck and Kant did not read Wolff critically enough. For actualisation is not a being, but something that has a different ontological status.[110] Actualisation is a primitive force (*Kraft*) that came about when the Necessary Being started.[111] It is the force that activates beings to unfold itself. One could also regard it as *the power of self-unfolding* of all beings, that only operates in actuality because actuality consists of active beings.[112] We cannot imagine the force of actualisation having a potential status because it coincides with the actuality of the First Being. We cannot imagine the First Being as potential, without being actual too.[113] This is why Wolff understands being in actuality as a process, a movement, or a force. Wolff defines the world as "eine Reihe veränderliche Dinge [i.e. actual beings], die neben einander sind, und auf einander folgen, insgesamt aber mit einander verknüpfet sind."[114] The link that binds the row of beings is the force of actualisation. Being actual is not a static station, but being *in actu:* to act and to be acted upon, i.e. being part of a

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[108] As is done in the discipline of history of philosophy of course.

[109] Beck, *Early German…*, 266.

[110] Cf. Blackwell, "The Structure", 208-209.

[111] DM, §§628-629.

[112] DM, §§583-589, 937; Theis, *HbW,* 226.

[113] Wolff confirms that it is difficult to imagine a being that is the cause of itself. He writes that God remains incomprehensible by humans and our understanding of God is therefore only intuitive, symbolic and figurative of nature. DM, §1078; PE, §279; Theis, *HbW*, 232.

[114] DM, §544. *The world is a queue of mutable [actual] beings that side by side follow one-another, and that if taken together are tied to one another.* (My translation, JSM)

web of actions.[115] To become actual is to be grounded in the connection of other actual beings. *Würcklichkeit* is being in action or *actus* as result of a *Würckende Ursache* (*causa efficiens)* — an efficient or working cause.[116] Moses Mendelssohn would later maintain to the same position in his discussion with Kant.[117] In Mendelssohn's words, to be actual is "*blos ein gemeinschaftliches Wort für Würken und Leiden*, just a common term for *actio* and *passio*, i.e. to cause and to be caused, or to act and to be acted upon."[118] Tt would be better to speak of beings *in actio*, in stead of the beings in actuality. We can now see that the process of becoming actual is identical to actuality, while Kant took actuality as distinct from becoming actual.

§4 The second type of creation: potentials

The second type of creation is the creation of potentials. One can wonder whether the possible being just thought of, already was a potentiality before it was thought of? Does the first being think of each and every being before a human being thinks of a new being? The answer to the question is, so it seems, yes. We see that the necessary being is the cause of all contingent beings to become actual. The necessary being has created all possibles, and hence knows their possibility, which is not different (by necessity) from their actuality in case that the possible has manifested its actuality. Another argument that can be given is that God has created the best of all possible worlds. This claim of Leibniz is supported by Wolff, to some extent.[119] It is then a logical necessity that the Intellect knows all possibilities, otherwise it could not have chosen the best possible world.[120] All possible beings are limited by impossibility, the first being can thus be regarded as establishing a divide between possibility and impossibility. Apart from being distinguished, possible beings are not endless within the domain of possibility for their attributes are limited. As an example, think of the alphabet. The letters of the alphabet are limited in number (e.g. to 26), but the possible words are not. However, the number of words taken as meaningful words is limited. Similarly, we can state that there is a rule for possibility — the principle of non-contradiction — but that potential beings are limited by God in a number possible worlds.

Even though all potentials are thought of by God before we think of them, epistemologically speaking we do understand it as a discovery of a newly actualised being. At the

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[115] DM, §§104-105, 120; O, §§174-175, 713-714.

[116] DM, §572; "Das Erste Register", 677.

[117] Munk, Reinier, "What is the Bond?" The Discussion of Mendelssohn and Kant 1785-1787" in Moses Mendelssohn's Metaphysics and Aesthetics, 183-202.

[118] Ibidem, 194. Cf O, §§713 (*actio*), 714 (*passio*); DM, "Das Erste Register", 674 (*passio*), 677 (*actio*).

[119] DM, §§982, 1020-1023, 1045, 1050.

[120] DM, §875; Theis, *HbW,* 221-234.

moment we think of a new possible being, we cannot comprehend it in another way. The being's structure (*Sosein*) determines the being's possibility. Even though the being is not thought of as such before our conception of it, after our thinking of it can only be conceived in that structure. Once we know it, it cannot be conceived in another way than as a pre-actual and independent of time, for time is limited to the realm of actuality. The invention of a new possibility strikes us as filling a priorly-not-being empty slot, but ontologically this cannot be characterised as the creation of possibilities. It has to be called a discovery of a new potentiality.

Furthermore, once the idea is conceived, it has become present and actual as an idea. The being is actual *in mente* and possible *in ente*. Since what is possible is actual *in mente,* according to Wolff, there is no difference in principle between actual *in mente* and actual *in ente.* The opposition of *res extensa* and *res cogitans* does not hold for Wolff, because there is no distinction between the idea and the physical as far as their actuality is concerned. This is quite the opposite position of Kant's, who took actuality as an intuitive but indeterminate source of all sense perception.

Another question that has to be addressed in this context is, whether possible beings can loose being when they are forgotten? Can the books on the shelves of the Bookworm's library stop being pre-actual *entia*? It seems not, because all beings presuppose an intellect that thinks of them and, according to Wolff, the Intellect always thinks of all potential beings.[121] No being is without reason in this sense. In the first place this sentence can be read as meaning that all beings are by their nature within the limits of possibility, which is also the limit of reason. However, when understanding the necessary being as a reasonable being and final ground of all beings, it becomes clear that all beings created are products of reasonable beings. For us, the beings are also products of reason, because it is through reason that we strive to understand and make sense of what there is. Therefore, once again, *nihil est sine ratione.*

> CONCLUSIONS IN THE PRESENT CHAPTER
> *The order of potentiality and actuality*
>
> - The necessary being is called God.
> - God is the unforced-forcer or first being.
> - God established a harmony of contingent potential beings.
> - A potential being can become actual by another actual being that serves as its cause (*Grund; ratio*).
> - Actuality is a mode in which potential beings can self-unfold, either *in mente* or *in ente*.
> - The actual world is the totality of all beings that are actual.
> - Humans can discern, know and interact with the world.
> - Logic aims to postulate certain propositions about the world

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[121] DM, §963; Theis, *HbW,* 233. Theis refers to *Theologia naturalis* I, §§155, 207.

III. ON THE SCIENCE OF THE POSSIBLES

§1 Introduction

Epistemology and ontology come together in the statement that the perfect logical or mathematical statement is true, because as a proposition it mirrors a section of the underlying order of the world. It is *by* the reason of the Intellect that there is a harmony of beings, and it is *through* reason of our intellect that we understand the actual part of that harmony. As we can see in the summary at the end of the previous chapter, logic is the instrument by which we can know the world. The previous chapter has presented how Wolff's non-existential world is structured. The present

> OUTLINE OF THE PRESENT CHAPTER
> *A priori synthesis and hypothesis*
>
> - On the construction of certainty in knowledge of the possibles
> - A specification of the types of judgements used in the gathering of knowledge of that which is beyond the limits of observation
> - An exposition of observations by the bodily senses and observations by the psyche.
> - On the harmony between psyche and the body, and between psyche and the world by the *vis repraesentativa*
> - Introduction of artificial creation as confirmation of knowledge

chapter will analyse how knowledge of such a world is structured. It discusses how we should investigate and systematise knowledge of the world. For Wolff, truth is the correct propositional representation of the orderly ontology that underlies the world in our psyche.[122] This claim of Wolff's raises three questions that will be addressed in the present chapter, *viz.* (1) How does the psyche represent the world?; (2) How do we know for certain it is represented correctly?; (3) How does Wolff implement potentialities to formulate new propositions or reformulate propositions in his certain system of knowledge?

§2 Observation and ratiocination

Judgements or propositions about beings can be formulated as nominal definitions or as real definitions. A nominal definition is true, because the proposition corresponds to a section of the underlying order of the world in "a chain of truths".[123] Wolff even calls the reliance on experience in reasoning a 'holy bond', a "Connubium rationis & experientiae" — a marriage of reason and

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[122] DM, §§822-826, 832; Wolff, Christian, "The Author's Short view", in *Logic,* J. École, H.W. Arndt, Ch.A. Corr, J.E. Hoffmann, M. Thomann (eds.) (GW III.77), (Hildesheim, Georg Olms Verlag, 2003), lxvii.

[123] Matteo Favaretti Camposampiero, "Philosophy of Language", *HbW,* 132-133; Paola Rumore, "Empirical Psychology", *HbW,* 190.

experience.[124] A real definition is true because the predicate of a proposition is determined by its subject. For example, a part of the essence of the bookworm is that he reads books, therefore "reading books" is a predicate that is determined by the essence of the bookworm. For Wolff there is a parallel between propositions and concepts, which allows him to apply truth and falsity to concepts and ideas in respect to their internal possibility or impossibility.[125] This implies that real definitions rely upon nominal definitions for the formulation a logical subject. The meaning of subject "bookworm", for example, is provided by a nominal definition, that requires a *fundamentum in ente.*

Judgements can also be divided into intuitive judgments and discursive judgements.[126] Intuitive judgements are true *because we cannot perceive them as otherwise* (*Anschauende Erkenntnis; cognitio intuitiva*). Discursive judgements (c*ognitio symbolica*) rely upon word or symbols that have to be confirmed in their correspondence to actuality for their validity, These judgements are formulated by using experience and ratiocination.[127] Discursive judgments require further argumentation to establish this confirmation, while intuitive judgements do not. Discursive judgements make use of intuitive judgements for their claims.

Kant argues that logical propositions should be deemed as rational constructions of man, which have their validity in the evidence *that we cannot think otherwise*. This is where Kant diverges from Wolff, who maintains that a proposition about the world is true because it is a correct reconstruction of the essence or ontological structure of beings. e can know the ontological structure of the world due to the pre-established harmony between psyche and body:

> "For the business of logic is to shew, how we may use the understanding in the
> knowledge and search of truth: it explains distinctly whatever passes in the soul,
> whenever we come to the knowledge of a thing: and therefore, not different from
> the natural logic. It gives no other rules, than those which nature herself
> prescribes, only explains them more distinctly."[128]

Kant grounds logic in the validity of the *a priori* structures of reasoning, while Wolff grounds it in the pre-established harmony of the world.[129] The human psyche is guided to the

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[124] DP, §12; PE, §497; Rumore, *HbW,* 180; Beiser, *Diotima's Children,* 53. In footnote 26 Beiser refers to H. W. Arndt, "Rationalismus und Empirismus in der Erkenntnislehre Christian Wolffs", in *Christian Wolff 1679–1754,* Werner Schneiders (ed.), (Hamburg: Meiner, 1983), 31-47 for a detailed analysis on the relation between experience and reason in Wolff's philosophy; Buchenau, *The Founding...*, 51.

[125] Camposampiero, *HbW,* 133.

[126] Arndt, "Einführung des Herausgebers", in DL, 80; Wolff, "The author's short…", lxvii.

[127] Madonna, *HbW,* 98; Rumore, *HbW,* 198; Wolff, "The author's short…", lxvii.

[128] Wolff, "The author's short…", lxvii. lxvi-lxvii.

[129] O, §502; DP, §§61-62.

truth by the proper use of the rules of logic because the psyche is part of this harmony. We can thus see that both thinkers claim that true logical propositions are correct because *we cannot think otherwise*. Kant does not explain *why* we cannot think otherwise due to his initially epistemological perspective on the matter. According to Kant it is impossible to know *why,* and therefore we cannot ask *why.* Wolff's position, however, is different from Kant's in that the *ground zero* of his rational philosophy is both epistemological and ontological. It is because we are ourselves part of the ontological structure that logical propositions are true. Therefore, we cannot understand ontology without logic, whereas logic cannot be understood as true without being grounded in an ontological structure.[130]

As we have seen in the previous chapter, it is ultimately by the power of God that beings are actualised. The whole state of affairs that is actualised is called the world. Yet, in order to know that there is another being that is actual, a proof has to be given that does not solely rest upon the *a priori* synthesis of concepts. Wolff has presented this proof, in line with Descartes, by giving an intuitive judgment, in stead of a discursive judgment. An intuitive judgement is true, because we cannot think otherwise. Wolff can thus be quoted as saying:

> "Wir sind uns unserer und anderer Dinge bewust, daran kan niemand zweiffeln, der nicht seiner Sinnen völlig beraubet ist; und wer es leugnen wolte, derjenige würde mit dem Munde anders vorgeben, als er bey sich befindet, könte auch bald überführet werden, daß sein Vorgeben ungereimet sey. Denn, wie wolte er mir etwas leugnen, oder in Zweiffel ziehen, wenn er sich nicht seiner und anderer Dinge bewust wäre? Wer sich nun aber dessen, was er leugnet, oder in Zweiffel ziehet, bewust ist, derselbige ist. Und demnach ist klar, daß wir sind."*[131]*

This intuitive judgement together with the two intuitive judgments introduced in chapter II (the principle of sufficient reason and the principle of non contradiction) establish the roots of the *ontologia artificialis,* that is further constructed by discursive judgements. These discursive judgements all rely upon the senses to yield experience of the world, which can suffice as the necessary input to reason about actuality. However, experiences are chaotic and unclear. When we are sleeping we have observations in our dreams too. In our dreams observation seems the same as our experiences when we are awake, so how are we to distinguish the two?[132] According to Wolff,

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[130] DP, §§88,89.

[131] DM, §1. *We are aware of our and other things, no one can doubt this, who is not completely robbed of his senses; and he who wished to deny this, would pretend with to be different with his mouth, from what he finds with him, and could soon be convicted that pretending to be unreasonable. For how would he deny or doubt anything to me, if he were not aware of his and other things? But he who is aware of what he denies or casts doubt, is at the same. And so it is clear that we are.* (My translation, JSM)

[132] DM, §§142-143.

the key difference lies in experience's being ordered in such a way that we can clarify its components. It is the implicit order that makes explanations possible by functioning as the qualifier that provides the certainty in actuality as distinct from appearances and irrational fictions. Science thus has to formulate certain theories of actuality by uncovering the underlying order. Experience alone cannot offer a clear distinction between real and fake. It only provides the awareness that there is something in actuality that is external to us and independent of our observation. One could deny these basic facts but then the possibility of obtaining knowledge is lost. Wolff seeks to avoid this situation because for him skepticism is admitting defeat in one's attempt to obtain knowledge and means the end of philosophy. Wolff believes that we might be able to excel beyond our expectations.[133]

But how do we build with certainty upon these initial realisations? A central point of discussion in the early modern period is about the question how actual and potential beings are structurally. According to Wolff, true propositions about the world can be formulated with the use of syllogisms. Wolff's use of the syllogism will be discussed below, because first we have to grasp Wolff's explanation of how the world is represented in the psyche, and how the intellect draws upon those representations.

§3 Thinking about the world

Philosophising after Descartes, Wolff distinguishes three domains that are important for the present section: the actual being independent of observation; the being as observed by an intellect; a possible being. The discussion on cognition turns around these three domains, and boils down to the question of: 'what is the object perceived, what is the perceiver and how do they relate?' In answering these questions Wolff is often seen as following Leibniz directly, although he does offers a different position.[134] Wolff strongly distinguished himself from Leibniz and especially does so from his *Monadology*. In the *Monadology* the essence of a being is a monad with the ability of perception and apperception.[135] The objects perceived and the perceiver, are in fact both perceiving each other. Wolff disagrees with the idea that *all* beings have the ability to perceive other beings or that they can be aware of their own perceptions. To Wolff the elements of material beings are simplistic *atomi naturae* that cannot perceive for themselves.[136] Instead of claiming a monistic world view, Wolff has presented a metaphysical dualism, where the psyche (*Geist*) is distinguished from

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[133] DP, §139.

[134] Corr, Charles A. "Christian Wolff and Leibniz" in *Journal of the History of Ideas*. Vol. 36. Cambridge Massachusetts: University of Pennsylvania press, 1975, 256.

[135] Beck, *Early German...*, 268; Rumore, "Empirical Psychology", *HbW*, 176.

[136] CG, §§81, 186; Rumore, *HbW*, 176.

other beings. The psyche is understood as that in us by which we can have perceptions and apperceptions(to be conscious of its own perceptions).[137] And in stead of Leibniz' harmonious monads, Wolff maintains the position that the *atomi naturae* are in harmony as potentials and in actuality interact primarily causally.[138]

The psyche is an incorporeal simple, but active, substance with the ability of cognition, reason, understanding, desire, perception, memory, imagination, and will.[139] For Wolff defined "reason" as *the ability to have insight in the unity of beings*, and did not distinguish between reasoning and understanding as Kant did.[140] According to Wolff, the psyche has a different ontological status than other beings in the world. With the exception of God, all other beings are divisible until the *atomi naturae* are physically met.[141] The psyche consists of an indivisible substance in which all functions are mingled.[142] The correspondence between the psyche and the world is established by the psyche's force of representation (*vis repraesentativa*). Like desire, the appetitive faculty of the psyche, the faculty of understanding can be at fault. Logic and practical philosophy guide the faculties towards truth, for they ensure certainty in representing the world. And due to its indivisible nature, the psyche is to be understood as immortal, just as well.[143]

The human psyche has two types of perception (1) the act of representing a being in the psyche, and (2) the awareness of our act of representation in the psyche (apperception).[144] Wolff distinguishes the perceiving subject from what is perceived, and the beings perceived from beings independent of perception — i.e. as on their own.[145] Consciousness of a being is also consciousness of a subjective activity, a position Kant would later maintain as well.[146] The intellect, the function of the psyche with the cognitive, understanding and reasoning abilities, is active when singulars are compared resulting in an understanding of the general concepts under which these singulars fall.[147] This reasoning Wolff calls *Vernunftschlüsse*, which can be translated as inferences of reason or syllogism.

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[137] DP, §55; PE, §2; Corr, "Christian Wolff and Leibniz", 257; Richard J. Blackwell, "Christian Wolff's Doctrine of the Soul", in *The Journal of the History of Ideas,* Vol. 22, No. 03, Jul.-Sep., 1961, (University of Pennsylvania Press), 341.

[138] Rumore, "Empirical Psychology", *HbW,* 176.

[139] DP, §60; PR, §§48-49.

[140] Jean-François Goubet, "Rational Psychology", *HbW,* 157-159.

[141] Rumore, *HbW,* 176.

[142] DP, §112.

