Gödel and the Materialism of the Angels

Tim Lethen

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1 Introduction

Like no other, Kurt Gödel's name stands for a mathematical—and, as Gödel himself repeatedly called it—conceptual realism,[1] which has regularly been described, and continues to be described, as a kind of Platonism, and which Gödel, for example, characterizes in his Gibbs Lecture as follows (*Gödel*, 1951, p. 320):[2]

> The truth, I believe, is that these concepts form an objective reality of their own, which we cannot create or change, but only perceive and describe.

In Gödel's view, we thus encounter two distinct worlds, about which he continues in his Gibbs Lecture (p. 321):

> I have purposely spoken of two separate worlds (the world of things and of concepts), because I do not think that Aristotelian realism (according to which concepts are parts or aspects of things) is tenable.

In what follows, we shall address the question of what relation obtains between precisely these two separate worlds, and what more specific conception Gödel has of the world of concepts. Accordingly, he writes in his essay "What is Cantor's continuum problem?" (*Gödel*, 1964, p. 272):

> However, the question of the objective existence of the objects of mathematical intuition (which, incidentally, is ***an exact replica*** of the question of the objective existence of the outer world) is not decisive for the problem under discussion here.[3]

In order to understand what exactly Gödel means by this *replica*, a perspective is required whose public exposition Gödel always strictly avoided, but which—as we now know—occupied a central position in his philosophical and scientific worldview. This radical change of perspective leads us into the realm of theology, which is of essential relevance in the writings contained in Gödel's Nachlass, yet about which very little is still known today.[4] As it turns out, Gödel

[1] In an (unsent) letter to B. D. Grandjean, Gödel writes in 1975: "I was a conceptual and mathematical realist since about 1925." See *Wang* (1987, p. 20) and *Gödel* (2003, p. 444).

[2] Detailed discussions of Gödelian realism can be found, for example, in *Martin* (2005) and *Parsons* (2005).

[3] My emphasis.

[4] A comprehensive compilation of these writings can be found in *Lethen* (2026).

again and again emphasizes an analogy between our material world on the one hand and the world of angels on the other. Quite evidently, Gödel sees precisely here the cautiously mentioned replica: the parallel between the "things" of our earthly world and the divine "objective reality" of concepts, which on the level of the angels assume the role played by material things. The primary aim of the present compilation is the first systematic illumination of precisely this analogy.

We begin our excursion in Section 2 with an examination of the "philosophical view" compressed by Gödel himself into 14 items, which provide a first impression of central attitudes that will play an important role in what follows: the rejection of materialism, the assumption of an "objective existence" of concepts, and not least the presupposition of the existence of rational, "higher" beings with whom we are connected by analogy. Section 3 then sheds light on the multifaceted reasons for Gödel's rejection of materialism at our human level, before Section 4 finally attempts to set out the 'materialism' of the angels and the corresponding analogies. Subsequently, in Section 5, we address the question of the extent to which Gödel engaged with the attempt to reach, at least in outline, the level of a "logic of the angels." The literature he cites here allows for a deep insight into his world of thought. The conclusion is formed by Section 6, in which we pursue a much-noted quotation by Gödel in which he emphasizes that at least a certain kind of Platonism cannot satisfy "a critical mind." Here, a look at philosophical lecture notes from the year 1925 dispels the long-prevailing irritations.

In contrast to the many highly speculative publications in which Gödel himself is scarcely heard, the present work understands itself mainly as a journey through a philosophical world that is revealed primarily through the compilation of notes and texts which are—widely scattered—found in Gödel's Nachlass and which are for the most part hitherto unpublished. Original German transcriptions are given in the Appendix, as indicated by the symbols **[X]**.[5]

2 My philosophical view

In Gödel's Nachlass there is an undated note, probably written around the year 1961, bearing the title "Meine philosophische Ansicht" [My philosophical view],[6] which was first published in an English translation in *Wang* (1996, p. 316).[7] Wang adds: "Unfortunately, we know very little of Gödel's reasons for holding [these optimistic beliefs and conjectures]." By now, however, it can be said that much is known about the background, for instance through Gödel's letters to his mother Marianne, which were written around the same time, through his essay "The modern development of the foundations of mathematics in the light of philosophy" (*Gödel*, 1961), or through Alexander Engler's work on Gödel's belief in an afterlife (*Englert*, 2024). In the present context, those points are likely to be of particular interest in which Gödel rejects materialism (10.) and postulates the existence of concepts (12.). In addition, points 4. and 11. are

[5] I consistently use my own transcriptions from the Gabelsberger shorthand system employed by Gödel. — The Kurt Gödel Papers are on deposit with the Manuscripts Division, Department of Rare Books and Special Collections, Princeton University Library. Used with permission of the Institute for Advanced Study. Unpublished Copyright Institute for Advanced Study. All rights reserved.