[143] DP, §55; Leduc, *HbW,* 43; Goubet, *HbW,* 159.

[144] PR, §12; PE, §25; Findlay, *Transcendental Object,* 47; Rumore, *HbW,* 183.

[145] PR, §§4-5.

[146] DP, §55; PR, §§21-22; Findlay, *Transcendental Object*, 47.

[147] PR, §392; Beck, *Early German...,* 268.

In the relation between body and psyche Wolff does favour Leibniz' harmony to the extent that he thinks the other options to be less likely. Wolff gives an elaborate discussion of the several positions that are taken, of which I present a few thematically to help understand the field in which Wolff positions himself. The discourse develops from the ontological mechanical conception of the body and its relation to the psyche. This mechanical conception of the body was central in the Cartesian discussion on the body-psyche-problem. The body is treated as a special machine subjected to the causal laws of physics. And the question that is to be addressed in this context is, in what way consciousness corresponds to the physical body — the question around which today's field of neuro-philosophy is formed.

After Descartes, the discourse shifted from the ontological orientation into a debate on the epistemological limits of the knowing subject, in which an *empiricists perspective* was distinguished from a *rationalistic perspective*. Both views hold the opinion that the body offers the access to knowledge of the world; the difference is characterised by the method. The *rationalistic perspective* departs from the claim that the subject is part of a metaphysical unity, in which the relation between psyche and world is embedded in an ontological harmony. The *empiricists perspective* has a different epistemological position, in which sense perception is given priority over critical reflection. The relation between reason and sense-perception is presented in terms of perception instead of critical reflection of perception.[148]

An *empiricist position*, sometimes negatively referred to as 'naive realism', is the idea that there is a *direct* or unmediated physical influx of the external beings into our consciousness. According to this position there is no difference between the object as it is and the object as it is perceived. This position is subsequently confronted with the difficulty of how physical beings can manifest themselves in the psyche of the beholder, if not physical.

A second *empiricists position* is that there is some occult force originating from either the perceiver or from the object of perception that establishes the correlation between consciousness and the physical domain. A specification of this occult force is maintained by Newton and Clarke with their formulation of a perpetual miracle, where God is the instigator of the occult force by continuously performing a miracle. Ignoring the fact that a perpetual miracle seems a *contradictio in terminis*, the occult force would be a natural force since it is part of the world. Wolff argues that both options seem unlikely for there is no required empirical evidence to support the claim.[149]

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[148] Cf. The lemma "Leib, Körper" in *Historisches Wörterbuch der Philosophie,* Herausgegeben von Joachim Ritter und Karlfried Gründer, Band V (Basel: Schwabe, 1980), column 178-180.

[149] PE, §§947-964.

Similarly to the psyche-body harmony, does Wolff prefer the hypothetical position of Leibniz' *rationalistic* pre-established harmony of all beings, although in an altered version.[150] Wolff judged the idea of monads having souls that influence each-other non-physically to be unlikely. He accepts the pre-established harmony to explain the relation between the body and the psyche, but is not sure of it between the psyche and all material beings.[151] All changes in the psyche represent changes in the body, except for mental divine interventions.[152] Refuting the idea that the psyche is a *tabula rasa*, Wolff agrees with Leibniz' innate dispositions of beings, yet he disagrees that the intellect and the beings are ordered as actual beings before being in actuality. Beings and psyches are ordered as potentials, and there is no a pre-determined state.

For Wolff, there are no ideas in the psyche that are not based on some experience.[153] With the use of empirical psychology we came to know that the body and the psyche act and think simultaneously. This correlation between beings represented in consciousness and beings on their own is explained by learning over time as a result of interaction between psyche and observations. The perceived spatial-temporal order of actual beings is, according to Wolff, a representation by the psyche of the force-based (*Kraft*) interactions between actual beings.[154] The *vis repraesentativa* is best understood as the ability of the conscious psyche to interact with actuality without influencing each other causally. In every interaction of beings a being can be a patient, to be acted upon, or an agent, the actor.[155] Every perceived change that occurs between other actual beings has no direct causal influence on the psyche.[156]

By way of conclusion we might state that Wolff's position with respect to the relation between beings and the psyche is similar to Leibniz' — even though he claims that it is not. Where he diverts, however, is difficult to determine. With respect to the psyche-body discussion, Wolff's position resembles the cartesian mechanistic approach in a *rationalistic* harmony. And, from this angle, I interpret Wolff, that the body has an interaction with the world in terms forces, causally and others, such as the *vis repraesentativa*. The psyche has a pre-established harmonious relation with the body.[157] It is impossible that thoughts in the psyche can be formed independently of the use of the body according to Wolff. All thoughts harmoniously supervene on brain activity.[158] It is

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[150] PR, §638.

[151] Beck, *Early German...*, 271.

[152] DM, §§757-759.

[153] Beck, *Early German...*, 268.

[154] DM, §§114, 744, 747, 753; Beck, *Early German...*, 270; Goubet, *HbW*, 172; Beiser, *Diotima's Children*, 58.

[155] O, §716.

[156] PR, §§618 ; Findlay, *Transcendental Object*, 52.

[157] Leduc, *HbW*, 49-50; Rumore, *HbW*, 183, 184.

[158] DM,§ 837; Camposampiero, *HbW*, 128.

because of this harmony with the body that the psyche can represent other physical beings. All knowledge of the world is mediated by the body. One can also interpret the harmonious relation of body, and psyche includes the *vis repraesentativa,* or even, when taking an epistemological perspective rather than an ontological, that the psyche itself is identical to the *vis repraesentativa.*[159]

With regard to the limits of the knowing subject, it is safe to state that Wolff is in line with Leibniz. The psyche is harmoniously connected to the body, and because it is connected it is possible for the psyche to address the body's ontological status. To Kant, however, pure reason is independent from the body, and the body, just as all other material objects, is unknowable to pure reason. Kant's distinction between the knowing subject and the empirical subject makes it impossible to state something about the ontological status of the body. In general, Wolff is able to talk about the ontological structure of the world because of the correlation of the empirical and the knowing psyche. The psyche is in harmony with the body. The body offers the psyche the possibility to perceive the world, and it limits the psyche. Potentially the psyche can come to know everything, and is thus godlike, but due to the bodily limits, this potentiality can only be actualised to a certain extent.[160]

§4 Knowledge of the possibles

Even though Wolff does not determine an exact relation between the psyche and the world it is possible to formulate a philosophical theory that is able to grasp the beings in the world in which they are actual. We reason, Wolff writes, that all beings, including the psyches, are beings that cannot be actual as result of their essence (i.e. they are not necessary beings), and therefore they follow causally from the first being that is necessary, i.e. God.[161] As a result of this reasoning, we can state, Wolff continues, that the beings we can know are God, human psyches (and its contents) and material beings.[162] The part of philosophy that investigates that what is possible through God is called natural theology. Physics is the part of philosophy that studies that what is possible through material bodies. Psychology is the part of philosophy that aims to know that what is possible through the psyche and all that changes within it.[163] The three studies result in the first three parts of philosophy that study the possibles.

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[159] PR, §§626-628; DM, §§114, 744, 747, 753, 894; Goubet, *HbW,* 156.

[160] Leduc, *HbW,* 40, 48-49; Blackwell, "(…) Doctrine of the Soul", 348-351.

[161] DP, §§55-59.

[162] DP, §55.

[163] DP, §58; PR, §§4-5.

The definition of philosophy in general is that of being the science of the possibles in so-far as they can become actual: "*Philosophia* est scientia possibilium, quatenus esse possunt. / *Philosophie* ist die Wissenschaft des Möglichen, insofern es sein kann."[164] Philosophy derives the necessity and certainty of its claims not by studying what is perceived actually, but by artificially reconstructing the rational order of possibility in the *ontologia artificialis*.[165] Philosophy aims to collect certain knowledge about why certain beings are, while other are not. Therefore the claims about logical possibility in terms of their possibility to become actuality. The translation of "insofern es sein kann" as "in so-far as they can become actual" is my own. Others, such as Blackwell, have translated the definition as "philosophy is the science of the possibles in so far as they can be". Although this is indeed the literal translation of the Wolff's definition in German, I think it is more accurate to translate *esse* as 'being actual' rather than simply 'being', to avoid confusion with being as also referring to 'being possible'.

All parts of philosophy study what is ontologically possible within the limits imposed by physical conditions of the body and the world. The fields of study Wolff presents are primarily directed to those beings which are likely to become actual, since philosophy is the study of what is possible in so-far as it can become actual.[166] The beings that are likely to become actual are those for which sufficient causes are related to what is actual. Science is then not only the skill to discover what is actual and true, and to distinguish it from *Schein,* but also to predict actuality.[167]

In his article *The structure of Wolffian Philosophy* (1961), Richard Blackwell wonders whether there are terms in Wolff's system that have meaning derived from experience of an external world. According to Blackwell, Wolff seems to argue that both nominal and real propositions receive their meaning by logical analysis.[168] Blackwell's claim is that all meaning is a logical construction formulated on the basis of reason and independent from experience of external objects. I believe that this is not the case and that Wolff, actually, does rely on experience derived from contact with the external world when attributing meaning to propositions. In Wolff's philosophy knowledge is formed by a process of reasoning that takes place in the mind of the beholder. This entails that knowledge-gathering is a mental process. What is experienced as an external object Wolff calls actuality.

In Wolff's system, certainty is based on logical necessity and the body (*fundamentum in ente*), meaning that contingent actuality is explained in terms of certain logical possibles whose

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[164] DP, §29.

[165] O, §23.

[166] DP, §29.

[167] DM, §50.

[168] Blackwell, "The Structure…", 217.

being are ensured by methodological reasoning. This does not necessarily entail that a philosophical truth is a construct of the mind, but that being actual can also be a fraction of what is ontologically possible. The tie-breaker in this opposition is the question whether what is logically coherent due to methodological reasoning is an accurate representation of the ontological structure of the world. It is the question of how can we be sure that a coherent logical structure of the world corresponds with the ontological structure of the world? If logical necessity did not entail ontological necessity, then Wolff's conception of the world is merely a construct of the mind that does not have any support from what is experienced. This is impossible according to Wolff, for logical necessity derives its meaning from ontological necessity. Logic cannot be true if there is no ontological order supporting its necessity. For Wolff, it is evident that it is impossible for us to not think that logical necessity entails ontological necessity.

Wolff's ontological presentation of the world is indeed a representation supported by what we observe of it. And since observation is the key for confirmation or refutation, sheer excogitation is excluded. The key is the *vis repraesentativa,* which, again, links the psyche to its body. It is possible with the right methods to formulate a structure of the world that corresponds with the ontological structure, albeit by mediated experience from what is actual. Philosophical knowledge derived from actuality can teach us about potentiality, albeit that it has to receive its certainty from logically and orderly reasoning.[169] The uncovering of the ontological order is thus the key to obtain truth and certainty, and the way to overcome the problem of unclarity concerning the pre-established harmony between the psyche and the world.

The psyche has the ability to formulate thoughts about what it perceives, but this reasoning does not necessarily entail certainty. Uncertainty in Wolff's system arises when propositions are formulated vaguely or when the syllogistic reasoning is conducted incorrectly. Possible discrepancies between the actual being and the being as experienced cannot be known, due to the bodily limits of the subject, and therefore cannot be regarded as wrong.[170] Together with the fact that there are no statements possible from "sheer excogitation" alone, the conclusion is that incorrect knowledge, is that which is claimed for refutable reasons.[171] These reasons are refutable, because they follow from illogical reasoning or are the conclusions are drawn incorrectly. Wolff's definition of science can be rewritten to asserting things about the world by reasoning about experiences according to logical methodology.[172]

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[169] DP, §§31-34.

[170] Cf. Sébastien Neveu, "Secondary Author's Influence on the Formation of the Wolffian 'System of Truths'", *HbW*, 68.

[171] This contradicts the claim that Wolff and Wolffians "can know the truth about things by sheer a priori excogitation". A critique presented by Blackwell, but also by Kantians in the eighteenth and nineteenth century; Frederick C. Beiser, "Revenge of the Wolffians", 199.

[172] Corr, "Christian Wolff and Leibniz", 250.

An irrefutable reason is one that is certain, and it is certain because it is supported by methodological formulations that can be verified. The method ensures that the reasoning is part of a supporting system of what already is known. This provides certainty because truth is a correct representation of the ontological order of the world in a scientific order or system. A proposition obtains its certainty by demonstrating its coherence to the known order, which as a whole is a representation of the ontological order.[173] One can list all that occurs in actuality, while refraining to state something about the underlying structure, but that would not be knowledge according to Wolff, as it would be a historical account of possibilities.[174]

A being in Wolff's philosophy is always determined in terms of structure or order, which he defines as "(…)demnach die Ordnung nichts anders ist, als die Aehnlichkeit des mannigfaltigen in dessen Folge auf und nach einander".[175] Truth is therefore also obtained by presenting and using order and rules. Experience is not only an instigator for thinking, but also a confirmatory factor of reason. One could label Wolff's method as structural empiricism, when regarding the following summary.

1. Achieve *structural coherence* by methodological reasoning.

2. Maintain necessary *certainty* by reasoning on the basis of certain principles.

3. Lastly, observation and creation *confirm* the formulated claims about the world.

How is this three step method applied? The *rules of formulation* have to be followed, if one aims at maintaining certainty (2) and coherence (1) when formulating new propositional claims about the world. It is just like mathematics, Wolff states, following these rules will result in certainty and coherence (1) for they ensure that they follow necessarily from what is already certain.[176] The rules are as follows. *All propositions as well as their predicates in the system have to be determined and defined accurately. There has to be agreement in meaning of the propositions to make a rational discourse possible.[177] *All newly introduced propositions or predicates have to be understood and demonstrated through those already present in the system of knowledge (c.f. no. 2).[178]

It follows that if method plays such an important role for science, rules are essential too. Throughout the rationalist tradition, rules have an essential function for science, criticism and

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[173] O, §23; DP, §§89, 90, 92, 92.

[174] DP, §§ 4,8, 50; DL, §3; DM, §12-14. Tutor, *HbW*, 78; Findlay, *Transcendental Object,* 43.

[175] DM, §§132-133; DP, §87; Beiser, *Diotima's Children,* 65; Tutor, *HbW,* 87. (…) *Therefore order is nothing but the similarity in multiplicity in how things succeed one another* [in time or coexist with one another in space]. (My translation, JSM. The section in square brackets is added by Beiser.)
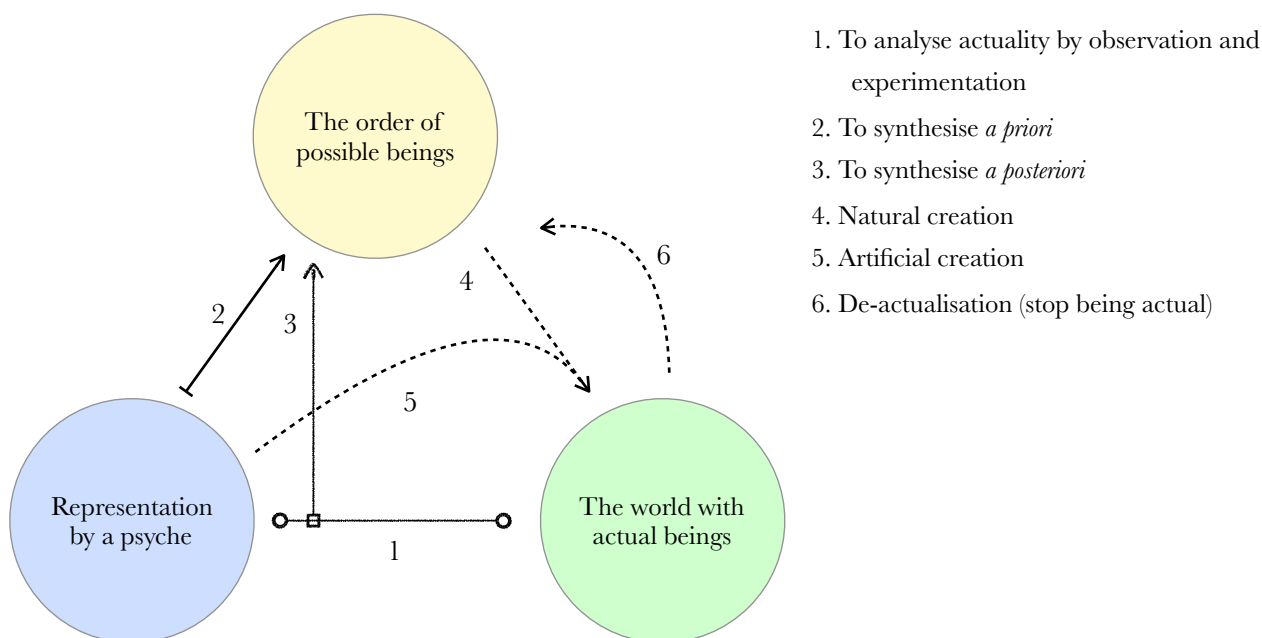
[176] DP, §§115-124.

[177] Idem, §§121, 130, 139.

[178] DP, §§116, 139.

creation. One might even state that every conception of philosophy, from antiquity to the twenty-first century, includes a formulation of thoughts related to the world, and as such it has always to do with rules. For Wolff a rule is 'a proposition that specifies the determination conforming to reason' — it is a determined practice that accords to one or more reasons.[179] A rule can be instrumental, offering the most efficient means to achieve a personal or material end, or it can be holistic, unifying various parts to a whole. For Wolff, all beings, artificial and natural, are part of a unity. It is on account of conveying a whole and how it is related to its parts, that we can understand a state of affairs or a being. Understanding a particular element in Wolff philosophy, whether it is artistic or scientific, requires knowledge of science as a whole, of which the element art is a part.

[A triangle of analysis and synthesis]

1. To analyse actuality by observation and experimentation
2. To synthesise *a priori*
3. To synthesise *a posteriori*
4. Natural creation
5. Artificial creation
6. De-actualisation (stop being actual)

§5 Hypothesis

As presented above, in discursive judgements the drawing of conclusions are drawn in an act of synthesis. This act of synthesis is executed either *a priori* or *a posteriori* by establishing with certainty the definition of a nominal proposition (see the scheme). For Wolff, *a priori* synthetical judgements can be made on the basis of hypothetical imaginations or fictions about the world, while *a posteriori* synthetical judgements are formed on the basis of observations and experimentation.[180] A nominal propositions that is yet uncertain is a philosophical hypothesis: a

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[179] O, §520; Beiser, *Diotima's Children,* 12-13.