[6] Kurt Gödel Papers, Box 11b, Folder 15, item accession 060168.

[7] A German version is also published, for example, in *Engelen* (2016).

of central importance for us, since they reflect Gödel's belief in the existence of rational, higher beings. That these "beings" include God and the angels on the one hand, and the devil and the demons on the other, is by now beyond doubt.[8]

[A] My philosophical view

1. The world is rational.
2. Human reason can, in principle, be developed more highly (through certain techniques).
3. There are systematic methods for the solution of all problems (also art, etc.).
4. There are other worlds and rational beings of an entirely different and higher kind.
5. The world in which we live is not the only one in which we shall live or have lived.
6. There is incomparably more knowable *a priori* than is currently known.
7. The development of human thought since the Renaissance has been decidedly one-sided.
8. Reason in mankind will be developed in every direction.
9. The formally right science [Das formal Rechte] is a science of reality.
10. Materialism is false.
11. The higher beings are connected to the others by analogy, not by composition.
12. Concepts have an objective existence. (As well as the mathematical theories.)
13. There is a scientific (exact) philosophy and theology,[9] which deals with concepts of the highest abstractness.
14. Religions are for the most part bad, but religion is not.

We begin a closer examination of these points with a detailed exposition of the exceedingly multifaceted reasons that Gödel advances against materialism.

3 Materialisms is false

Gödel's rejection of materialism is widely known. Far less familiar, however, is the wide spectrum of reasons that lead Gödel to this clear position—a spectrum that includes mathematical, vitalistic, theological, and not least aesthetic components, whose compilation is the primary focus here. We begin by considering those aspects that ultimately arise from Gödel's own incompleteness results, since they run counter to an attempt to build mathematics out of materialistic symbols and their finite combinations. In his essay "The modern development of the foundations of mathematics in the light of philosophy" (*Gödel*, 1961), Gödel writes, for example:

> But the next step in the development is now this: it turns out that it is impossible to rescue the old rightward aspects of mathematics

[8] See in this regard *Lethen* (2026), where most of the other points are also discussed in detail.

[9] Gödels footnote: "which is also most highly fruitful for science"

> in such a manner as to be more or less in accord with the spirit of the time. Even if we restrict ourselves to the theory of natural numbers, it is impossible to find a system of axioms and formal rules from which, for every number-theoretic proposition A, either A or $\sim A$ would be derivable. And furthermore, for reasonably comprehensive axioms of mathematics, it is impossible to carry out a proof of consistency merely by reflecting on the concrete combinations of symbols, without introducing more abstract elements. The Hilbertian combination of materialism and aspects of classical mathematics thus proves to be impossible. **[B]**[10]

That Gödel here mentions the "rightward aspects" of mathematics is anything but accidental: he had previously described a linear ordering of philosophical basic attitudes, at the far right of which stand theology, but also worldviews that exhibit a certain affinity to metaphysics and religion. At the left end of the spectrum are, for example, materialism and positivism. The aforementioned "spirit of the time" now consists in a tendency that consistently moves away from the right-hand side.

Probably less well known are the reasons for Gödel's aversion to materialism that are based on a vitalistic worldview, and that emerge, with all due caution, in his lecture "Some basic theorems on the foundations of mathematics and their philosophical implications" (*Gödel*, 1951, p. 311). Here Gödel writes:

> Corresponding to the disjunctive form of the main theorem about the incompletability of mathematics, the philosophical implications prima facie will be disjunctive too; however, under either alternative they are very decidedly opposed to materialistic philosophy. Namely, if the first alternative holds, this seems to imply that the working of the human mind cannot be reduced to the working of the brain, which to all appearances is a finite machine with a finite number of parts, namely the neurons and their connections. So apparently one is driven to take some vitalistic viewpoint.

And he continues:

> It is not known whether the first alternative holds, but at any rate it is in good agreement with the opinions of some of the leading men in brain and nerve physiology, who very decidedly deny the possibility of a purely mechanistic explanation of physical and nervous processes.

And some ten years later Gödel speaks of the fact that "materialism is inclined to regard the world as a disordered and therefore meaningless heap of atoms" (*Gödel*, 1961, p. 375). In doing so, he takes up a vitalistic conception that he had already articulated with great clarity at a very early stage, namely around the year 1935, in one of his notebooks on quantum mechanics[11], and which clearly rejects the meaninglessness of living "heaps of atoms." Here he notes:

> There appear to be higher-order forms of organization.

[10] English translation taken from *Gödel* (1961, p. 381).

[11] Notebook *Quantenmechanik II*, Kurt Gödel Papers, Box 6b, Folder 78, item accession 030107. See *Lethen & Passon* (2021, pp. 76–77).