[180] Wolff, *Anmerkungen zur Deutsche Metaphysik,* §§26, 114.

proposition that is assumed because it can functions as, or give lead to, a reason for a specific being, although reason has not yet been proven certain.[181] Hypotheses can be based on what is sensed from what is actual, but have to be proven logically. The fields that test hypotheses are the experimental fields of science. Hypotheses become stronger or weaker when they are further confirmed or falsified by subsequent experiments. The metaphysical structures that underly actuality can be determined with certainty by following the rules presented above.

Philosophical hypotheses open the possibility to include or revise experiential knowledge based on what is found by experiments. [182] The hypotheses are flexible vantage points of research. [183]If what is known is required to be adjustable by hypothetical statements based on new experience, then an opening for how the knowledge ought to be is necessary. Unless you are the *Philosophus absolute summus,* you are unsure about the totality of what can be known, making the possibility of alteration a necessary component of knowledge gathering. The status quo requires possibility for improvement, knowing how it 'is' entails necessarily how it 'ought' to be.

If Wolff would only have the possibility to include new information by logical analysis, Blackwell would be correct in asserting that Wolff's knowledge is a construction of reason only. However, according to Wolff, new information can be included hypothetically as well and this information can be gathered by experience from the actual.

If a certain being has been changed and that change was not yet incorporated in our knowledge of that being, this does not entail that what was believed to be certain turned out to be wholly uncertain. It does not undermine certainty of knowledge at a fundamental level. Within Wolff's philosophy, if some being were to change and that change was completely unknown thus-far, the inevitable conclusion would be that we did not have a complete or accurate understanding of that being. However, the ability to change was already part of that being as a potentiality. Knowledge of a being means that we know certain properties of that being, is does not claim that we know all properties. This entails that when a conclusion is drawn from a set of propositions, the conclusion could turn out to be untrue when new propositions are discovered to be true, without endangering the security of knowledge. Logical necessity as a means is still derived from ontological necessity, even though its content turns out to be otherwise.

Wolff went even further and stated that due to our bodily limitations, we are unable to know the world completely, and it remains possible that we are unable to know one being completely.[184] When rephrasing what has been said before, one could say that the meaning of

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[181] Rumore, *HbW,* 180.

[182] DP, §§34-36; Van Peursen, *Ars Inveniendi,* 143-146.

[183] DP, §§126-127.

[184] Van Peursen, *Ars Inveniendi,* 146.

knowing something is that we are unable to think of any alternative explanations. The change of a philosophical hypothesis to knowledge does not require a eureka-moment in Wolff's philosophy, but only the absence of a counter-explanation, in which all explanations are formulated according to the rules above. Nevertheless, Wolff's science does actually build towards that eureka-moment, namely in the form of perfection. If an order is perfect, it has an order in which no element is obsolete or missing. If this is met, we know it because we have cognitive pleasure of recognising its perfection. We receive this cognitive pleasure upon recognition of harmony. The discovery of perfection will be further discussed in chapter V.

Wolff thought of his science as a dynamic order in which all scholars participate. Without the recognition of perfection, Wolff's thinking comes very close to an all-familiar twentieth century thinker, who stated that all propositions have to be formulated in such a way that it is falsifiable.[185] Wolff does not state the latter himself, but the addition could easily be made. Where Popper's science is doomed to remain hypothetical of nature, Wolff's hypotheses are allowed to be confirmed true and regarded as knowledge. It is not general acceptance that leads to truth but perfection in order at the level of propositions as well as science as a whole.

Like Descartes, Wolff argues that the art of synthesis of the singulars in the intellectual part of the psyche is the confirmatory step in reasoning — analysis being the investigative part. The synthesis, or *ars combinatoria*, is the mental process of creation, which can also be applied physically. If a proposition about the world is formulated on the basis of analysis, only, it does not offer certainty. It is on account of synthesis that that the analysis can be proven to be correct. In this conclusion Wolff follows his teacher Ehrenfried Walther von Tschirnhaus literally, who stated that "it follows that falsehood consists in what cannot be designed, and the truth in what can be"[186]

Of course one could create a being accidentally, but knowing such a being would be the same as trying to formulate propositions about any natural creation with the difference that one might remember the steps of the process. In both cases the recreation of the object of study confirms the explanation of the object's structure and being, because both the study-object and the recreated object relate to the same essential being. Wolff's history of knowledge is construed of hypotheses that are considered to be knowledge if they are perfected. Certain propositions fit the order of logical possibilities and when completed they are also true. Certainty can be met when arguing on the basis of the principles of non-contradiction and sufficient reason and by applying the syllogism correctly.[187] Traditional philosophy, i.e. Scholastic philosophy should not be discarded for just being out of date. Instead, the claims of older philosophers should be regarded

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[185] DP, §128; L, §610; Van Peursen, *Ars Inveniendi*, 144.

[186] Neveu, *HbW*, 68. Von Tschirnhaus as quoted by Neveu.

[187] DM, §§132-75; O, §§494-6; Beiser, *Diotima's Children*, 65.

as hypotheses that need adjustment or correction.[188] Likewise, we could take Wolff's science and alter it to our scientific demands. How Wolff himself alters his system of knowledge is discussed in the next chapter.

CONCLUSIONS IN THE PRESENT CHAPTER
Knowledge of a non-existential world

- The human psyche is part of the pre-established harmony or ontological structure of the world.
- The psyche can obtain knowledge of the world by its power of representation.
- The power of representation remains indeterminate
- We are able to formulate a science of the world, despite the indeterminacy of the power of representation.
- Methodological reasoning guides to certainty by ordering knowledge. In this way, knowledge reflects the ontological harmony.
- Perfection of knowledge can only be obtained if the system of science is adaptable.
- Artificial creation can confirm that we are approaching truth.

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[188] Wolff, "The Author's Short…", lxvi, lxix, lxxiii.

IV. ON THE POSSIBILITY OF CREATIVITY AND INNOVATION OF KNOWLEDGE

§1 Introduction

In chapter II two types of creation have been introduced: creation of actual beings (natural and artificial) and creation of possible beings. Possible beings are before they are thought of by human beings, according to Wolff. A second conclusion of chapter II is that a being that is potential *in ente* is identical to a being that is actual *in mente* of the Intellect and possibly a human's intellect. This entails that all potentials are essentially always mental beings of God and sometimes of humans too.[189] If a human psyche thinks of a potential being, it immediately becomes actual *in mente* for a human being by his *vis repraesentativa.* To create an actual being is

> UNDERLINE OF THE PRESENT CHAPTER
> *On the logic of fantasies*
>
> - An exposition of *ars inveniendi* as the skill of recognising new unforeseen possibilities
> - How a discovery is made by actualisation *in mente*
> - On the role of experiments, and synthetic *a priori* knowledge in science
> - An exposition of the types of *ars inveniendi: a priori, a posteriori* and *mixta*
> - A presentation of *ars fingendi* and imagination as essential to *ars inveniendi*
> - An illustration to determine the place of *ars inveniendi* in the construction of knowledge.

to structure it mentally or physically by using psyche and body. However, it is possible that a mental representation is only partially true and does not correspond completely to the being it represents, as has become clear from chapter III. In this interpretation of Wolff, the human creative skill, or *ars inveniendi*, can be presented as the ability to find potential beings that are required. Possibilities are thus created by *ars inveniendi* if taken from the perspective of actuality as well as discovered when seen from the perspective of the necessary being, that is the source of all possibilities. The present chapter explains how we use our *ars inveniendi* to uncover new possibilities to actualise beings

§2 Filum Meditandi

Wolff presents a metaphor borrowed from Leibniz to explain the philosophical method, but it also vividly shows its relation to *ars inveniendi,* just as well. According to Leibniz and Wolff, the philosophical or mathematical method in meditating, which is reasoning, is like Theseus following

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[189] DM, §§995, 996.

Ariadne's thread to escape Minos' labyrinth (*filum meditandi Ariadne*).[190] Method, like the thread, is the means that can guide us out of the labyrinth of uncertain knowledge. According to Leibniz and Wolff, methodological reasoning is the tool to certainty and clarity for it can help to provide a perfectly coherent system of what is known about the world. If method is the thread that guides us, *ars inveniendi* is the ability to use the thread to uncover new potentials that presently remain hidden.

The metaphor of guiding the psyche from darkness into the light resembles how Descartes described his search for stability in the dark. "But, like a man who walks alone in the dark, I resolved to proceed so slowly, and to use such circumspection in all things, that even if I made but little progress I should at least be sure not to fall."[191] Descartes' metaphor seems to imply some sort of fear to fall and be lost in the darkness that in Leibniz' metaphor can be characterised as a fear of being lost in the labyrinth. Both Descartes' and Leibniz' metaphors help to imagine the concepts of method and *ars inveniendi,* either as guided by a thread or by walking slowly with circumspection. In Descartes' metaphor it remains indeterminate whether we can ever reach the light, whereas Leibniz' metaphor the escape is a given, for that is where the thread guides us to. The distinction between these analogies illustrates the levels of certainty we obtain in our knowledge according to the thinkers. Descartes' analogy reflects his understanding of certainty of propositions, namely that they are *clear and distinct*.[192] Contrastingly, according to Leibniz and Wolff, perfect knowledge is feasible in actuality, which is thus portrayed by the necessary escape of the labyrinth when the end of the thread is met. For Wolff knowledge of a being is perfect if it describes a being *completely,* in terms of its potentiality, i.e. as precisely and comprehensively as possible.[193]

Rather than finding the exit of the maze, the task given to us is to try to explain Wolff's concept of *ars inveniendi* non-metaphorically. What does *ars inveniendi* entail when it is defined as the skill to discover new potentials? According to Wolff, *ars inveniendi* is the key to determine how can we discover new knowledge and create new actual beings in this world. Besides attempting to explain *ars inveniendi* non-metaphorically, the chapter also explains how new information uncovered with this skill can be added to what already is known. The final section of the chapter addresses goes further into the relation between art, science and *ars inveniendi,* as creative operations of human beings.

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[190] Buchenau, *The Founding...*, 24; Cf. Descartes, "Rules for the Direction of the Mind", in *The philosophical writings of Descartes,* Vol. I,J. Cottingham, R. Stoothoff, and D. Murdoch, (ed.) (Cambridge: Cambridge University Press, 1984), Rule VIII, 28.

[191] René Descartes, "Discourse on the Method" in *The philosophical writings of Descartes,* ed. J. Cottingham, R. Stoothoff, and D. Murdoch, Vol. I (Cambridge: Cambridge University Press, 1984), 119.

[192] Descartes, "Rules for the direction of the mind", Rule VIII, 32, 33; Cottingham, *Rationalists,* 32-36.

[193] Wolff, "The author's short", lxx.

§3 Ars inveniendi

Wolff's *ars inveniendi* resembles our concept of creativity.[194] It is to uncover what can become actual within a current state of actuality that was before only ontologically possible. According to Wolff, creativity, or *ars inveniendi*, is the rational skill of applying logic to specific actual contexts in the attempt to discover new possibilities in the order of beings.[195] Even accidental discoveries only receive appreciation when their value has been made clear by reason. Creativity is thus about what can become actual, and the process of discovery is directed by philosophical knowledge of what is ontologically possible formulated according to the philosophical method. If the realm of knowledge is presented as a map, then *ars inveniendi* is the determination of *terra incognita.* After a new potentiality has been discovered, one can try to artificially create it. The actualisation can be done in terms of logical propositions or physically. Bodily practices and skills, which Wolff calls art, are required in the act of artificial creation. There is no principle difference in the act of artificial actualisation for mental and physical beings from the perspective of the first being, that thought of all possibilities before humans do.[196]

In Wolff's philosophy, 'ars' and 'art', used as synonyms in the present thesis, is often best understood as a skill, a habit or know-how (*Fertigkeit*). For Wolff, art is all that is created with the use of the body. Since all representations in the psyche are created through the body, not only material creations are considered art but all thoughts are works of art. Wolff makes a distinction between liberal and illiberal arts; however this should not be confused with the use of (fine) art that would later be developed by Wolff's students Baumgarten, Bodmer, Breitinger or Gottsched.[197] Liberal arts make creations that are primarily immaterial constructions of the psyche, such as poems, propositions and narratives. The illiberal arts make the opposite, namely creations that are primarily material constructions often made by hand (*artes manuales*).

Before an artist or a scientist can try to create something, judgements regarding the intention and structure of the being have to be made. Judgements are based on logic, since they all involve logical acts of constructing, reducing, comparing and abstracting. These logical acts or *artificia heuristica*, as they are called by Wolff, are heuristic artifices, which help to determine the ontological order of which the object that is investigated is a part of. A logical construction can be the creation of a relation between a subject and a predicate. In the statement "Socrates has a bald

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[194] "Creative" http://www.oed.com/view/Entry/44072 (last visited, 13 February 2019).

[195] DP, §74.

[196] DM, §996.

[197] Beiser, *Diotima's Children,* 48, 60, 64.

head", for instance, establishes a relation between baldness and Socrates.[198] Socrates had the potential to be bald, but now he is also thought of as actually having a bald head. A bald Socrates is now actualised *in mente*.

One of the heuristic artifices Wolff discusses, is 'the principle of reduction' (*Grund der Verfehrung*; p*rincipium reductionis*), which can be understood as the act of splitting a being into elements and is.[199] By investigating the elements a being or the subject of a proposition consists of similarities between beings can be discovered, which, according to Wolff, is an central part of the practice of historian, mathematicians, orators and fiction-writers (poets). This line of reasoning is used when determining what properties of a being are essential and what are accidental. The principle of reduction is used on basis of similarity (*similitudo)* by use of ingenuity (*Vernunft des ähnliches* or *Witz i*n German, in Latin it is *analogium rationis* or *ingenium*).[200] *Ingenium* is the capacity to find useful examples and (surprising) similarities or connections. For example, Bacon imagining that, since there are aides for seeing, aides for hearing might be invented as well. A genius is someone who has a well-developed *ingenium*. A comparison is made with the use of examples and metaphors, and in the comparison, one is using one's *imaginatio (Einbildungs-Kraft)*.[201] Thinking is an act that cannot occur completely independent of imagination, according to Wolff, but is limited to the context of what is observed, as is the rest of the psyche. "Die Exempel erläutern die Regeln indem sie verständlicher machen, eine Probe von ihrer Richtigkeit abgeben und zugleich zeigen, wie Regeln in vorkommenden Fällen angebracht werden."[202] The imagination has to be rational in order to make sense, i.e. imagining beings should occur on the basis of the principle of non-contradiction (*fabula rationalis*). Abstraction is the art of relating symbols to general universal abstract language which determines what properties multiple beings have in common. Wolff uses Leibniz' *ars characteristica* (postulating symbols with a specific meaning, e.g. a certain concept) and *ars combinatoria* (rules for the use of symbols, e.g. grammar). The symbols allow the possibility of syntactical and semantical alterations, but are bound by rules of the *ars combinatoria*.[203]

Relations between propositions that primarily rely on reason are called *a priori* judgements.[204] Reason can also be aided by the senses in generating a judgement that is related to a specific observation of the actual world, i.e., an *a posteriori* judgement. According to Wolff, not a

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[198] Tutor, *HbW,* 74.

[199] DM, "Das Erste Register", 674.

[200] DM, "Das Erste Register", 676-677; Van Peursen, *Ars Inveniendi,* 148-157; Beiser, *Diotima's Children,* 55.

[201] DM, "Das Erste Register", 673.

[202] DM, §159; Van Peursen, *Ars Inveniendi,* 153. *The examples explain the rules when they make it comprehendible, they give a sample of its correctness and at the same time they show how rules are applied in cases that occur.*(My translation, JSM)

[203] DM, "Das Erste Register", 676-677.

[204] Neveu, *HbW,* 69; Tutor, *HbW,* 84.

single thought is completely independent of input from experience. Even abstract mathematical constructions require the experience of different extended beings. The innate ability to discern two beings as distinct has to be triggered, in order to be aware that it is there.

Both types of reasoning, *a priori* and *a posteriori*, can be used to discover new truths, in addition to those already known. Logic is to be understood as a tool to find truth, Wolff continues, as it provides the rules to guide the mind towards truth.[205] *Ars inveniendi*, translated as art of discovery and invention, is an extension of logic and is best explained as the skill of using this tool. More specifically, it is the skill of using the tool called logic in such a direction that information about beings that remains yet unknown might become known ("arte inveniendi … eruntur verities incogitae").[206] *Ars inveniendi* is then the ability or skill of discovery of beings and their elements. These beings can be actual but not completely understood or they might remain in the realm of potentiality. When discovered, potentialities become actual *in mente,* as explained in the previous chapter. The act of artificial creation both mentally and extra-mentally is possible because we have gathered information about beings by *ars inveniendi* and ordered them harmoniously in the system of knowledge. *Ars inveniendi* can be seen as the term shaped by Wolff to address the skill of discovery, similar to Descartes' *Regulae ad directionem ingenii.* The rules of logic used for discovery, like the *regulae* of Descartes, do not prescribe what is to be thought. They rather function as a guide for meditation in the Cartesian sense. Descartes' *regulae* are then similar to Wolff's method of philosophy. The method explains what is ontologically possible.

A fragment of the map below by Gerard de Jode (1509-1581) of the southern hemisphere can be used to explain the relation between knowledge, method and *ars inveniendi.*[207] The landmasses and seas depicted on the map represent what is known about the land and sea there. An orderly geometrical depiction of the land can only be drawn when all points on the map are drawn according to the same method or rules. By depicting what is known about the land, that which is yet unknown becomes visible just as well, in this case *terra australis incognita (*the unknown lands of the south). *Ars inveniendi* is the skill to fill in or imagine possibilities that are missing elements in our structure of knowledge. In this case it is a possible landmass depicted by a blank area on the map. Yet, the blank area is not the only missing part on this map, the heights of the mountains could also be added. *Ars inveniendi* can thus be formulated as the skill of recognising unforeseen possibilities in our *ontologia artificialis* and to subsequently determine where and how the missing element might be discovered. This act of recognition is synthesising *a priori* what might be possible in a specific context of actuality. Artificial actualisation is important

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[205] DP, §89; Van Peursen, *Ars Inveniendi,* 146; Beiser, *Diotima's Children,* 60.

[206] DP, §74; Buchenau, *The Founding...*, 146.

[207] Gerard de Jode, *Hemisperium ab aequinoctiali linea, ad circulum poli antarctici*, (Antwerp: Arnold Coninx, 1593).

in the application of *ars inveniendi.* For a potentiality to be discovered *in ente* by synthesis *in mente* it needs to be actualised *in mente* or *in ente.* Synthesis *in mente* is therefore identical to actualisation *in mente.*

The rules of logic and *ars inveniendi* are present in the subject from birth, i.e. they are innate. The rules are given, or in Cartesian terminology: they are evidently true, meaning no further argumentation is required for their truth. The principle of non-contradiction is an example of such an evident truth.[208] The claim, according to which the rules are innate, does not imply that the rules are known immediately from birth. As Locke remarked, certain people, like idiots and children, seem unaware of truths claimed to be innate.[209] Like Descartes and Leibniz before him, Wolff supported the idea that the truths are present in the psyche, but yet need to be uncovered.[210] Initially, one is unaware of the truth, but as soon as the mind is directed towards the truth, it is aware of its certainty. An example given by Leibniz to illustrate the innate rule of non-contradiction is, that even children are aware when a lier contradicts himself, although they might not be able to articulate the rule in its logical form.[211]

[Gerard de Jode, *Hemisperium ab aequinoctiali linea, ad circulum poli antarctici* (Fragment of the Map of the Southern Hemisphere), (Antwerp: Arnold Coninx 1593).]

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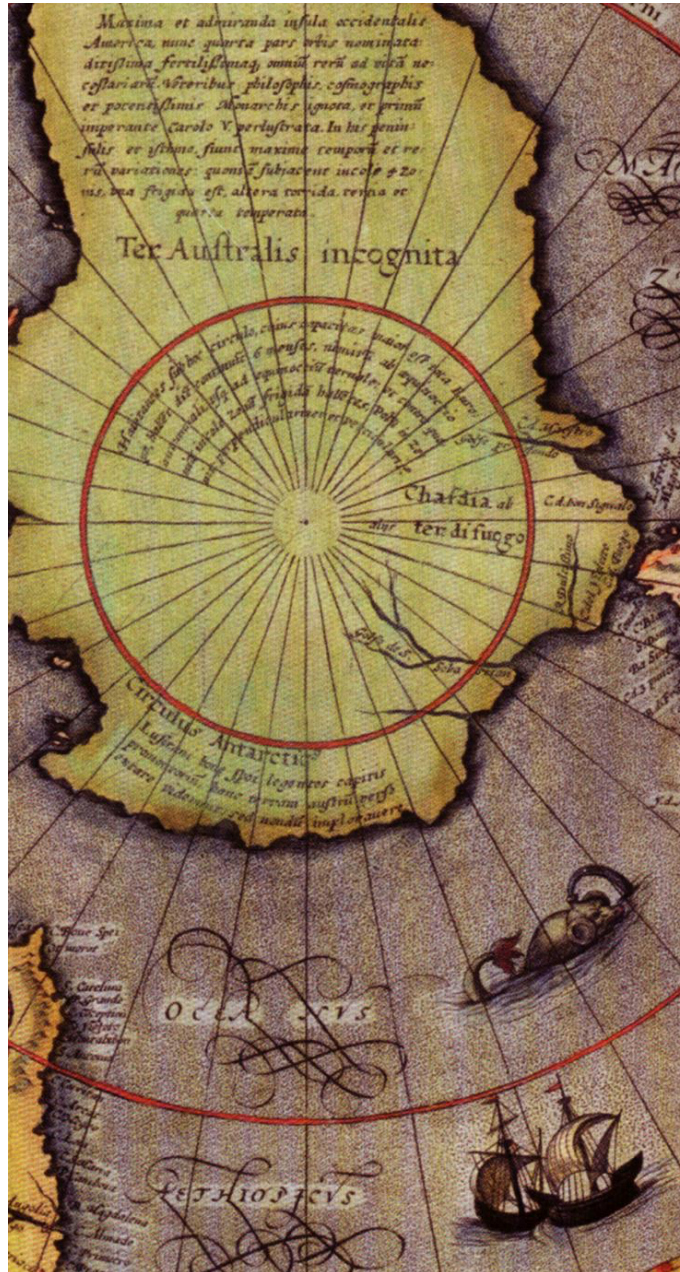
[208] Descartes, "Rules for the direction of the mind," Vol. I, Rule III, 13,14.

[209] Cottingham, *The Rationalists,* 70.

[210] O, §55.

[211] Leibniz, *New Essays on Human Understanding,* tr. and ed. P. Remnant and J. Bennett (Cambridge: Cambridge University Press, 1981), 76.

Wolff had aimed to write a book to describe the general method of what he calls the science of investigating hidden truths, but he never completed it.[212] Leibniz thought the art of discovery to be more interesting than the art of justification, for it is required to continuously justify a statement in order for it to be universally and always certain while the art of discovery is applied only once.[213] Traditionally, *ars inveniendi* is only applied to knowledge that is of an *a priori* character — '*ars inveniendi per eminentiam*'. An example is the application of the skill to find new mathematical truths. Wolff continues the *a priori* nature of *ars inveniendi per eminentiam,* yet, influenced by his teacher Von Tschirnhaus, Wolff adds an *ars inveniendi a posteriori*.[214] In Wolff's system, *Ars inveniendi eandem a priori* is deduction from propositions with the use of syllogisms and the general rules of logic. *Ars inveniendi veritatem a posteriori* is abduction, which is making new discoveries or proving a proposition by reasoning with the support of sense perception and experimentation.[215] In abduction, experience is used to state that something is the case, whereas reason is used to demonstrate why it is the case (e.g. Bacon's idea for hearing aides presented above). That is to say, reason offers the philosophical explanation of things that occur.

A posteriori knowledge is closely linked to the act of producing. When one perceives an object yet unknown, one relates it to things already known. This act is an act of analysis: dividing the object as a whole into parts that relate to other parts on the basis of their similarity. However, Wolff claims that analysis alone is insufficient to determine the essence of a being or thing. Synthesis is required in order to achieve scientific knowledge of a being, i.e. to know its essence.[216] Synthesis is the ability to explain how the various parts of a being contribute to the composite being as a whole. One has to be able to theoretically reconstruct the object of study in order to have complete knowledge of the object. Synthesis is a primarily a mental process, but a physical reconstruction can offer further confirmation of theoretical propositions, for it has the possibility to make apparent things that were yet unforeseen. The requirement of synthesis makes that in Wolff's science, scientist have to be artist who know how to create and produce.

According to Wolff, the formulations of *ars inveniendi* by his predecessors (e.g. Descartes) were suffering from certain short comings, for they relied on "schlechte Einbildungen", by which he means that they were empirically insufficiently supported.[217] Their method of invention could not be applied to find new knowledge and they relied too much on the capacities of

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[212] Van Peursen, *Ars Inveniendi,* 143.

[213] Van Peursen, *Ars Inveniendi,* 102.

[214] PE, §455. Wolff, "The Author's Short…", lxxv-lxxx; Neveu, *HbW,* 68; Buchenau, *The Founding…,* 41.

[215] Beiser, *Diotima's Children,* 54.

[216] DM, §§571-573; Beiser, *Diotima's Children*, 50.

[217] DM, §861; Buchenau, *The Founding...,* 31.

mathematics.[218] Although mathematics has an important methodological function in science offering as it does the possibility to structurally argue with certainty it can only provide new truths by *a priori* reasoning Wolff, however, regarded *ars inveniendi a posteriori* just as important in contributing to finding new truths.[219] In 20th century terminology we could say that mathematics and geometry provide theories and proofs on a certain level of abstraction, while it lacks the capacity to bridge the gap between theory and actuality. Philosophy is able to bridge this gap by offering specific ontological structures that explain actuality. Therefore to discover new properties of objects and new truths in general, the philosopher should not turn only to mathematics but also to what is experienced from actuality.

A priori* valid syllogisms (*ars combinatoria a priori*) do help to invent new truths, but not, according to Wolff, in any other field than the mathematical field.[220] Leibniz failure was his assumption that reasoning based on the mathematical characteristics could be substituted for the experience of actual objects. Although, in Wolff's philosophy, logical possibility is identical to ontological possibility, it does not entail that logic is able to predict what is possible in particular and what is going to be experienced. To use the analogy again, logic cannot predict what move the player is going to make. Logic provides the rules and structural certainty, but experience provides content from actuality.[221] By combining experience with structural certainty, predictions can be formulated. The history of a player's moves combined with knowledge of the game's rules, makes it possible to predict possible moves. To summarise: Discoveries of actualisation *in mente* are called *ars inveniendi a priori.* Discoveries of extra-mentally actualised beings is called *ars inveniendi a posteriori.* The third type of discovery is both *a priori* and *a posteriori. Ars inveniendi mixta,* as Wolff calls it, is the *a priori* synthesis by using propositions or ideas that for themselves rely upon previously made observations.[222]

Wolff argues that *ars inveniendi a posteriori* is somehow dependent on the inventor's background and experiences, and they somehow influence the way in which something is perceived. Someone who has no experience or skill in gardening, for example, has no clue of where to look for new discoveries in the field of flora cultivation. Historical knowledge of the field and practical training to enhance the manual and mental skills required are thus included in Wolff's conception of an inventor. What Wolff adds to Leibniz, by bridging the gap between actuality and

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[218] Buchenau, *The Founding…,* 31.

[219] Wolff, *Nachricht von Vorlesung, anno 1735,* in *Des weiland Reichs-Freiherrn von Wolff übringe, teils noch gefundene kleine Schriften und einzelne Betrachtungen zur Verbesserung der Wissenschaften,* GW, 1.22, Hindelsheim: Olms, 1995 [1755], §1, 497; Buchenau, *The Founding...,* 32-33.

[220] DM, §§364, 861; Buchenau, *The Founding...,* 34.

[221] DM, §§364, 861.

[222] Rumore, *HbW,* 191, 192.

theory, is his insistence that also for philosophy practical know-how and historical knowledge is required to be able to assign any heuristic signs to the beings perceived.[223] It is required for the philosopher-inventor to be knee-deep in the mud, as it were, to be able to understand and contribute to the logical representation of ontology.[224]

§4 "Erfahrungs-Kunst" and "Versuch-Kunst"

For Wolff it is evident that philosophy and experimentation share a common vocabulary. Even though the initial intentions of the experimenter and the philosopher might differ, the process of conducting experiments can be reconstructed philosophically as well. The experimenter intends to come up with new creative set-ups to find new facts. The philosopher intends to clarify the confused ideas used by the experimenter clear and distinct by ontological explanation.[225] As a result of their diverting intentions, the cooperation of the philosopher and the experimenter asks for a shared background in science, so that the creative process used in experimentation can be explained philosophically. For an experimental physicist to qualitatively determine which results are relevant and which are not, knowledge of the being's place in the logical order has to be determined. If the experimenter is unaware of this order, then he cannot soundly argue that any postulated efficient cause is indeed structurally corresponding to the world. This is the case if the experimenter cannot argue that the newly gathered information coheres with the order of knowledge of the world.[226]

Physics is thus divisible into experimental and theoretical physics and the latter Wolff names "dogmatic physics" — which does not have the negative prescriptive connotation as the term has in Kant's *First Critique*.[227] Wolff explains that experimental physics discovers the principles used to determine the efficient causes of the beings to be used in dogmatic physics.[228] Wolff warns his readers that these principles might not become clear by passive observation alone, and need to become evident in the light of active experimenting. Sometimes nature needs a help in order to expose her structure.[229] Besides determining principles, experimentation can further

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[223] Buchenau, *The Founding...*, 35; Arndt, "Einführung des Herausgabers", DL, 10-12, 14, 17, 20.

[224] DP, §91.

[225] DP, §§6, 35; Buchenau, *The Founding...*, 42.

[226] DP, §54.

[227] DP, §108.

[228] DP, §107.

[229] DP, §24.

confirm what has already been regarded as truth. Experimentation is for Wolff an act of synthesis, which confirms what is understood by analysis.[230]

Any experimental field of science has principles that are determined by experience, and these are complementary to the logical principles determined by definitions. Wolff promises that the proofs of demonstrations put forward in any experimental field will later show to be in time with what has already been accepted in logic.[231] To explain this with an example, physics will have to borrow principles from metaphysics if it is to develop by way of demonstrations. The physical world can only be understood by human minds when presupposing certain metaphysical principles. Every demonstration that argues from cause to effect, depends on an ontological causal structure.[232] Since logic and ontology are presupposed for the proofs, the demonstrations in physics will eventually agree with the preconceived logical order. This brings us to the seemingly circular order of Wolff's philosophy: logic is required to learn ontology and to understand actuality, whereas logic depends on principles from ontology just as well, so that in the order of demonstration, ontology comes before logic, whereas in order of learning logic comes before ontology.[233]

It takes practical and mental skills to know how to set up experiments. The act of observation that is required for experiments can be acquired and improved by training. Experience is gained by two skills, i.e. art of observation (*Erfahrungs-Kunst; ars observandi*), the skill of observing elements of the world in general, and an art of experimentation (*Versuch-Kunst; ars experimentandi)*, the skill of searching for hypothetical elements of the world.[234] It is in the *ars observandi* that Wolff specifies the role of *artes mentales* in science and in the *ars experimentandi* the role of the *artes manuales* in science.[235] Wolff distinguishes between *Erfahrungs-Kunst* (*ars observandi*), experience from observation, and *Versuch-Kunst* (*ars experimentandi*), experience from experiment, and it is in the first that Wolff specifies the role of *artes mentales* and in the latter the role of the *artes manuales* in science. These arts are both part of the more general *ars inveniendi*.[236] Wolff notices that all sciences can have an experimental part. He remarks that very few moral or psychological experiments are performed. Times have clearly changed for the Stanford Prison Experiment conducted in 1971, among many other examples, can be seen as an experiment

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[230] DP, §107.

[231] DP, §91.

[232] DP, §95.

[233] DP, §§88-91.

[234] DM, "Das Erste Register", 674, 677; PE, §§458, 459; Buchenau, *The Founding...*, 41.

[235] DM, "Das Erste Register", 674, 677; Beiser, *Diotima's Children,* 54; Buchenau, *The Founding…,* 41.

[236] PE, §454; DM, §362. Cf. Cartesian analysis and synthesis and Bacon's conception of art.

producing facts for both fields of science. Because there is an experimental part of ethics and psychology, there can also be an *ars inveniendi* of moral truths and psychological truths. All scientific disciplines have an experimental field with a corresponding *ars inveniendi*, even theology and law.[237] Wolff can be quoted as saying: "Weil die besondere Regeln zu erfinden mit in der Beschaffenheit der Sache gegründet sind; so nimm[e]t auch die Kunst zu erfinden mit der Wissenschaft zu. Je mehr man Wahrheiten in einer Discipline entdecket, je mehr zeigen sich besondere Kunst-griffe im Erfinden weiter zu gehen."[238] The contribution of *ars inveniendi* to the construction of knowledge is that it is the general skill of imagining what is possibly in a specific context of science of art. The *ars inveniendi* in the context of law can for example be finding the best way of interpreting a set of laws for a specific case.

Eventually all art is an investigation into what is possible for the actualisation of beauty, ugliness, and harmony and so on, within a specific context of actuality. Artificial creation is the act actualising these ends *in ente* from the *in mente* discovered potentialities. Furthermore, the artist thus actualises possibilities that have not been seen, apparently so, by the scientist. It is the experiments of the artists (*Die Versuch-Kunst*) that offers specimen of and insight into possibilities that were 'out of sight' for the scientist's reason and perception (*Vorstellungs-Kraft*) until it was offered to the scientist by the artist. The contribution of *ars inveniendi* in the construction of science is, that it can offer options that were unforeseen so far by the scientist, and that are fruitful for science, nevertheless.

The artist is not God because he does not create new possibilities from nothing, but merely finds hidden ones by combining various beings *in actu* (*Wirkung; actio*).[239] We can abstract from context by reasoning from many instances, but never think of a possible action completely *ex cogitare*. Even rational fantasies or fictions are narratives of other possible worlds with potential for perfection based on experience from the current world and as such fulfil an important role for *ars inveniendi*.[240]

> "Man muss sich aber in Acht nehmen, daß man nicht alles erdichtete für ungereimt hält, und für irrig ausgiebet: Denn die Fictiones oder Erdichtungen haben ihren großen Nutzen in Wissenschafften, und insonderheit der Erfindungs-Kunst. Sie machen der *Imagination* oder Einbildungs-Krafft

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[237] PE, §§455, 457, 461; Buchenau, *The Founding...*, 41-43.

[238] Wolff, *Anmerkungen zur Deutschen Metaphysik* (GW I.3), §114. *Because the special rules of inventing are grounded in the nature of the being; so also take the art of invention with science. The more one discovers truths in a discipline, the more special art-forms show themselves in inventing.*

[239] DM, "Das Erste Register", 677.

[240] Buchenau, *HbW,* 409-410; Van Peursen, *Ars Inveniendi,* 154-156.

begreifflich, was durch Verstand und Vernunfft schwer zu erreichen ist, und im Erfinden leichte, ja möglich, was sonst nicht anders, als durch Umwege, oder wohl gar nicht heraus zu bringen wäre. Es ist aber freylich ein Unterschied zwischen solchen *Fictionibus* und andern, die ungereimet heissen, und sie haben ihre gewisse Regeln, dergestalt, daß ich sagen kan, es sey eine besondere *Ars fingendi* oder Kunst zu erdichten, die nicht einen geringen Theil der Erfindungskunst abgiebet: Allein es ist hier nicht der Ort, noch auch schon Zeit, diesen Unterscheid zu bestimmen, und Exempel von den Regeln anzuführen. Es können sich unterdessen andere in diesen und andern Dingen üben, die noch auszuführen sind." [241]

Ars fingendi is translated as the art of fabrication. It is the skill of shaping a coherence (*Zusammenhang*) in an imagination or a made up possibility and as such it functions as an essential part in the *ars inveniendi*. By rationally creating an imaginary situation the artist or scientist has formed an *a priori* synthesis which he or she can aim to discover in *in ente*. As such the imagination has the ability to give direction to reason in discovering hidden possibilities, e.g. Bacon's hearing aid mentioned above (*ars inveniendi mixta*). An imagination is a mental product created as a hypothesis in *ars inveniendi*. Besides operating an important function in *ars inveniendi*, *ars fingendi* as the art of fabrication or skill of shaping and framing is also at the root of what later would be called *Aesthetik* — the study of judgements on beauty and the perception of figure.