1. unorganized ether perhaps = light
2. electrons and protons
3. nuclei
4. atoms
5. molecules
6. living beings

> Although every thing of level n contains things of level $n-1$ as parts, it is not to be understood as a spatial aggregate of these. That is, its behavior cannot be explained by spatiotemporal laws with respect to things of type $(n-1)$. That is, the state (relation to one another) of the elementary parts (necessary for the prediction of behavior) is not a spatial relation. For example, two hydrogen atoms can stand in the relation of "forming one hydrogen molecule" or in the relation of "forming two separate hydrogen atoms" and then behave differently, although the probabilities of their spatiotemporal positions may be similar. Likewise, an atomic system may perhaps stand in the relation of "forming an organism" or in the relation "forming a heap of atoms" and accordingly behave differently. That is, an organism is not described by specifying the spatiotemporal position of the atoms that constitute it; rather, one must additionally add something of the form "and they form an organism." Or there is additionally an entelechy involved. (This would be the difference between organism and machine, but would not exclude the possibility of an artificial production of life.) From this it would follow, for example: organization cannot be explained by field-like effects propagated within living substance (for these would have to be the same in matter in the unorganized state). **[C]**

The introduction of an entelechy exemplifies for the first time which components, in Gödel's view, are evidently lacking in a materialistic worldview. In the year 1942, he expresses himself much more extensively on this point in his notebook *MaxPhil V* (pp. 344–345)[12], where he discusses the two "directions" in which materialism would have to be extended in order at least to approximate a more comprehensive and satisfactory philosophical outlook. In his note, which ultimately also takes up the materialistic view of combinations of mathematical symbols, Gödel writes:

> Remark (Philosophy): The materialistic (positivistic) worldview, when referred to reality, means that there are only laws of pressure and collision [Druck und Stoß] (and otherwise only chaos), and only material things. Another form is that there are only sensations and laws of their succession. A transcendence is possible in a twofold direction:
>
> 1.) With respect to existing things: soul, concepts, angels.
>
> 2.) With respect to the existing regularities (i.e. general states of affairs): justice, superstition, etc.

[12] Kurt Gödel Papers, Box 6b, Folder 67, item accession 030091.

> Positivism is better insofar as at least no restriction of the laws is assumed, but in truth no laws at all are formulable.
>
> In the world of ideas (mathematics), materialism and positivism mean that there are only laws for combinations of signs, among them of course also "useful" systems. A refutation would consist in the fact that one system so far surpasses all others that it bears the marks of truth itself (probably also in an intuitionistic sense).
>
> Positivism is the only form of materialism that can still persist in the present age. **[D]**

In numerous notes over the years, Gödel analyzes differences between a "scientific" and a theological worldview.[13] With respect to Gödel's own position, to his "philosophical view," this is inevitably connected with objections directed against the picture of materialism that Gödel closely associates with the "scientific" worldview of the prevailing spirit of the time. In his notebook *MaxPhil II* (p. 120),[14] which was written in the years 1938 to 1940, he formulates:

> Remark: The essential difference between the materialistic (scientific) and the religious (philosophical) worldview is that the former attempts to present the entire world as a necessary consequence of almost nothing[15]. Objections to this:
>
> 1. Almost nothing is not nothing.
> 2. Is it possible at all?
> 3. If it is possible, then the fact of the possibility is something so sub. that it calls for an explanation all the more.
>
> In the religious worldview, the world is derived from something infinitely more complicated and more comprehensive. (The exact opposite.) **[E]**

This remark, too, contributes to the multifaceted set of reasons for rejecting the materialistic worldview, which quite evidently rests on a religious—or, more cautiously put, theological—basic attitude that can without doubt be ascribed to Gödel, and which clearly comes to light in countless notes and reflections in his Nachlass. Finally, the spectrum of reasons for rejection should be supplemented by remarks that are certainly not easy to interpret, found on an undated loose sheet[16], which introduce a rather surprising aesthetic component and refuse to be content with seeing God, the "most excellent," merely in a "supporting role."

> Objections to Materialism
> Instead, it should read: 1.)[17] The highest excellence plays a secondary role.
> (Thus it is aesthetically wrong, just as if in an ornament the most intricate star were placed in an inconspicuous position and in its smallest form.)

[13] *Lethen* (2026, Appendix 2) lists a large number of these notes.
[14] Kurt Gödel Papers, Box 6b, Folder 65, item accession 030088.
[15] Gödel's footnote: "that is, very little and very simple"
[16] Kurt Gödel Papers, Box 10b, Folder 43, item accession 050154.
[17] This numbering was apparently added later.

2.) Objective values, where incorporated, become empty. (That is, there is no criterion for their existence.) [Purpose = the initially satisfied value]
Ultimately meaning that the world is neither beautiful nor moral.

(3.) God is a special case of spirit in general.

(4.) In addition to things, there are also properties as elements of reality.