> "In Deutschland indessen hat sich die Ästhetik, auch dort, wo sie den Kampf für das Recht und für die Ursprünglichkeit der Einbildungskraft führte, gegen die Herrschaft der Logik nirgends aufgelehnt. Sie führte diesen Kampf nicht g e g e n die Logik, sondern im engen Bunde mit ihr; sie wollte die Phantasie nicht von der Übermacht der Logik befreien, sondern die forderte und suchte eine eigene "Logik der Phantasie"." [242]

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[241] Wolff, *Anmerckungen zur Deutschen Metaphysik*, §26. *One has to be cautious, however, that one does not consider all fictions [or inventions] as nonsensical, and declare to be false. Fictions and inventions are of great use in the sciences, and especially the* ars inveniendi. *They make understandable for imagination and the art of invention what is hard to reach by reason and intellect; they enlighten things, and make it possible in the process of uncovering to extrapolate what otherwise could only be traced with detours, if it could be explained at all. There is, of course, a difference between fictions and inconsistencies, which are rules. This why I am able to state that a special* ars fingendi *or art of fabrication plays is a significant part of* ars inveniendi. *However, it is not the place nor the time to determine the difference, nor to give examples of its rules. First, other things will have to be discussed.* (Translated by myself, JSM).

[242] Cassirer, *Die Philosophie der Aufklärung*, 446. *In Germany, however, aesthetics, even where it fought for the right and the originality of imagination, has nowhere rebelled against the rule of logic. She did not fight this logic, but was in close alliance with her; she did not want to liberate the imagination from the preponderance of logic, but demanded and sought her own "logic of imagination".* (My translation, JSM)

In light of Cassirer's interpretation above, *ars fingendi* as the art of forming gives shape to fantasies. Understood in this way *ars inveniendi* is then the logic of fantasy in the context of what is known. *Ars inveniendi* is able to form logical fantasies as hypothetical propositions. Artificial creation is then defined as the act obtaining knowledge of potentialities by combining what is actual into other new actual beings that have not been seen in this different setting. The newly artificial being seems to be a *new creation,* but ontologically speaking it is an actualisation of a newly discovered potential. Philosophers want to know what is possible. Artists, such as poets, scout for possibilities (*ars inveniendi)* to demonstrate nature's forms and functioning by combining (*ars combinatoria*) various actual operations with their own skill of imaginary forming (*ars fingendi*). Both enterprises are artificial and both can be perfected by best possible self-unfolding, as we will see in the following chapter.

§5 The artist-philosopher

Art and science are intertwined practices in Wolff's philosophy, we can now conclude. Art results in the creation of beings, and science produces knowledge of beings. Wolff goes a step further and thinks that art uses science, when it operates rationally and methodologically, and science uses art in experimentation and hypothesisation (*connubium rationis & experientiae*). This point of view contradicts the leading visions of Descartes and Leibniz, both of whom offer a categorical and hierarchical division between the arts and sciences. Although they acknowledge that the artisanal traditions have contributed to the scientific progress of humanity, the arts remain unmethodological and vulgar. Leibniz recognised that in the empirical art of medicine, the accumulation of observations and experiments have led to find new cures and to the postulation of practical rules. It made him optimistic towards to possibility of transforming the art of medicine into a proper science. Leibniz regarded the arts, like the practical sciences, as practices that offered empirical insight that could be used by the mathematician. The philosopher would merely need to examine the results of the artisanal inventors and imitate them, in order to be used as tools for logic.[243] Philosophy recognises the structure of the beings produced in the arts, while the arts can only confusedly anticipate towards this structure.[244]

Wolff, however, considers Leibniz' conception of the arts as inherently confused to be insufficient. An artist has knowledge of specific material interactions even though he might not know the underlying principles. Experiments are part of the artisanal practice that aim to find new ways to work with these materials. Art is the skill and knowledge of interaction between beings,

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[243] Beiser, *Diotima's Children,* 34, 40; Buchenau, *The Founding...,* 38.

[244] Beiser, *Diotima's Children,* 34.

while philosophy aims to find the reasons why the interaction is possible. And for the purpose of finding the reasons the philosopher must turn to the place where the interaction takes place. The philosophical method is embedded in specific artisanal and experimental practices at a fundamental level.

On account of his observation that the various arts have particular techniques specific to their practices, Descartes argued that it seems unlikely for them to share a common method. Therefore, a division has to be made between the unmethodological arts and the methodological sciences.[245] Unlike science, the arts are blindly shooting everywhere when it comes to find new techniques, Descartes claimed. If science is walking with circumspection, then the arts can be characterised as walking and looking carelessly. Wolff disagrees with this view of the arts. He states that as long as there is some rationale behind the artisan's practice, a philosophy of that specific art can be formulated, and rules and principles can be derived from it. The context-dependent-rules-and-principles of an art he calls a technology or philosophy of art.[246]

In Wolff's system new knowledge can be found by analysing common or vulgar empirical notions derived from practices as arts and crafts. The outcome of these analyses can be uncertain and vague, but they can be made more distinct by applying the philosophical method. In order to do so, however, the philosopher needs to be acquainted with the particular practices the proposition are derived from. Otherwise he might miss salient features that influence the beings that are being discussed. The philosopher cannot watch from the side-line as Leibniz seems to indicate but has to actively participate in the arts in order to understand the interactions and structures of the beings involved in the practices.[247] The artist, like the experimenter, has the skill or know-how to use specific tools to work with or on the various properties of specific materials. Knowing in general in this sense cannot be seen as an act that is independent from a specific practical context, Wolff writes.[248] For *ars inveniendi a posteriori* to work, i.e. to be able to formulate possible hypotheses on the basis of experience knowledge of the empirical context is requisite.[249] It is therefore a necessity that the philosopher, who aims to find new knowledge from practice, not only passively observes an artisan, but also actively acts as one.[250] The philosopher-artist has to operate methodologically from the start, according to specific rules. For example, when the order

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[245] Buchenau, *The Founding…*, 36; Descartes, "Rules for the direction of the mind", Vol. 1, Rule VIII, 31

[246] DP, §71.

[247] DP, §§50, 54.

[248] Buchenau, *The Founding…*, 48-49.

[249] PE, §§ 455, 457, 461.

[250] Beiser, *Diotima's Children,* 49.

of practice and experimentation is similar to the order of demonstration, it will result in less confusion about the principles used in reasoning and experimenting.[251]

From Wolff's argumentation we can conclude that new knowledge can be found, e.g. in physics, if the scientist operates interdisciplinary as a philosopher, an experimental physicist, and as instrument-maker. The first step towards this interdisciplinarily approach would be universal language (*Zeichen-Kunst; ars characteristica*).[252] Art and experimentation may have methods and a language of their own that work for their intentions. According to Wolff, however, the actions and constructions of the arts-man can only become clear if understood in language of the philosophical method.[253] A universal language used in experimentation, in artificial creation and in philosophy is possible, because they are part of the same harmonious order of knowledge, i.e. the order that aims to uncover the ontological structure of the world. Art intends to uncover what is possible in the world by actualisation, for example by creating paintings, building cathedrals, or writing poems and fictions. Science intends to capture the world in a language that is clear and certain. The various languages and methods of the different sciences and arts should therefore be captured in the universal language of philosophy, in order to encourage the uncovering of new potentials. Any gap between practice and theory or between philosophy and art is in fact a false dichotomy for all is understandable in the universal language of philosophy.[254]

§6 *Ars inveniendi in artificial creation*

On account of the role of *ars inveniendi* in the construction of knowledge, it should be possible to come up with a visualisation that illustrates the position of *ars inveniendi*, art, and science. The skill of reasoning (*scientia*), the manual skills (*artes manuales*), and mental skills (*artes mentales*) form a unity in artificial actualisation of beings, and intend to maintain certainty about the structure of the creation. *Ars inveniendi* can be used to works actualised by the operations of science and art that are based on certain knowledge. These works of art intend to demonstrate the possibilities of the world.

Wolff did not endeavour to make a visual representation of the harmony of creativity, art, and science. The following attempt is therefore my own based on his philosophy. The visualisation illustrates that all new discoveries in science or art that are based on certain knowledge are found by *ars inveniendi*. *Ars inveniendi* depends on the philosophical method, because it is a rational
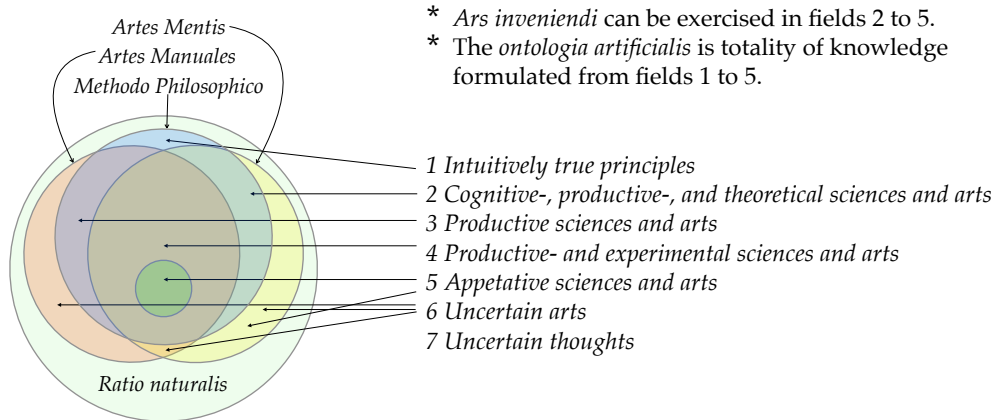
[251] DP, §110; Buchenau, *The Fouding…*, 40.

[252] DM, "Das Erste Register", 677.

[253] DP, §§135-138.

[254] Rumore, *HbW,* 189.

[The place of *ars inveniendi* in knowledge]

* *Ars inveniendi* can be exercised in fields 2 to 5.
* The *ontologia artificialis* is totality of knowledge formulated from fields 1 to 5.

Artes Mentis
Artes Manuales
Methodo Philosophico

1 *Intuitively true principles*
2 *Cognitive-, productive-, and theoretical sciences and arts*
3 *Productive sciences and arts*
4 *Productive- and experimental sciences and arts*
5 *Appetative sciences and arts*
6 *Uncertain arts*
7 *Uncertain thoughts*

Ratio naturalis

investigation into what is possible *in ente,* but not yet actual *in mente.* Therefore *ars inveniendi* as a general skill of discovery is limited to those constructions of reason that are created with certainty.

In the *Deutsche Logik* Wolff defined science as the product of reasoning according to the philosophical method. Therefore the blue circle should depict the skill of reasoning according to the philosophical method, while the forming of imaginations is a skill represented by the circle of mental arts. Natural reason (*ratio naturalis*) is present in all acts of a human being. As has been argued in chapter II, *nihil est sine ratione.* Intuitive judgements are visualised as products of natural reason and method. Thoughts and works of art that are nonsensical (*Ungereimt*) are represented as rational but uncertain thoughts. The sense of what is morally good, the *appetitus* as Wolff calls it, is depicted by the small green circle in the middle.[255] The product of this sense of the morally good is called the appetative sciences, and morally influenced works of art.

To find new possibilities rationally, an order of knowledge is required that is constructed methodologically (*ontologia artificialis*). The arts that do not use the philosophical method are not applying logic correctly, and thus make a discovery by methodological reasoning (i.e. *ars inveniendi*) impossible. *Ars inveniendi* is therefore present in the sections where science overlaps with the arts only. In consequence, *ars inveniendi* can be divided into three categories: a) *ars inveniendi a posteriori,* i.e. propositions based on, reason, manual arts, and method, these reasonings are of *a posteriori* synthetical nature and are represented by field 3, b) *ars inveniendi a priori,* i.e. propositions based on reason, mental arts, and method, these judgements bear the character of *a priori* synthesis which is represented by field 2, and c) *ars inveniendi mixta,* i.e. propositions based on reason, both arts, and method, these mixed synthetical conclusions are represented by fields 4 and 5.[256]

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[255] Rumore, *HbW, 191-192.*

[256] PE, §§454-461.

The works of art that make use of knowledge are created using the same skills as scientific research uses. This means that a work of art that relies upon scientific knowledge, does not differ in principle but only gradually from scientific research that requires artistic skills. When the philosophical method is applied art, can be conducted methodically. This is called technical knowledge, and is defined by Wolff as philosophy of art.[257] Furthermore, since all representations in the psyche are created through the body, mental artificial creations are works of art too, with the result that there is no principle difference in meaning between artificial and artistic in Wolff's theory.

If one aims to determine the level of perfection of a work of art, this endeavour involves the ability to explain a work historically, as well as materially, logically, and, most importantly, philosophically.

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CONCLUSIONS IN THE PRESENT CHAPTER
On the logic of fantasies

- *Ars inveniendi* is the skill to recognise new unforeseen possibilities in our *ontologia artificialis,* and to determine where and how the new elements might fit in actuality.
- For an element of potentiality to be discovered it needs to be actualised *in mente* or *in ente.*
- Discovering elements from beings actual *in mente* is called *ars inveniendi a priori.* Discovering elements from extra-mentally actualised beings is called *ars inveniendi a posteriori.*
- The distinction between *a priori* and *a posteriori,* however, merges with respect to 'actual *in mente'.*
- Potentials can only be discovered in actuality, be it *in mente* or *in ente.* Therefore bodily and mental skills are required to discover potentials.

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[257] DP, §§113, 114.

V. ON TEMPORARY PERFECTION IN CREATION

§1 Introduction

The previous chapter argued that actualisation is required in order to discover new potentials. The present chapter analyses the relation between natural and artificial creation and how they can realise perfection in actuality. The chapter also argues that the shaping of knowledge to perfection operates analogously to the unfolding of being towards perfection. First I will discuss how natural creation is understood in Wolff's thinking. For Wolff, God is the natural creator. This begs the question of how we should understand human creation. The final section of the chapter argues that it is actually invalid to use the term creation in the sense of "artificial creation" and concludes that the term artificial combination is more appropriate. Apart from this argument, the

> TO EXPECT IN THE PRESENT CHAPTER
> *On perfection of knowledge and creation*
>
> - The formulation of the notion of *temporary perfection* as distinct absolute perfection
> - A historical background of Wolff's philosophy of perfection as the root of German aesthetics
> - An exposition of Wolff's notion of best possible world in relation to the ontological order established by God.
> - A discussion of the determination of perfection in natural and artificially created beings in terms of *telos* and order
> - An analysis of the notion of temporarily perfect knowledge in respect to true knowledge
> - Introduction of the hypothesis that the artificial creation of a perfect being is a confirmation of truth of perfect knowledge

chapter addresses the question of how we can discover perfection in creations. The understanding of perfection in relation to artificial combination will disclose the unity of all creative operations, such as science and art. The first paragraphs delves into the ontological status of perfection. Subsequently, the question is discussed of I analyse how perfection can be feasible in contingent actuality. The chapter concludes with an exposition of how perfect knowledge is realised in Wolff's thinking.

If an artist creates a work of art, he attempts to realise a specific operation with the intention that the artificial operation works (has a *Wirkung; effectus* or *actio*) as best as possible.[258] When an operation has a stronger harmony it will function accordingly, making it more perfect. How should we understand this relation between functioning and perfection? First, all beings

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[258] DM, "Das Erste Register", 677.

work towards one or more ends (*nexus* or *telos*; *Zusammenhang*).[259] These *teloi* are unifying forces that bind a being into a structured whole.[260] A being is in harmony if its structure operates in such a way that it can act towards a *telos.* If brought in actuality, this means that it functions or works. A higher degree of harmony can be obtained if more structural elements are involved in the functioning.[261] According to Wolff, perfection and harmony are formally synonymous, as order in multiplicity. In the remainder of the thesis I will use 'harmony' strictly in this formal logical sense, while 'perfection' is restricted to discussions of orders of actual beings.

God, taken as necessarily the perfect being (*ens perfectissimum*), is distinguished from perfect beings in contingent actuality. Perfection in actuality I name *temporary perfection*. God is an extra-temporal being and therefore cannot be temporarily perfect. As potentials, all beings are potentially harmonious and necessarily perfect, which is another way of saying that they are predetermined by God. In actuality beings can realise their *teloi* in the best possible way under the influence of limiting factors, such as restricted resources.[262] Actuality as a whole, called "the world" (*universum*), is harmonious for it consists of structured beings that are intended towards an end.[263] Beings have a potential structure and purpose which can be realised. Upon realisation, however, some beings are more or less perfect than others, and this allows for the formulation of a concept called imperfection. Imperfection is understood as the result of disorder or disfunction.[264] One of the questions this chapter seeks to explain is why imperfection is actual. The level of perfection in actuality can be determined by investigating how well it *self-unfolded* itself in relation to its potential for perfection. A being that functions properly has well self-unfolded itself.

The gradations in the functioning of a being, e.g. of perfection, can be addressed without referring to the *ens perfectissimum*, as temporary perfection can be understood as more self-unfolding of a being's potential will lead to better functioning. If a being is temporarily perfect, it has maximised its self-unfolding. A concept of God as absolute perfection is, however, required to provide meaning to the concept of perfection in actuality. All beings are ontologically directed towards the *ens perfectissimum* in their functioning. Temporary perfection indicates how well this functioning is in respect to the being's potential. The *ens perfectissimum*, as the necessary presupposition of being in general is something we can never completely understand, nor

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[259] DM, "Das Erste Register", 677.

[260] DM, §§1044-1046; Theis, *HbW*, 237, 238; Rumore, *HbW,* 180; Biller, *HbW,* 16. This was one of the claims for which Wolff was banned from Halle.

[261] DM, §168; O, §503; Beiser, *Diotima's Children*, 32 (cf. to Leibniz), 60.

[262] DM, §152; O, §503.

[263] DL, Kapitel 4. §§20-24, 171; PPU, §§374, 393; DM, "Das Erste Register", 677; Arndt, "Einführung des Herausgebers", DL, 82-83.

[264] PE,§510; DM, §152.

artificially recreate in actuality. Yet a limited understanding of the relation between the *ens perfectissimum*, potential beings, and temporary perfection is required to comprehend how discovering perfections unifies the operations of art and science.

§2 Historical background: Wolff and German aesthetics

Ars fingendi, as the art of forming, forms the centre of artificially created perfection. This central role of *ars fingendi* in Wolff's philosophy and its analogous relation to the *ars combinatoria*, anticipates on the study of aesthetics as analogous to logic. And with respect to this field of philosophy that analysis form of being, we can make the observation that if Baumgarten is the father of aesthetics, then Wolff is the grandfather of aesthetics.[265] Together with Leibniz, Wolff can be seen as the sources that brought about a chain of thinkers that all referred to one-another and built one-another.[266] True, it was Baumgarten who coined the term aesthetics for his science of mental and physical perception, but since he built on Wolff's foundations it seems only fitting to name Wolff the grandfather of aesthetics. Wolff discusses his aesthetics as a philosophy of perception primarily in the *Psychologia Empirica* and *Deutsche Metaphysik.* In the *Deutsche Metaphysik* Wolff defines perfection formally as harmony or *Zusammenstimmung* of variety.[267] Beauty consists in the observation of perfection of a being, insofar as it is able to produce pleasure in a perceiving subject.[268] A sense of beauty can arise from the perception of a perfect being when recognising it as perfect when the observer is able to recognise the intrinsic harmony. Beauty is the cognitive influence and pleasure a perfect being has on a subject when rationally comprehending its maximised state of self-unfolding. It is an effect that can only be in the relation between the perceiving subject and the perfect being. A world without subjects has perfections, but no sense of beauty emerges from its perfections.[269] Wolff's definition of perfection is formally identically to order. When attributed to beings, it is an order of multiple beings or an order of the elements of beings that are aiming towards an end. As you might recall from above, propositions is defined as the elements that contribute to the order of science, and this is to say that propositions and the

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[265] Beiser, *Diotima's Children,* 48.

[266] Ibidem, 31, 45-47; Guyer, Paul, "18th Century German Aesthetics", The Stanford Encyclopedia of Philosophy (Winter 2016 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2016/entries/aesthetics-18th-german/>.

[267] DM, §§132, 152; O, §503.

[268] PE, §544.

[269] PE, §§10, 511; for a translation see R.J. Richards, "Christian Wolff's Prolegomena to Empirical and Rational Psychology: translation and commentary", in *Proceedings of the American Philosophical Society*, Vol. 124, no.3, June 1980, 230; Beiser, *Diotima's Children,* 57, 60.

ontologia artificialis can become perfect.[270] Like from perfection of beings we can receive intuitive pleasure when we have a cognition of perfect knowledge.[271] Wolff and Leibniz' successors would continue the discourse on perception and cognition of perfection, which is often referred to as the German aesthetic tradition.[272]

Following Wolff's philosophy, within the arts there is no clear distinction between beautiful arts and other arts or crafts, since every being created through the body is defined as art.[273] This entails that "contrary to what most historians of aesthetics maintain, modern German aesthetics was not a result of a progressive emancipation of the arts from the crafts."[274] In stead, in Wolff's philosophy they are an inseparable part of philosophy and the aim for perfection. In Wolff's conception art and science are part of the same enterprise for knowledge, and parallel to the faculties of the psyche, the crafts, arts and sciences vary in aim and method only gradually but not categorically.

The presentation of Wolff as having a significant role for the German aesthetic tradition stands in shrill contrast with the way in which Lewis White Beck presented Wolff (1969), which set the tone for Wolff reception in the '70's and '80's. Beck described Wolff as a thinker who contributed only marginally to aesthetics, and as someone who was unable to make a distinction between fine arts and other arts.[275] Beck, however, failed to note that our present day's habit to distinguish between fine arts and other arts is a view that only developed in the course of the eighteenth century when Charles Batteux unified various theories of beauty and taste. Batteux aimed to define a concept of the fine arts in his work *Les beaux arts réduits à un même principe* (1746) that would come to spread widely through Europe.[276] Given this historical argument by Beiser, the statements of Beck seem anachronistic, to say at least.

In defence of Beck we might say that Wolff's propositions with regard to theory of beauty are easily missed.[277] Even the recently published handbook on Wolff's philosophy offers only a brief section on Wolff's theory of art and aesthetics, while beginning with the statement that "Was

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[270] DM, §142 .

[271] Rumore, *HbW,* 191; Buchenau, *HbW,* 408.

[272] Beiser, *Diotima's Children,* 31-49.

[273] DP, §113.

[274] Buchenau, *The Founding...*, 62.

[275] Beck, *Early German…*, 278-279.

[276] Beiser, *Diotima's Children,* 46; *Encyclopaedia Brittanica,* "Charles Batteux", Vol. 3., (Cambridge: University of Cambridge, 1911), 533.

[277] Beiser, *Diotima's Children,* 46-47.

er in *Discursus praeliminaris* und in der *Ethik* Philosophie der Dichtung oder der Künste nennt, ist noch keine Ästhetik, sondern greift auf traditionelle Klassifikationen zurück."[278]

The author of the quote above is correct in observing that there is not a single explicit theory in Wolff's philosophy that could be named aesthetics, and that Wolff did indeed fall back on the traditional classifications of beauty and perfection. Yet, this does not necessarily imply that Wolff plays a marginal role in aesthetics. Instead, Wolff's entire philosophy is essentially of an aesthetic nature.[279] When determining what Wolff's role for German aesthetics could entail, we should not only look for his uses of 'art' and 'beauty' in the *Ethik* and the *Discursus Praeliminaris*, we should analyse the terms like 'perfection' (*Vollkommenheit*), 'God', *nexus (Zusammenhang*) '*telos*' (*Zweck*), 'science', 'creation', 'harmony' and '*ars inveniendi*' in his books on *metaphysica, logica, theologia* and *psychologia.* In his life time, it was taken that Wolff has written little on judgements ascribing perfection to works art, for he had less interest in poetry or paintings, and rather wrote on architecture.[280] For Wolff, however, there was little difference between the two. His concepts related the determination of order in and among being function as directors for truth, perfection and beauty of all beings, and are present throughout his whole philosophy. The present chapter argues that Wolff's ideas on the art of searching for and discovering of perfection in beings is the unifying factor that binds art, science and creativity into a unity.

Wolff's thinking presents a systematic theory of perception. Abstract discussions of perfection might alter the way we currently perceive and judge nature and art, and they have an effect on how we conduct science. It is my intention to demonstrate that we can work with Wolff's philosophy in contemporary discussions of art and science, even though his philosophy has been developed in a profoundly different philosophical context.

§3 *From beginning to end*

The present chapter introduces the term *telos* in relation to *nexus* and how they should be understood in the pre-established harmony. The two subsequent paragraphs will expose the function of *telos* for temporary perfection as present in the best possible world, established by the *ens perfectissimum.* If all created beings necessarily have a beginning, they also necessarily have an end. The first cause is therefore also the final end, formally speaking. God has to be this end,
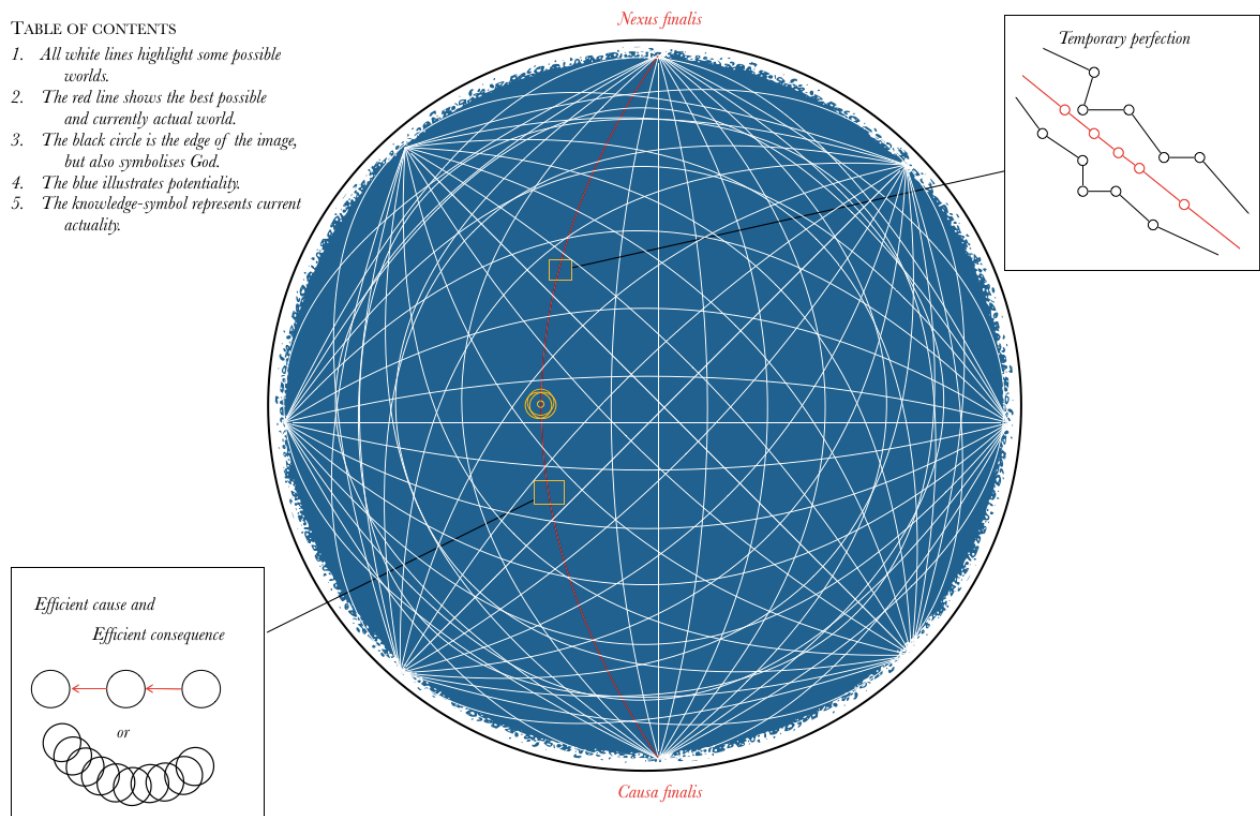
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[278] Stephanie Buchenau, "Wolffs Rezeption in der Ästhetik", *HbW*, 406-407. *What Wolff called philosophy of poetry or philosophy of arts in the Discursus Praeliminaris and in the Ethik, is not yet an aesthetic theory, and he refers to traditional clarifications, instead.*(Translation by myself, JSM) This is a remarkable statement by Buchenau in light of her earlier work on Wolff in which she presents him as at the root of eighteenth century German aesthetic thinking in *The Founding...* (2013).

[279] Beiser argues that Leibniz' complete philosophy is aesthetic in nature too. Beiser, *Diotima's Children,* 33.

[280] Beiser, *Diotima's Children, 47.*

Nexus finalis

Temporary perfection

Efficient cause and

Efficient consequence

or

Causa finalis

[Temporary perfection in the best possible world]

because it is the beginning. In a two dimensional image these properties are visualised as a circle in which all beings are directed from one end of the circle to the other. According to Wolff, all possible worlds, as sets of possible beings, are thus necessarily directed from and towards God. Wolff calls this ordering from the first cause to the final end pre-established harmony.[281] This harmony is either intrinsic or extrinsic to God. He either observes the beings or what is possible is part of the necessary being.[282]

Wolff's concept of God is influenced by christianity, but he is of the opinion that his natural theology and his conception of God should also be supported by reason and experience.[283] As with the other scientific disciplines, Wolff maintains that the *a priori* and *a posteriori* fields of theology should be able to influence each in order to arrive at certainty and truth.[284] What is observed in nature should be judged by reason, on the basis of certain principles, but what is reasoned to be true about God should also be correctable by experience. Wolff calls *a posteriori* theology

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[281] DM, "Das Erste Register", 673.

[282] Cf. Theis, *HbW*, 233.

[283] DM, §1.

[284] Theis, *HbW*, 224-228.

teleology.[285] Teleology is a field that is usually discussed in the context of science, and specifically biology, but it stands at the centre of Wolff's definition of beauty and perfection just as well.[286] Teleology is the study of the ends of beings in nature (*Telos* is Greek for end). The final end, the *Nexus Finalis,* is the end to which all potential beings are directed. Teleology also studies the *telos* of actual beings and the world as a whole, which is conceptually related to the final end as we will see.[287]

The scheme illustrates the relation between temporary perfection, the e*ns perfectissimum,* possible worlds and causality. From the first cause (*causa finalis*) many worlds are possible (white lines), of which the best is created (red line*).* From creation onwards the sequence of events is generated by efficient causes that have efficient consequences (left box). As a whole all events are ordered such that eventually all consequences lead to the final end (*nexus finalis*). The knowledge-symbol in the middle of the time sequence of actuality demarcates present actuality. The e*ns perfectissimum* (blurred white circle) is both the *causa finalis* and the *nexus finalis.* Ontologically, *nexus* (*Zusammenhang*) means the same as *telos,* namely an end, but for the purpose of clarity I use *telos* for end in actuality and *nexus* for the final end.[288]

For temporary perfection (right box), I used three lines to illustrate how temporary perfection can be constructed rationally if one is familiar with the *telos.* The two black lines are two actual structures that share a *telos,* namely to go up-left. In this example, the perfect or best possible way to go up-left is marked by the red line. Both black structures have the potential to be actual as the red line, but due to unspecified circumstances of actuality the structures are created less perfectly. The meaning of imperfection is thereby also captured in the image. Most beings have multiple *teloi.* For example, humans have to be able to run, but also to sit, and jump. This means that a structure could be less perfect with regard to one *telos* because of another. The level of perfection then depends on the structure with regard to all its *teloi.*

§4 Ens Perfectissimum

To signify the meaning of temporary perfection, this paragraph presents what absolute perfection means in Wolff's philosophy. Although interacting with imperfect beings, science and art are ultimately rooted in an unaccessible ideal notion of absolut perfection, i.e. the *ens perfectissimum.*[289]

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[285] Hein van den Berg, *Kant on Proper Science. Biology in the Critical Philosophy and the Opus Postumum*, (Dordrecht: Springer, 2014), 106.

[286] Beiser, *Diotima's Children,* 67, 71; Findlay*, Transcendental Object,* 42; Buchenau, *The Founding...*, 56-61.

[287] DP, §§99-102; Berg, Hein van den. "Wolffian roots of Kant's Teleology", in *Studies in History and Philosophy of Biology and Biomedical Sciences,* no. 44, 2013 (Elsevier, Amsterdam), 725-726; Beiser, *Diotima's Children,* 67.

[288] DM, §1031; "Das Erste Register", 677

[289] Theis, *HbW,* 233.

God, as the most perfect being, plays an important role for perfection in Wolff's thinking. God is also characterised as the all knowing intellect or perfect philosopher, which does not sound too far fetched when taking into consideration that God is the beginning and end of all possibilities. Given that God is the being the start and finish, it also grounds the following concepts: endlessness, timeless, unity, multiplicity, everything and nothing. We can form no imagination or conception of it, because our psyche is part of God's machine of possibility. One might be tempted to think that for Wolff God is an *ad hoc* concept that serves as the foundation and unity of the enormous system of philosophy. If so, one has to know that for Wolff God is not only the fundamental requirement of his system of philosophy only, but rather for *any* system of knowledge.[290]

In his proof of the being of God, Wolff starts by analysing why the popular proofs of the actuality of God are erroneous, of which Robert Theis has given a clear exposition of Wolff's analysis of these proofs and therefore I will not repeat it here.[291] Wolff's proof of the actuality of God is constructed in two parts: the proof of the actuality of the necessary being (the so-called *a posteriori* proof), and the proof that the necessary being is metaphysically perfect (the *a priori* proof).[292] In chapter II Wolff's concept of God as the unforced-forcer has been introduced, and because of this role, God is independent and everlasting, God distinguishes everything from nothing and God makes a distinction between ontological necessity and contingency possible. The first being is the cause of its own actuality, and that is necessarily its *nexus*. The First Being's cause is thereby identical to its end, making it necessarily perfect (*ens perfectissimum*).[293] The final end of all beings that are ultimately created by the first force is then identical to their final cause. [294]

§5 Telos-Kraft

A being's potential for perfection in contingent actuality is graded in respect to its own potential to realise its *telos* in actuality.[295] In the present paragraph I offer my interpretation of *telos* as force for unity in being. These essential perfections I call 'temporary perfections' (see scheme below). All temporary perfections are conceptually possible because of the *Ens Perfectissimum* as fundamental being. Temporary perfection therefore an intermediate standard that splits imperfect status quo of actuality from metaphysical perfection.

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[290] Theis, *HbW*, 231.

[291] Theis, *HbW*, 221-223.

[292] Theis, *HbW*, 225-226.

[293] DM, §§ 875-877, 933-943, 1053. Theis, *HbW*, 227-230.

[294] Theis, *HbW*, 237-238.

[295] DM, §§171-174, 824, 981, 982, 1033, 1034.

To achieve temporary perfection a being has to meet an *telos* in actuality. This *telos* can be part of its essential structure or added to the structure. It seems that if the *telos* is an element of the being's essential structure, all created beings should necessarily succeed in realising their *telos* because they cannot be actual without that element. This seems contradictory with the observation that there are some beings more perfect in realising their potential than others.[296] Furthermore, if understood as a structural element, a *telos* would not add any meaning to the concept of structure.

If the conclusion is that the *telos* is necessarily extrinsic to the essential structure of a being, a third element is required to explain why and how all beings necessarily have ends attached to them. Following Ockham's razor, it would seem that the *telos* has to be intrinsic to the being, but in a non-elemental way. For example the *telos* is the power of self-unfolding that fuels the continuous growing of a plant to its maximum potential. If we understand the being as having an internal potential to perfection that is limited by the external conditions of actualisation, we can imagine the *telos* as the power or force that unifies the being in design (*Kraft der Zusammenhang*).[297] The end-force, or *telos,* is present in actuality and serves as the power of self-unfolding of the being: the actual being has to become the best possible of its potential within the given limits of actuality. 'Force' as a general concept is introduced in the previous chapter and has a different ontological status than being. A '*telos'* is a force that determines how the structure is aligned in its composition. It is not an element of the structure, but it is the 'unifying factor' that makes it possible to talk about a structure or a unit of elements.[298] Like Leibniz, Wolff is an *atomist* in the sense that actuality is composed of indivisible units. The *telos* serves as the unifying factor that binds units at macro and micro scale.

There are, therefore, by definition no beings without ends, because for something to be actual it needs to be able to be acted upon or to act for itself.[299] Due to the fact that all causes have effects and vice versa, there are no actual beings without a possible effect. Wolff argues that it is only in epistemological terms that we distinguish between the function and an *telos* of a being, ontologically speaking every function is a step towards the final end.[300] The role of the first being in actualisation can be understood in two ways. The first version is to see it as a first act that sets every being in motion by chain reaction, but not necessarily 'intermingling' thereafter. The second reading, is that the process of actualisation is a continuous acting by the first force. Wolff seems to

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[296] DM, §§154, 156, 157, 160-178.