5.) The concepts fundamental in naive thinking (psych., value, purpose) appear as something very derivative, so that the scientific worldview is in no way a "refinement" of the naive one. (That is, natural thinking is the wrong path.)

6.) The objects initially given to us are in reality entirely different. In particular, quality does not correspond to quality, but to structure.[18]

7.) Certain materially possible processes have introspectively no possible correlation at all, e.g., division of the frontal brain.

? 8.) Empirically, there is no central organ. ? **[F]**

4 The Logic of the Angels

Gödel's "philosophical view," reproduced in Section 2, contains, in points 4 and 11, two particularly remarkable indications of his belief in the existence of higher beings, which he most likely intended to include the host of angels: "There are other worlds and rational beings of a completely different and higher kind" and "The higher beings are connected to the others by analogy, not by composition." Both the *rationality* of these beings and the indicated *analogy* appear repeatedly in notes scattered throughout Gödel's Nachlass. For instance, he asks in his notebook *Theologie 1*, written in 1937:[19] "Is the thinking of the angels in principle different from that of humans?" A possible answer to precisely this question is found on page 227 of the book *MaxPhil IV*:[20]

> Remark (Foundations): It is likely that within the domain of natural numbers, not only can all statements be decided, but all concepts can also be defined. That is, the quantifiers suffice (for they alone are what allow concepts concerning the infinite to be defined). In higher theories, the quantifiers probably no longer suffice (a different logic of the angels). **[G]**

And finally, in a list of theological remarks[21] the question appears "Will logic and math be the same after the end of this world?"

These reflections now lead us directly to the repeatedly mentioned *analogy* between our material, physical world and the world of the angels. On multiple occasions, Gödel draws, usually in brief remarks, a parallel between the "things" of our own immediate perception and the concepts and ideas that are part of a

[18] This point is highlighted with an additional mark in the margin.

[19] Kurt Gödel Papers, Box 7a, Folder 107, item accession 030129.

[20] Kurt Gödel Papers, Box 6b, Folder 67, item accession 030090. The book was written in the years 1941 and 1942.

[21] Kurt Gödel Papers, Box 8a, Folder 65, item accession 040218.

"material world" at the level of the angels. Gödel himself formulates this in his notebook *MaxPhil IV* (pp. 397–398):

> Remark (Philosophy): The "Word" in the sense of theory[22], that is, the principles of constructing things and situations[23], relates to ideas as they relate to reality. There is the existence of certain ideas, but not the ideas themselves. In a certain sense, the ideas are a "realization" of the Word, just as reality is a ""realization" of the ideas. The Word in this sense also splits into four parts, and for each of these four parts the purely formal aspect is given by the axioms of propositional calculus, number theory, analysis, and set theory. Each of these four parts also has a non-formal (material) aspect. The material aspect of analysis is the physics of our three-dimensional space, that of set theory is probably the material world of the angels. [What corresponds to propositional calculus and number theory?] Moreover, probably each of these parts corresponds to a psychology of certain beings. **[H]**

Particularly remarkable here is the fact that, in this note, Gödel elevates the notion of the "Word," the "theory," to a further, third level, which apparently lies above that of the angels.

In what follows, we present a series of brief remarks that repeatedly illustrate and illuminate the idea—quite evidently central for Gödel—of the analogy between a human-scientific materialism and a materialism of the angels, thereby underlining our connectedness with the angels "by analogy." It should be noted that Gödel even entertains the possibility of the angels acting upon ideas—analogous to our own influence on things.

- (*Theology Questions*)[24]
  A very fruitful perspective seems to be the analogy: Ideas : Angels. (As in fact any analogy.)

- (*MaxPhil III, p. 32*)[25]
  Remark: It may be very fruitful to investigate the psychology of "finite" beings[26] with respect to their mathematical cognitive abilities, analogously to how dimensions > 3 can be understood by analogy by two-dimensional beings.

- (*MaxPhil III, p. 86*)
  Remark Theology: Perhaps reason is capable of understanding everything beneath it (space, number, matter, animals), but not itself and what lies above it (angels and higher types).[27]

[22] Gödel's footnote: "Theories are thus a class of things in their own right, which do not fit into the threefold division idea–soul–matter?"

[23] Gödel's footnote: "in the sense of the 'correct theory' "

[24] Kurt Gödel Papers, Box 6a, Folder 51, item accession 030074.

[25] Kurt Gödel Papers, Box 6b, Folder 66, item accession 030089.

[26] Gödel's footnote: "606 is the number of a beast according to the Apocalypse." ["Here is wisdom. Let him that hath understanding count the number of the beast: for it is the number of a man; and his number is Six hundred threescore and six." (Rev. 13:18) The beast is usually identified with Emperor Nero, as the sum of the corresponding numerical values of the letters in the Hebrew alphabet is exactly 666. Gödel mistakenly noted the value as 606.]