[297] DM, "Das Erste Register", 677.

[298] DM, §§125, 128; Simmert, *HbW,* 207-209.

[299] DM, §§115-118.

[300] Berg, "The Wolffian Roots", 727.

prefer option one over two, but does not exclude option two completely.[301] Now that we have noted that all acting is aimed towards the Perfect Being, we can wonder what the relation between temporary perfection and the Perfect Being is.

§7 Best possible world

Given that the first being is absolutely perfect, God has to create the best possible world, which is the most perfect world possible, according to Leibniz and Wolff.[302] In Wolff's philosophy the best possible is identical to the absolute best, because no better order is imaginable by God and man. The current world is that with the best possible consequence and is created because of its consequences.[303] The best possible world is that because it has the most number and highest intensity of temporary perfect beings. In metaphorical words, it is the world in which God's machine works the most perfect as possible. Metaphorically one might say that the most perfect world is intended more directly at the *ens perfectissimum*, but it is difficult if not impossible to attribute any concrete meaning to this metaphor due to the limits of our thinking from actuality.[304]

Wolff has juxtaposed scholastic philosophical theories with ideas from his contemporaries in his belief that the best of all possible worlds is the one that comes closest to the truth.[305] The idea that the current actual world is the best possible world is at least as old as Plato and the stoics.[306] Since then many thinkers have formulated versions of the theory, among whom Thomas of Aquino and Augustinus.[307] Wolff's discussion of the best possible world is closely linked to the problem of evil, and argued in similar fashion as Leibniz does.[308] It might seems contradictory, but according to Leibniz imperfections in creation are necessary, because there are some imperfections that open possibilities for other perfections to become actual. The question is, if all that is actual originates from one source that is absolutely perfect, how can anything imperfect become actual? This is also called the problem of evil, or imperfection.[309] Leibniz' solution is that the world created has to be the best possible world, because the *ens perfectissimum* could not have chosen otherwise and in this

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[301] Theis, *HbW,* 236, 241.

[302] DM, §§156-162.

[303] *HbW;* Beiser, *Diotima's Children,* 44.

[304] L, §§892, 922.

[305] Leduc, *HbW*, 35-53.

[306] Anthony Gottlieb, *The Dream of Enlightenment,* (London, Allen Lane, 2016), 187-189.

[307] Gottlieb, *The Dream…,*187-189.

[308] DM, §§981-982.

[309] DM, §§1056-1061.

best possible world, all beings in their potential strive to be as perfect as possible.[310] However, the realisation of perfection in actually depends on conditions, such as limited space and limited resources. For example the psyche has the potential to understand every being like God does, but it is limited by the mediation of the body and by the fact that it is *in* the world. In general terms, there is a potential for absolute perfection of knowing, but we can only know in actuality, which necessarily implies conditions that limit the realisation of this perfection.[311] What remains ontologically feasible for the human psyche is the best possible knowledge that is depended on the context of actuality. Perfect human knowledge is a temporary perfect knowledge, rather than knowledge like the *Philosophus absolute summus* has.[312]

The unforced-forcer is perfect, because it is a necessary being, and therefore its potential is necessarily actual. Since it is potentially perfect it has to be actually perfect. But because the First Cause is such, how then could it actualise beings that are imperfect? In his explanation Wolff follows Leibniz and argues that the current world is the best possible world, meaning that the sequence of actuality in the current world is the best of all possibilities in terms of perfection. A best possible world does not exclude imperfections or fallacies, but strives to be the best of what is possible. It is both relative and absolute in definition, it is the best compared to other worlds, but it is also impossible that another world has more potential for perfection. According to Leibniz, the sequence of events in the world should be seen as attempts of nature to become more and more perfect over time.[313] It is likely that Wolff maintains the same position, for otherwise the actual world would not necessarily be the best possible world.

Since the actuality of the world is defined as being 'in action; (*in actu)*, perfection in actuality is only realisable in changing structures. It is therefore impossible to define total perfection as an endpoint or final structure of the world, in which the constellation of beings as such that every being in it is perfect. Since the world in principle is defined as acting (*in actuality*), perfection can also be seen as that which is realised *in time* in stead of an end-state *over time*. Rather than to think of a perfect world as an end-structure that the world could be, we could think of it as inherent to the structure of the current world. The potential of perfection is then the ability of all potential beings to realise their perfect state at one or more moments in actuality. This could be a moment in the present, the past or the future. As actuality develops it necessarily progresses since more beings have met their perfection at a moment in time. Perfection in actuality is therefore

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[310] DM, §§152-170.

[311] Gottlieb, *The Dream…*, 183-193.

[312] Theis, *HbW,* 234.

[313] Reinier Munk, *Worden wij betere mensen? Essays over morele vooruitgang,* Anton van Harskamp, Gerben Meynen and Bettine Siertsema (eds.) (Zoetermeer: Klement, 2005), 33-38.

dynamic, and not something that at one time will have an ultimate end resulting in an end of time. Rather than something static, as with Plato's ideas, perfection can be achieved in acting only.

Thinking of perfection this way, the best possible world is the world in which all beings at one time can become perfect but not necessarily simultaneously. The time in which a being realises its perfection is limited, this temporary limited state of best possible functioning, or temporary perfection. Imperfection is then defined as the structures or elements of structures that are unable to reach the state of temporary perfection, due to causes external of the being. In principle all beings are able to reach temporary perfection, but a being in its actual form might be hindered in its self-unfolding making it unable further self-unfold.

To sum up, all beings are actual as reflections or shadows of their own perfect potential. Being actual is thus normative in nature, for the actuality of a being is always a gradation along the standard of its ontological perfect potential.[314] Even when human beings are not there to grade an actual being, it still is actual in respect to its potential. For Hume and Kant a normative grading is only made according to the values of the perceiving subject, for Wolff, however, it is also done metaphysically according to objective value of potential perfection.[315]

The charm of this concept of perfection is that it is both absolute and relative. The best possible world is as such because it is the possible world that has the most amount of perfect actual beings in its time. Therefore the totality of actual perfection is relative to the other possible worlds, but also absolute, since it is the largest amount of perfection ontologically possible. There is no world imaginable that is more perfect. Furthermore, in potentiality all beings have a perfect structure that is everlasting, making perfection also absolute.[316] Because of this two sides of his thinking, absolute potentiality and relative actuality, Wolff is able to include new ideas, new artwork and revise knowledge, while maintaining concepts of truth, certainty and perfection.

Ontologically speaking, like the passing of time, imperfections are a requirement for the actuality of a most perfect world. Certain perfections can only occur because there are other imperfections, which Leibniz also argues for. Furthermore, besides imperfection, older perfections can also lead to new perfection. Destruction leads to a very rough road, but also breeds creation,' as a famous pop-song goes.[317] There are more perfect beings in a world where perfection ends than in one where they do not. '

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[314] PE, §§516, 517.

[315] DM, §154; PE, §§516, 517.

[316] DM, §§975-977.

[317] Red Hot Chili Peppers, "Californication", Anthony Kiedis, Flea, John Frusciante, Chad Smith (eds.), (single, Warner Music, 1999).

"Siehe! Da weinen die Götter, es weinen die Göttinnen alle, daß das Schöne vergeht, daß das Vollkommene stirbt."[318] These phrases are from Friedrich Schiller's poem *Nänie* (1800) (full text in the appendix) is written about thirty to fifty years after the high time of Wolff's school of thought, and addresses the inescapable tragedy that is entailed in the actualisation of perfection. Every being might be pre-established in harmony as potentialities, but as it is the *telos* of the first being, perfection can only be realised in actuality. To become actual is a purpose that is necessarily attributed to all potential beings. Epistemologically speaking, this presupposition is necessary for us to think, since we cannot reason about potentiality independent from actuality, i.e. the body.

Ontologically speaking, the claim follows from what is stated before. Since the first being is the final cause and final end of all beings in potentiality, to be actual, the act established by that being, is the fulfilling of that cause and end. Hence the necessary tragedy becomes apparent. To be temporarily perfect is to be actual, and inevitably leads towards an end. Temporary perfection has to deteriorate and to die, just like temporary beauties. Perfection in actuality as a concept is everlasting, but beings that embody this concept subject to the vulnerabilities of being in time. This is to say that the beautiful it has a beginning and an end. The beautiful lives by contrast one might say. The knowledge of a *telos* makes actuality temporarily perfect. Schiller describes this beautifully by using ancient mythological figures as archetypes, but without naming them explicitly by name.

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[318] Friedrich Schiller,"Nänie", in *Werke in Drei Bänden, Band II*, Herbert G. Göpfert (ed.), (München: Carl Hanser Verlag, 1966), 722; *Behold! The gods weep, all the goddesses weep, that the beautiful perishes, that the most perfect passes away.*

In doing shows their attributes for perfection abstractly, which come to glory in actuality due to their inevitable *Schicksal.*

§8 Perfection for artificial creation

Thus far I have discussed how perfection is understood in relation to natural beings. In the following section I will analyse how perfection can be determined in artificial creation, and how to understand creation by man. Similarly to natural creation, to act or to function is the requisite for being actual by artificial creation. The grade of perfection of a work of art is determined similarly as it is done with any other being. Therefore, we are able to analyse every work of art, from the Mona Lisa to my comfortable chair in respect to its own potential. How this is done, I will address respectively: (1) What is the ontological status of artificial creations? (2) How do we determine an artificial *telos*? (3) What is the relation between perfection and artificial creations.

According to Wolff all consequences of beings are intended by the first being, therefore artificial consequences should also be part of the pre-established harmony. Even artificial ends that seem mundane or only useful for certain human beings are directed at the *nexus finalis.* The perfect door for a building, an example by Wolff, is perfect because the concept perfection is related to an aim and a purpose. If this were not the case, and not all *teloi*, artificial and natural, were implied in the ontological harmony, then *teloi* attributed by rational beings other than the first being are extra-natural *teloi* — the artificial would not be part of the natural, but be categorically different. Artificial harmony would lead to artificial temporary perfection. However, stating that artificial harmony is categorically different from natural harmony would entail that humans could act and create independently of the first being. Not only would this entail that the actual world might lose its status 'best possible', but also that human beings are Godlike in the sense that they can create outside of what is created by the Perfect Being. All beings artificially created would have to be extrinsic to the realm of possibility created by God (the blue in the scheme above). Since this contradicts several principles Wolff has established about the being of a first necessary being it entails that artificial ordering, including artificial ends and its perfection, are part of nature.

Consequently no categorical opposition between the artificial and the natural can be made (1). In stead, we should see the artificial and the scientific as specifications of the natural. The temporary perfection of an artificial being is therefore identical to the temporary perfection of a natural being qua ontological status. Science, like other arts and nature can reach the status of temporary perfection. It can become the best of its potential in the context of actuality.

Continuing from this angle we can conclude that the artist *discovers* what works and orders the beings involved in such a way that combined they work in harmony to realise the *telos*

imagined by the artist. Just as a symphonic orchestra that works in harmony to actualise a piece of music, do all other artificial and natural beings work to achieve a shared *telos*. In this sense, the artist does not *create* a being *in actu* or functioning, but combines several actual beings. The human act of creating is thus a mixture of *ars combinatoria* (the art of mentally combining various beings into a new constellation) and *ars characteristica* (the art of ascribing universal simple-names to specific beings), on the basis of what has been discovered by *ars inveniendi*. As soon as the artificially combined being has become actual (mentally or physically), knowledge about its ontological potential is gathered. It is clear why both Wolff and Leibniz valued the psyche's powers of perception and imagination.[319]

The artificial being is perfect when no further improvement in realising its *telos* is possible. With imagination we can determine what possible form is the perfect form (*ars fingendi*). However, to determine the best possible form, the purpose of the work, the *telos*, has to be determined. The question is thus, 'how to determine an artificial being's *telos*?' It is difficult to give a detailed account to this question, because this is where we stumble against the limits of Wolff's writings. Against his intentions, he has not written a philosophy of art. For example, it is impossible to say with certainty whether Wolff would state that a wooden bike relate to the same potential being as a carbon fibre bike. From a Wolffian perspective, I would think that it would, indeed, for they seem identical in essential properties, but not in terms of attributes. The following presentation of the above mentioned concepts applied to artificial perfection should therefore be read as Wolffian thoughts rather than Wolff's own.

The *telos* is determined by the artist in choosing what effect (*Würckung*) he or she wants to actualise, when conducting *ars fingendi* and *ars inveniendi*. A later observer of this work of art is able to determine the *telos* by investigating how this effect is realised in actuality by the order of the work of art. The observer thus analyses how the work of art functions or unfolds towards its *telos*. Determining how well this functioning is done is grading the work of art according to its perfection (2 &3). The following example clarifies this understanding of perfection in artificially created beings.

Da Vinci noticed that the beautiful becomes even more beautiful in contrast with the ugly. For Wolff, however, a being is not perfect because of contrast with others, but due to its own merits as perfection is the best expression of what is present as potential. For example the *Mona Lisa* has a high level of perfection independently of other paintings that aim to achieve similarly *teloi*. The claim saying that the beautiful becomes more beautiful in contrast, could be explained in terms of perception, which would not necessarily entail that these paintings are nearing temporary

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[319] DM, §245; Luigi Cataldi Madonna, "Logik", *HbW*, 100.

perfection. As argued by Kant, pleasure could be explained as purely subjective, without rational or objective components.[320] This is to say that 'It is pleasurable and therefore perfect, because I like it.', without being able to discuss the matter any further. Wolff disagrees with this, because for him the cognitive pleasure related to perfection can only be experienced by understanding why a being is temporarily perfect. We receive pleasure when we know and can explain why certain elements of the structure contribute in realising the being's *telos*. Temporary perfection is something that can be reasoned about.[321]

Even if the *telos* of the work of art is to achieve contrast, the elements that participate can also be analysed out of contrast. In the image by Da Vinci below the traits that distinguish a portrayed young man from a portrayed old one are the same elements that

[Leonardo da Vinci, "Heads of an old man and a youth", Uffizi Gallery, Florence, Italy, (Milan, 1495).]

have to realise the *teloi* of the two portrayed men. These *teloi* are that one portrayed man is to be depicted as looking like a young man and the other portrayed man is to be depicted like an old man. The grade temporary perfection of the two beings, the portrayed young man and the portrayed old man, depend on elements from their own structure, e.g. curly hair or a lined face. By placing the two opposite to each other, the elements used to realise the ends are mirrored in contrast, with the result that they highlight each other. The two depicted men work together to highlight their harmonisation. The contrasting effect does not result in a greater level of temporary perfection of the men individually, because the contrast-effect is not part of their structure.

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[320] Beiser, *Diotima's Children*, 41.

[321] PE, §§10, 510.

§9 The illusion of perfection

According to Wolff, we refer to the consensus in the multiplicity of elements of the being perceived in order to determine the level of harmony or closeness to temporary perfection of a being.[322] If we understand the way in which the artificial being harmoniously actualises its *telos*, its perfection generates a sense of beauty, a cognitive pleasure, in the psyche. Beings can generate the sense of beauty from an illusory understanding of its temporary perfection. Wolff, however, argues that this illusion of perfection fades when we discover the missed fallacies.[323] Wolff's concept of perfection and beauty is similar to Leibniz's, with one exception. Leibniz considers some beings to be perfect and beautiful, because "je ne sais quoi."[324] This position, however, deviates from his further completely rationalist theory of perfection. Leibniz holds that over-investigation and rationalisation of a being that is considered beautiful and perfect, can result in the destruction of that beauty.[325] Wolff, on the contrary, is of the opinion that more knowledge of the degree of perfection of a being can only enhance the understanding of perfection or lead to the realisation that the being studied is actually less perfect.[326] The degree of temporary perfection of a being is determinable by investigating the components of the actualised structure and how they work as a means to the *telos*.[327] Something that was regarded as perfect, but upon further reasoning turns out to be imperfect, will stop generating pleasure in the psyche.[328] If the *telos* is impossible to determine, then it is impossible to grade its level of temporary perfection. The rules and principles that Wolff presents in arguing for perfection do not limit creativity, but demarcate the requirements for artificial creation.[329] The artist is creative in the sense that he or she can search for possibilities by combining features from various contexts of actuality that have never been mixed. The psyche is free in the act of mixing and combining and search for *teloi* and structures he or she wants to realise.

§10 Truth and temporary perfection of propositions

If we understand knowledge (*ontologia artificialis*) as an artificial creation, then the *telos* of knowledge is completeness. For Wolff knowledge of a being is perfect if it describes a being

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[322] DM, §174.

[323] PE, §513; Beiser, *Diotima's Children,* 62-64.

[324] Beiser, *Diotima's Children,* 40; Buchenau, *The Founding...,* 53.

[325] Beiser, *Diotima's Children,* 62.

[326] DM, §151; Beiser, *Diotima's Children,* 66.

[327] Beiser, *Diotima's Children,* 71.

[328] Buchenau, *The Founding...,* 56; Beiser, *Diotima's Children,* 62-64.

[329] DM, §132-141, 241-247; Cf. Beiser, *Diotima's Children,* 50, 65-67.

completely, in terms of its potentiality for perfection in actuality.[330] The intention or *telos* of propositional judgements of beings is, to offer an account of descriptions that are as precise and comprehensive as possible. The unity of art and science in the visualisation of chapter IV shows us that a proposition can be seen as a work of art that describes beings rationally. However, although propositional judgements are a work of art, Wolff does not explicitly claim that they could be regarded as *entia*. Nevertheless, on the basis of the analysis of perfection in actuality as presented above, we can conclude that propositions can be more or less perfect in actuality. A temporarily perfect proposition describes the being in actuality as precisely and comprehensively as possible. Like other temporary perfections, it can loose its status of perfection, just as well.

Since there is no principle difference in Wolff's philosophy between beings *in mente* and *in ente,* there is no epistemological correspondence problem between the being *in ente* and its representation *in mente*. The being *in ente* and the being *in mente* both ascribe to the definition of actuality in terms of having a force (*Kraft*), i.e. they are *in actu.* In the same way that we know a being is perfect in actuality, we can know that the being *in mente* is perfect. In the same way that we know a being is perfect in actuality, we can know that the being *in mente* is perfect. Since Wolff understands a being as acting and non-existential, there is no correspondence-problem, i.e. the problem of how to relate judgements to actuality, in Wolff's system of knowledge. The risk of ending up in a psychologism is thereby also averted. To determine whether a proposition is temporarily perfect, knowledge has to have described every being as potentials as complete as possible.