[27] For a closer consideration of this remark in set- and type-theoretical terms, see *Lethen* (2021b, §4).

- ◇ (*MaxPhil VII, p. 472 ff.*)[28]
  Remark (Foundations): Is the analogy correct: Laws of Euclidean geometry : spatial intuition = logical laws : logical thinking? Logical space is the background, the logical "formula" of all thinkable, just as ordinary space is of all physical phenomena. Equality, difference, and number are somehow the only fundamental concepts (merely among things equal to each other without properties). For animals, is spatial intuition exactly that? (Analogy with the angels.)

- ◇ (*MaxPhil VII, p. 474*)
  Remark (Theology): Is the lowest level of angels perhaps material? Since above the firmament there must be something?

- ◇ (*MaxPhil VII, p. 474 ff.*)
  Remark (Theology): Plants and crystals are examples of a being with a purpose [Sinn] very different from ours (no "consciousness"). Does the being of angels relate in the same way to ours? Do ideas relate to angels as matter relates to us? (That is, are they subject to their influence?) Yet even in the lowest form of being there is pleasure and suffering?

- ◇ (*MaxPhil VIII, p. 659*)[29]
  Remark (Philosophy): It is strange that the physical world has such low cardinality (dimension). Or is it only the images of this world in our senses that have such low cardinality?[30] Cf. quantum mechanics.

- ◇ (*MaxPhil IX, p. 71 ff.*)[31]
  Remark (Philosophy): Concepts : dead things = angels : animals. Concepts are also something "simple" and "dead" in comparison to angels. Humans stand in the middle between animals and angels, just as mathematics stands between body and concept. In this twofold division, one is always the "dominating," "ordered," the other the chaos. The second pair, however, is merely a "reinforcement" of the first. With concepts, one strangely[32] has the feeling that they are not really things, but merely "shadows" or mere possibilities and not "real" objects. (Or perhaps something "general.") **[I]**

5 Religious Ecstasy

We now turn to the question of the extent to which Gödel attempted to free himself from the human level while simultaneously moving toward the level of the angels, if not even toward the level of God, ultimately with the aim of gaining deeper insights into the world of logic and mathematics. For Gödel, it is evident that at least some contact with the higher levels is possible, and it is naturally available to us humans. Let us here once again consider the quotation presented at the outset from his lecture "Some basic theorems on

[28] Kurt Gödel Papers, Box 6b, Folder 68, item accession 030093.
[29] Kurt Gödel Papers, Box 6b, Folder 69, item accession 030094.
[30] Gödel's footnote: "Perhaps the physical (empirical) concepts are the higher-dimensional in our world, to which the angels relate as we do to individual things?"
[31] Kurt Gödel Papers, Box 6b, Folder 69, item accession 030095.
[32] Gödel's footnote: "in contrast to the others"

the foundations of mathematics and their philosophical implications" (*Gödel*, 1951): "The truth, I believe, is that these concepts form an objective reality of their own, which we cannot create or change, but only perceive and describe." The contact mentioned, then, consists—at the very least—in the possibility of perception and the resulting possibility of description. These very possibilities granted to us alone indicate that a transition from the human-materialistic world to the materialistic world of the angels seems naturally accessible, and that the world of concepts appears at least *plausible* to our sensory experience. Gödel himself envisions examples of this *plausibility*, which he records in his notebook *MaxPhil III* (p. 54):

> Remark: Everything that can in some way be understood is either
>
> 1. completely clear (that which can be known)
> 2. fairly clear (axiom of replacement)[33]
> 3. plausible, i.e., acceptable for aesthetic, completeness reasons, etc.
>
> Question:
>
> 1. Can the plausible be made analytical by means of the perfection of God?
> 2. Can everything knowable (including the synthetic and empirical) be made plausible, or is there a true theory that has only a "verification"? **[J]**

Gödel thus draws a clear distinction here between the levels of the analytical and the merely plausible. The latter, however, could, according to Gödel, be rendered plausible through the "perfection of God," and around the same time he indicates in his book "Theologie 3" (p. 17)[34] the manner in which such an objectification might take place.

> Transformation of subjective into objective concepts through the mediation of God:
>
> - ◇ it exists ≡ God perceives
> - ◇ it is true ≡ God believes
> - ◇ it is meaningless ≡ God does not understand
> - ◇ concept ≡ God's idea
>
> (i.e.: God is the measure of all things.) **[K]**

Central to this perspective, in our context, is the view—or rather the insight—that concepts correspond to a divine idea and thereby attain their "objective existence" in precisely this way, which Gödel briefly states in point 12 of his "philosophical view": "Concepts have an objective existence."

As already mentioned, Gödel holds the view that humans can bridge to the level of concepts and angels through a naturally given intuition, an intuition for which there must evidently be a sensory perception corresponding to the sensory impressions of our physical, material environment. Nevertheless, this intuition seems clearly to encounter limits, beyond which lies a domain that is "darkened" and inaccessible to humans. On this point, Gödel writes (*MaxPhil IX*, p. 27):

[33] These first two points are grouped together with a curly brace labeled „analytical".