Even when this perfect state is realised, it is only so temporarily. A change of actuality is possible, which means that innovation via *ars inveniendi* is possible, even though it is unforeseen by reason and intellect. *Ars inveniendi* is applicable to all possible propositions because there is no dichotomy between the skills required for the process of actualisation of works of art and science, according to Wolff. Therefore, *ars inveniendi* can be used to all possible sets of propositions describing any being to discover whether the description is perfect.

The question that remains and might be discussed in future research is, whether a temporarily perfect description is also (temporarily) true? The difference between a set of propositions that are temporary perfect, and that which is beyond reasonable doubt, is that the *ars inveniendi* seeks to find *new* additions, rather than checking whether the known ones are correctly formulated. If nothing *new* can be imagined in addition to the fact that what is known is formulated correctly, the propositions have to be temporarily perfect, yet. If nothing *new* can be imagined, does that mean that they are also temporarily true? Furthermore, a temporarily perfect

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[330] Wolff, "The author's short", lxx.

proposition is the best way possible for the psyche that it can form statements about the being in terms of actuality and potentiality. Truth is confirmed as the correspondence of a proposition to the current state of actuality, but also as a statement about the question of how actuality will and ought to be, according to its perfect potential.[331] Truth might be understood as a specific temporary perfection. It is, however, beyond the scope of the present thesis to discuss this hypothesis, and the discussion of it is the subject of another thesis.

Understanding the world absolutely perfect, as distinct from temporarily perfect, is knowing why any being can become actual. The *philosophus absolute summus* knows not only the current state of actuality but also the beings in terms of their potentials. Potentially the human psyche can perfectly perceive, desire and know every being, similar to the *ens perfectissumum*. In actuality, however, the psyche is limited by the body that can only observe what is physically possible; it is limited by age for it has to become acquainted with beings before it can recognise new knowledge; it is limited by the world that obscures and hides beings; and it is limited in that its time in actuality is limited. As a result, temporary perfect knowledge is not absolutely perfect, nor absolutely true.

CONCLUSIONS IN THE PRESENT CHAPTER
The formulation of perfect propositions

- Knowledge (*ontologia artificialis*) is a set propositional judgements of beings.
- There is no principle difference between beings *in mente* and being *in ente,* for actuality is defined as *in actu.*
- The *telos* of propositions is to describe being as precisely and comprehensively as possible.
- *Ars inveniendi* is used to discover new knowledge of beings and their functioning.
- A set of propositions is temporarily perfect if it describes the being in actuality and its functioning as precisely and comprehensively as possible.
- A set of propositions that is temporarily perfect is not to be taken as an indication that *ars inveniendi* can no longer be applied.

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[331] Theis, *HbW,* 234.

CONCLUSION

Wolff was a prolific author whose writings include a multi-volumes exposition of the system of philosophy, articulated first of all in German and subsequently in Latin. It is striking to notice that Wolff did not alter his system of knowledge fundamentally throughout his life. A possible explanation for this observation is, that he implemented the possibility of adaptation, called *ars inveniendi,* in his system. The principle of *ars inveniendi* offered him the possibility to improve the system and include alterations, instead of altering parts of it. *Ars inveniendi* operates between absolute potentiality and relative actuality, which is why Wolff is able to include new ideas, new artwork and revise knowledge, while maintaining concepts of truth, certainty and perfection.

In line with Descartes, Spinoza, and Leibniz, Wolff has established a deductive system that constitutes propositional certainty of beings. And the key issues as addressed in the present thesis are all related to two leading questions related to the system, viz., 'how did Wolff implement the possibility of innovation in his system of knowledge?' and 'how is the possibility of innovation related to the possibility of realising perfection in knowledge and being in actuality?'

> ### CONCLUSIONS IN THE PRESENT THESIS
> *Innovation in knowledge*
>
> *and perfection in form*
>
> - The actuality of beings is taken to mean their being *in actu,* both in the psyche of the knowing subject and as extra-mental beings.
> - *Ars inveniendi* is the skill to articulate possibilities that were unforeseen by reason and the intellect and on account of which innovations can be introduced into the system of knowledge that is constructed by deductive reasoning. As such *ars inveniendi* fits the criteria of the judgement that is both synthetic and *a priori,* and can be characterised as the 'logic of fantasy'.
> - A being is temporarily perfect if it maximised its self-unfolding in actuality and realises its telos.
> - Analogously, a set of propositions is temporarily perfect if it describes the being and its functioning in actuality as precisely and comprehensively as possible.
> - *Ars fingendi* has been characterised as the art of creating form that is an essential part of *ars inveniendi*. It can also be taken to hint at the principle of what is called aesthetics by Baumgarten.
> - Wolff's ideas on the art of searching for and discovering of perfection in beings establishes the unity of creativity, art, and science.

In chapter II and V the pre-established perfect harmony of the natural ontological order of the world is explained. If propositions in our order of knowledge (Wolff's *ontologia artificialis*) are certain, then they correspond to beings in terms of potentialities as part of the harmony in the natural ontological order. By introducing the terminology of actuality as *complementum* to possibility as the order established by the unforced-forcer, Wolff presents a construction of

ontology that is grounded in rationality as the primary force of the world (*nihil est sine ratione*). It is on account of the system of reason that we can know the world and judge observations. The system of knowledge is constructed on account of principles that are conceived as evident, e.g. the *cogito,* as well as on account of the principle of sufficient reason, and the principle of non-contradiction.

Starting from the observation that for Wolff concepts can be regarded as true or false in respect to their ontological possibility, one might be inclined to think, in line with Blackwell, that Wolff's system of knowledge is constructed purely *ex cogitare.* If this were so, Wolff's system would indeed be pre-determined, and would exclude the possibility of innovation, or so it seems. This analysis, however, turns out to be incorrect, for Wolff did indeed formulate a skill for discovery. *Ars inveniendi* is the skill to articulate possibilities that were unforeseen by reason and the intellect. It is on account of this art that innovations can be introduced into the system of knowledge that is constructed by deductive reasoning. As such ars inveniendi can be characterised as the 'logic of fantasy' (Cassirer). Due to the fact that *ars inveniendi* can be exercised *a priori,* as well as *a posteriori* and *in mixta,* the assertion of pure knowledge has to be evaluated as a misrepresentation of Wolff's philosophy. As a student of Von Tschirnhaus, Wolff actually values the empirical quite highly, to the extent that certain discursive judgments that make use of nominal definitions can be confirmed by artificial creation. This confirmation is possible because there is no difference in principle between actual *in mente* and actual *in ente.* The actuality of beings is taken to mean their being *in actu,* both in the psyche of the knowing subject and as extra-mental beings. This means that if artificially created beings *work* as expected, the knowledge used in the construction is certain with respect to the intended realisation of the *telos* of the artificial creation.

The visualisation at the end of chapter IV, exemplifies that the intuitive judgements, and these judgements only, are formulated independently of observations. In chapter III I have explained how Wolff formulates and contributes to the knowledge of the world as a marriage of reason and observation. Knowledge is adaptable to innovations if *ars inveniendi* results in perceptions by the psyche, or by the bodily senses, which lead to hypotheses that can alter the current order of knowledge. The certainty of the propositions is strengthened by their coherence to the whole of knowledge. In turn, coherence is maintained by formulating all propositions according to the philosophical method. The *ontologia artificialis* as a whole can increase in size and in certainty, and as a result it is more perfect to the extent that it is more coherent and more inclusive (see below for more details).

Chapter V analyses how we can discover perfection in actuality, which I called temporary perfection. In Wolff's philosophy we recognise perfection if we understand that an order or being

is harmonious. An order or being is harmonious if it is able to realise its *telos* (end) in actuality. The recognition of perfection also provides a cognitive sense of pleasure, which is called the sense of beauty. Wolff's conception of perfection is completely rational and if we discover that an element of the being's order has not been actualised, it is no longer conceived as perfect and the sense of beauty is lost. Besides having a sense of beauty, we can also reason whether perfection is present. If we are not able to discover any new elements that contribute to the realisation of the *telos* and the *telos* is indeed realised, then the being can be considered as temporarily perfect. All creations, artificial and natural, can be judged in these terms of perfection. A being realises its *telos*, according to Wolff, if it fully self-unfolds its potentials in actuality. The level in which a being is able to self-unfold in actuality Wolff calls the grade of perfection.

Chapter V further analyses the difference between artificial creation and natural creation, as specifications of the act of actualisation of beings. How beings become actual, is analysed in chapter II. All beings that are actualised have possibilities that were created by God in the first act of creation. As a consequence no categorical opposition between the artificial and the natural can be made, for all artificial creations already are as possibilities.

According to Wolff three types of artificial production are distinguishable: knowledge, manual art and mental art. All works of art are the results of these types of artificial production or combinations of the three. The artificial forming of knowledge should be seen as an act of connecting propositions to other propositions, an *ars combinatoria*. *Ars combinatoria*, which is primarily used with respect to combining propositions, has an equivalent for the shaping of beings called *ars fingendi* (the art of fabrication).

Ars fingendi has been characterised as the art of the fabrication of beings that is an essential part of *ars inveniendi*. If *ars combinatoria* is restricted to combining knowledge that is already defined propositionally (*ars characteristica*), does *ars fingendi* allows for the possibility of combining and shaping of beings *a priori* as well as *a posteriori* or as a combination of the two. This is to say that *ars inveniendi* serves as the possibility for innovation that fits the criteria of the judgement that is both synthetic and *a priori,* and that syntheses beings *in mente*.

Ars fingendi as serving as the art of creating forms, can also be taken to hint at the principle of aesthetics (the term introduced by Baumgarten). And what is more, Wolff's conception of the art of searching for and discovering of perfection in beings establishes the unity of creativity, art, and science. This unity is visualised in the scheme at the end of chapter IV. According to Wolff, the perfect human philosopher should thus be one who fully unfolds his skills of reasoning, in combination with his manual and mental skills. We might call this philosopher a *uomo universale,* or, in Wolff's terms, a genius. This genius is the best possible human artist-philosopher, who

exercises *ars inveniendi* in order to be able to realise the most perfect knowledge and to create the most perfect beings.

Furthermore, to the extent that *ars inveniendi* contributes to the extension of knowledge in quantity and precision, *ars inveniendi* offers a contribution to the perfection of knowledge, if perfection is taken to mean more complete knowledge. The *telos* of propositions is to describe being(s) as precisely and comprehensively as possible. A set of propositions is temporarily perfect if it describes the being in actuality and its functioning as precisely and comprehensively as possible. This perfection of knowledge and creation, however, is confined to the limits of the modus of actuality, which is characterised by temporality. The depiction of philosophy as a mortal being that might die and lose the realisation of its potential (see below) demonstrates that in actuality even "das Vollkommene stirbt…".

Pompeo Girolamo Batoni, *Mercury Crowning Philosophy, Mother of the Arts (1747)*, (The State Hermitage Museum, St. Petersburg and Amsterdam).

☛ Note the book under the sceptre states "PLA TO" and besides the putto holding the torch of reason lay tools and works of art.

FRIEDRICH SCHILLER —*NÄNIE (1800)*

Auch das Schöne muß sterben! Das Menschen und Götter bezwinget,

Nicht die eherne Brust rührt es des stygischen Zeus.

Einmal nur erweichte die Liebe den Schattenbeherrscher,

Und an der Schwelle noch, streng, rief er zurück sein Geschenk.

Nicht stillt Aphrodite dem schönen Knaben die Wunde,

Die in den zierlichen Leib grausam der Eber geritzt.

Nicht errettet den göttlichen Held die unsterbliche Mutter,

Wann er, am skäischen Tor fallend, sein Schicksal erfüllt.

Aber sie steigt aus dem Meer mit allen Töchtern des Nereus,

Und die Klage hebt an um den verherrlichten Sohn.

Siehe! Da weinen die Götter, es weinen die Göttinnen alle,

Daß das Schöne vergeht, daß das Vollkommene stirbt.

Auch ein Klaglied zu sein im Mund der Geliebten, ist herrlich;

Denn das Gemeine geht klanglos zum Orkus hinab.

Even the beautiful must perish! That which overcomes gods and men

Moves not the armoured heart of the Stygian Zeus.

Only once did love come to soften the Lord of the Shadows,

And just at the threshold he sternly took back his gift.

Neither can Aphrodite heal the wounds of the beautiful youth

That the boar had savagely torn in his delicate body.

Nor can the deathless mother rescue the divine hero

When, at the Scaean gate now falling, he fulfils his fate.

But she ascends from the sea with all the daughters of Nereus,

And she raises a plaint here for her glorious son.

Behold! The gods weep, all the goddesses weep,

That the beautiful perishes, that the most perfect passes away.

But a lament on the lips of loved ones is glorious,

For the ignoble goes down to Orcus in silence.

POST SCRIPT A WOLFFIAN COOKIE CLICKER

The post script investigates what follows from the just established interpretation of temporary perfection. In particular, I wonder whether elements of mundane artificial perfection, e.g. 'the perfect door for a simple shed', are ontologically anchored, like natural perfection. Even the following example of an artificial combination has to be part of creation of the Perfect Being if Wolff is right. Although this combination seems to have no other *telos* than to occupy time and energy of another actual being, it still has potential for perfection. In this *post script* I take a look at the browser-game Cookie Clicker.[332]

The authors called it the dumbest game currently available on the market, and arguments can be made that if that is the *telos* of the game, they created a temporary perfect being. In short, Cookie Clicker is an internet browser game that lets you bake virtual cookies when clicking the big cookie button. As the game develops you are allowed to buy upgrades, such as grandma's and cookie farms, that automatically bake cookies for you, besides you clicking, thus creating the possibility to raise your cookie count exponentially.

The person that has the top score in the game has created the most perfect work of art within the game. The top player has used the structure of the game to obtain an *telos*, namely having the most cookies, and has done so the best of all players. The top score is the most beautiful of all Cookie Clicker scores and no one can ever get a better score than the top player, until he or she stops playing. Note however that the top score need not be identical to the potential top score the game can now have. Furthermore, the elements required for receiving the highest score is also influenced by the number of players playing. If only one person would play the game, then that one player would be the most perfect.

The insight Cookie Clicker provides for our understanding of temporary perfection in Wolff's sense is that if the *telos* of a being is a relative *telos* than temporary perfection is potentially infinite for the game could go on forever. Secondly, temporary perfection could have always been met at all moments in time if the top scorer had played the game from

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[332] cookieclicker.com

the first moment. At least, these conclusions are the case epistemologically speaking. Ontologically speaking the game will eventually end providing a finish line with one most perfect score. The game is only finished at the moment the developers stop continuing the game, i.e. it is no longer possible for players to bake virtual cookies. The top scorer is thus basically playing against the developers of the game and waiting for them to stop continuing it. The top player will likely have the best score, but not the perfect score because he likely did not play the game at the first possible moment with maximum scoring efficiency. The temporary perfect score is a possible, but not actualised. Most other players are otiose with regard to setting a perfect score as long as number one keeps playing, which makes investing time in the game seem even 'dumber'. Funnily, Cookie Clicker was still very popular with 1,5 million players at a day in August 2013.[333]

The temporary perfect Cookie Clicker score becomes a more complex being over time, because more elements in the right order (e.g. grandma's, farms, etc.) are needed to achieve the perfect score, increasing the level of harmony. This question is relevant when wanting to compare to other harmonies. Since the level of complexity determines how harmonious a being is, the top score seems to become more harmonious and more perfect as long as the game continues. However weird it may be to compare Cookie Clicker to a painting or any other being, it is possible ontologically speaking. Wolff has not provided any features that limit comparisons, but also did not explicitly made comparisons between works of art.

The Cookie Clicker example may seem banal, and of course it has been chosen for that purpose. It underlines that any being can be perfect. However, because it is a game, it actually is a good example of Wolff's rational understanding of perfection. In most games the finish is built in terms quantity which entails that it is easier to grade its level of perfection. As explained above, Wolff's opinion was that all beings can be understood philosophically and in order to do that, one has to systematically reason about it.

Wolff is of the opinion that the psyche is essentially free in will, but will always desire the more perfect over the less perfect.[334] When three options are given and one of

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333 https://en.wikipedia.org/wiki/Cookie_Clicker#cite_note-4.

334 *HbW,*

them is expected to have the most perfect result of the three, the psyche will choose that one. Yet the psyche remains free at will, for often there is not one option that has clearly the best result. For example, it might be that several works of art can realise temporary perfection with identical ends although having different structures. At this point the psyche is completely free in choosing, which makes the act of choosing all the harder (e.g. multiple research applications that will all have promising results). Funnily, this is when some people prefer to throw the dice, rather than choosing for themselves. One might think that this means that temporary perfection is no use for us in calling a judgement. For quantitative judgements his analysis works fine. With regard to qualitative judgement of artificial and natural beings it is much harder. Perhaps it is for this reason that Beiser stated that Wolff's principles for beauty, i.e. the perception of perfection, are useful for architecture but difficult to apply to poetry.[335]

However, I do not think it is impossible. Schiller 's poem in the appendix is created according to rules established by the author and used to present the essential tragical fate of beauty. It is written in a classical *metrum* to unify form and content into a whole. With the for-last sentence Schiller refers back to the tragedy of the loss of a perfect harmonious actuality, but also reflects on it by stating that art — in this case *ein Klaglied* — has the ability to uphold a memory of the past perfection and thus showing what can become actual. In a sense, this is the *raison d'être* of *musea*: to attempt to preserve the works of beauty from their inevitable end and to make joy from actual harmonies possible.[336] The poem is therefore a medium that can be analysed in Wolff's terms. It would be interesting to investigate what forms of art of today can be analysed in terms of Wolff's concept of perfection. It seems the case that as long as a work of art has a structure that has a determinable *telos*, a philosophical analysis in terms of perfection is possible.

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[335] Beiser, *Diotima's Children*, 40.

[336] Schiller / Brahms, *Nänie, Peter's ausgabe;* Ernst Osterkamp: Das Schöne in Mnemosynes Schoß. In: Norbert Oellers (Hrsg.): Interpretationen. Gedichte von Friedrich Schiller. Reclam, Stuttgart 1996, S. 282–297; K. F. Hilliard: "Nänie": Critical Reflections on the Sentimental in Poetry. In: Publications of the English Goethe Society 75(1):3–13, 2006.

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