[34] Kurt Gödel Papers, Box 7a, Folder 108, item accession 030130. The originally tabular layout has here been slightly modified.

> Remark (Philosophy): The helplessness of the natural understanding facing mathematics apparently rests on the fact that certain concepts are darkened [verdunkelt] for us, and that the remaining concept system (given through "pure intuition") is not "complete," i.e., it allows the formulation of many problems that it cannot solve. (This is asserted in Descartes' philosophy with regard to responsibility.)
>
> The intuitionistic way to resolve this consists in completing the concept system by omission. Or does this only serve so that we can follow the true situation in an example, where one can see both the "more complete" and the mutilated system? (Analogous to explaining the fourth dimension through the two-dimensional.) **[L]**

On a loose sheet,[35] which briefly prepares a conversation with Else Frenkel in 1938, Gödel mentions—seemingly without context—Paul's Second Letter to the Corinthians, which states (12:4): "How that he was caught up into paradise, and heard unspeakable words, which it is not lawful for a man to utter." That the reference to this verse was by no means accidental on the sheet becomes apparent from the fact that Frenkel was to give a lecture shortly thereafter at the Vienna Psychological Institute on the topic of "Religious Ecstasy," a subject from which Gödel evidently hoped to find means and ways to approach the "unspeakable words" of the darkened domain.[36]

Already some years earlier, around 1935, in the midst of a literature collection on quantum mechanics, he notes:[37] "Is there a book on: psychology of mediums, yoga practice, mystical absorption, religious ecstasy, possession?" Just a few pages later, he apparently finds relevant works and notes books such as "Emotionale Gotteserlebnisse" (*Schlink*, 1931), "Einführung in die Religionspsychologie" (*Oesterreich*, 1917), "Die psychiatrische Beurteilung Jesu" (*Schweitzer*, 1913), or "Die religiöse Erfahrung in ihrer Mannigfaltigkeit" (*James*, 1907). Finally, he also mentions Emil Mattiesen's "Der jenseitige Mensch" (*Mattiesen*, 1925), with which he must have engaged intensively, since he explicitly refers to chapters 33 and 34, whose titles turn out to be "Mystical Cognition: Expressible Insights" [Mystisches Erkennen: Aussprechbare Einsichten] and "Mystical Cognition: Unspeakable Insights" [Mystisches Erkennen: Unaussprechbare Einsichten], respectively, and which essentially deal with the claim that mystics "have unanimously asserted from time immemorial—entirely apart from all that they reported about visions and literal inspirations—a faculty of understanding beyond intellect and reason" (p. 313). Lines like these seem to have struck a particular chord with Gödel. He continues reading (p. 317):

> This reminds us of how often mysticism has claimed that *all* theoretical teaching content can also be perceived in a sensibly-suprasensible manner *independently of any tradition*, experienced entirely originally and autonomously, and thus 'grasped': things that, by assumption, lie beyond the limits of possible observation and investigation and were therefore reserved from the beginning for 'revelation.'

[35] Kurt Gödel Papers, Box 11c, Folder 22, item accession 060273. See *Lethen* (2021a, p. 21).

[36] Regarding the meeting between Gödel and Frenkel as well as Frenkel's lecture in the series "Contemporary Problems of Psychology," see *Lethen* (2021a, Sections 5.21 and 7.6) and *Lethen* (2022).

[37] Notebook *Literatur Physik*, Kurt Gödel Papers, Box 6c, Folder 80, item accession 030110. The transcription of the relevant passage can be found in *Lethen & Passon* (2021, p. 150).

Evidently, a completely new type of knowledge acquisition opens up here for Gödel, from which he hopes to approach the "logic of the angels" and penetrate the darkened domain. And while he is famously highly critical of gaining knowledge through empirical observation, the mystical path appears to him, alongside the a priori route and the acquisition of knowledge through divine revelation, as entirely acceptable and fruitful. This thesis is further underlined by the fact that he explicitly cites page 708 of Mattiesen's book, where the following highly remarkable passage is found (*Mattiesen*, 1925, p. 708):

> Union with the divine spirit, the mystic might conclude, would have to allow the enlightened individual to truly experience how the world (the existent and the appearing) is 'made.' Fichte, in a thoroughly mystical manner, asserted that his teaching presupposes 'an entirely new inner sensory instrument, through which a new world is given, which is not present for the ordinary human being. It is not the creation or invention of something new, not the given, but the compilation and apprehension of that which is given through a newly to be developed sense.'[38] In the language of later identity philosophy, this intellectual intuition is the indispensable organ of all transcendental philosophizing, the unprovable, self-evident foundation of all evidence, the absolute act of cognition—a mode of knowledge that must remain incomprehensible from the conscious empirical standpoint, because, unlike the latter, it has no object, because it cannot even appear in consciousness, but falls outside it.[39] All philosophizing, Schelling thus taught, consists in remembering the state in which we were one with nature ... The time will come when the sciences will cease more and more, and immediate cognition will arise, ... where 'it is possible to spiritually experience the real life of all.' Humans in whom 'nature is seen,' who 'have become nature in their seeing,' are the 'true seers, the genuine empiricists.'[40]

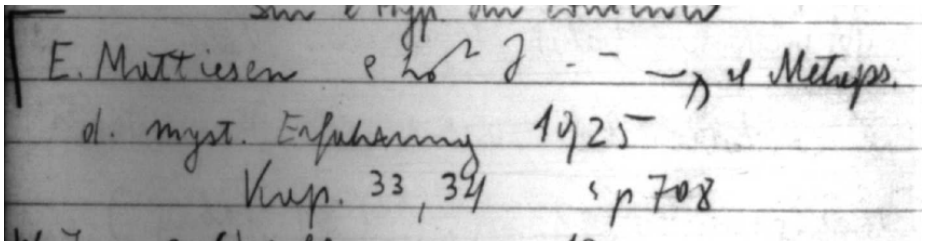

Figure 1: Gödel's highlighting of chapters 33 and 34 as well as page 708 of Mattiesen's *Der Jenseitige Mensch* (*Mattiesen*, 1925).

It should be noted that in December 1937, Gödel attended an event marking the 10th anniversary of the *Austrian Society for Psychic Research*, during which

[38] Mattiesen's footnote: According to v. Hartmann 313 (from: Introduction to the Theory of Science).

[39] Mattiesen's footnote: Schelling, WW. 1, 1 181f.

[40] Mattiesen's footnote: According to N. Losskij, The Foundation of Intuitionism (Halle 1908) 153ff.

Emil Mattiesen was referred to as the "leading representative of Spiritism in its most serious form." At the time, the president of the *Society for Parapsychology*, as Gödel called it, was the physicist Hans Thirring, who had drawn Gödel's attention to the anniversary event in a lecture on parapsychology of his own.[41]

6 Platonism

What has been presented so far clearly reflects a coherent worldview to which Gödel remained faithful throughout his life. He himself writes in an unsent letter to B. D. Grandjean: "I was a conceptual and mathematical realist since about 1925." (*Wang* (1987, p. 20) and *Gödel* (2003, p. 444)) It is therefore all the more striking that in his essay *The present situation in the foundations of mathematics*, published only in 1995 (*Gödel*, 1933), Gödel writes the following remarkable words:[42]

> The result of the proceeding discussion is that our axioms, if interpreted as meaningful statements, necessarily presuppose a kind of Platonism, which cannot satisfy any critical mind and which does not even produce the conviction that they are consistent. (*Gödel*, 1933, p. 50)

This much-discussed passage is undoubtedly somewhat puzzling, raising the question of how a Platonist worldview could, in Gödel's eyes, conflict with the "critical mind." Solomon Feferman writes in his introduction to Gödel's lecture (*Feferman*, 1995, p. 39):

> This does not seem to square with Gödel's unequivocal assertions, quoted in letters of 1967 and 1968 to Hao Wang and reproduced in Wang 1974, pages 8–11, that he had held a Platonistic philosophy of mathematics since his student days in Vienna. These are reinforced by Gödel's statement, in an unpublished (and unsent!) response to a questionnaire from Burke D. Granjean, that he had held such views since 1925. There is certainly no questioning of Gödel's unremitting espousal of full-fledged Platonism, beginning with his 1944 article on Russell's mathematical logic and continuing (especially in his 1947 article on Cantor's continuum problem) until his death.

And he continues (p. 40):

> Unless further evidence from the *Nachlass* comes to light that we are not presently aware of, all of this must, unfortunately, remain speculative.

In his lecture, Gödel mentions three difficulties related to the justification of mathematical axioms and inference rules, the satisfactory resolution of which apparently presupposes a "kind of Platonism." For example, he refers to the

[41] Details on the event and Gödel's engagement with parapsychology can be found in *Lethen* (2021a, esp. Ch. 8.2 and 9).

[42] Gödel delivered this lecture in December 1933 at a conference organized by the *Mathematical Association of America* and the *American Mathematical Society*.

rather unsatisfactory application of the *tertium non datur*, which can lead to "peculiar results."[43] Upon closer inspection, one is indeed led to the conjecture that Gödel, at least until 1933, associated a particular type of Platonism with intuitionistic features. If this is the case, the long-standing and much-discussed puzzle regarding Gödel's early view of Platonism would be immediately resolved.

And indeed, a look at Gödel's early lecture notes[44] points to the suspected intuitionistic elements in his Platonism. Exactly 100 years ago, in the already repeatedly mentioned year 1925, Gödel attended a lecture titled "History of European Philosophy, Winter 1925," given by the historian and philosopher Heinrich Gomperz, whom Gödel, in his response to the Grandjean questionnaire, lists alongside Philipp Furtwängler as a significant influence on the development of his philosophy. This provides ample reason to examine these notes. In a section on the philosophy of Plato, it is written:

> Things are a mixed product of essence and matter. A thing without properties exists, but we cannot conceive it. A property without a thing does not exist, but we cognize it. **[M]**

And shortly thereafter, apparently during a break between two lecture sessions, Gödel jots down the following concise "contrary" "remark on the theory of ideas" regarding the aspects of Platonism just presented by Gomperz, in which his conceptual realism—pursued, as he himself repeatedly notes, precisely since 1925—manifests itself:

> The opposite view of the existence of ideas is merely logical: there are two realms, the realm of the particular or the world of sense, and the realm of the universal or the logical. But existence is not dependent on thinking. That is, thinking does not generate ideas. For then the concept would be less real than the sensible thing. Ideas are only apprehended in thinking, not produced. They do not exist only so long as and insofar as they are heard, but in themselves. This can be asserted with the same right with which one holds the sensible world to be independent of perception. Proof: there is correct and incorrect thinking. The one apprehends the ideas as they are, the other as they are not. **[N]**

Gödel's clear commitment to conceptual realism might well give the impression that a more thorough engagement with intuitionism is virtually ruled out. In Gödel's case, however, this is far from true, and the opposite appears to be the case, as is evidenced by a small number of publications[45] and, in particular, by his later *Arbeitshefte*; it is to be hoped that future Gödel research will arrive at conclusive results in this regard. As a preview of this work, we conclude here by presenting just two concise remarks from Gödel, taken from his notebook *MaxPhil III* (pp. 145–146), which clearly underscore his sympathies for intuitionism.

> Remark (Foundations): Working in the direction of constructing intuitionistic mathematics has the following characteristics:

[43] The other two difficulties concern impredicative definitions and the axiom of choice.
[44] Kurt Gödel Papers, Box 6b, Folder 72.5, item accession 030100.4.
[45] See, for example, *van Atten* (2015) and *Hämeen-Anttila & von Plato* (2021).

1.) The questions are often resolved already by a clarification of the concepts. (That is, everything follows from the definitions.)
2.) The answer is usually unambiguous (as to what is "correct").
3.) There is a close affinity to ordinary language, and linguistic intuition can be applied to advantage.
4.) One has the feeling that something "deep" lies behind it.
5.) Many foundational (and philosophical) problems thereby find their exact formulation and solution "in a model." **[O]**

Remark (Psychology): Even if something appeals to me and I have the feeling: "This is the right thing" (e.g. working in the direction of intuitionism, Augustine's *Confessions*, reflection on maxims, good food or plays, success in one's work), I do not have the right joy. **[P]**

References

van Atten, M. (2015). Gödel and intuitionism. In: M. van Atten (ed.), *Essays on Gödel's Reception of Leibniz, Husserl, and Brouwer*, pp. 189–234. Cham: Springer.

Engelen, E.-M. (2016). What Is the Link Between Aristotle's Philosophy of Mind, the Iterative Conception of Set, Gödel's Incompleteness Theorems and God? About the Pleasure and the Difficulties of Interpreting Kurt Gödel's Philosophical Remarks. In: G. Crocco & E.-M. Engelen (eds.), *Kurt Gödel Philosopher-Scientist*, pp. 171–188. Aix-en-Provence: Presses universitaires de Provence.

Englert, A. T. (2024). We'll meet again: The intrepid logician Kurt Gödel believed in the afterlife. *Aeon* 1.

Feferman, S. (1995). Introductory note to *1933o. In: *Gödel* (1995), pp. 36–44.

Gödel, K. (1933). The present situation in the foundations of mathematics. In: *Gödel* (1995), pp. 45–53.

Gödel, K. (1951). Some basic theorems on the foundations of mathematics and their philosophical implications. In: *Gödel* (1995), pp. 304–323.

Gödel, K. (1961). The modern development of the foundations of mathematics in the light of philosophy. In: *Gödel* (1995), pp. 374–387.

Gödel, K. (1964). What is Cantor's continuum problem? In: P. Benacerraf & H. Putnam (eds.), *Philosophy of Mathematics – Selected Readings*, pp. 258–273. Englewood Cliffs, N.J.: Prentice-Hall. Reprinted in: *Gödel* (1990), pp. 254–270.

Gödel, K. (1990). *Collected Works, Vol. II, Publications 1938–1974*. Edited by S. Feferman, J. W. Dawson, Jr., S. C. Kleene, G. H. Moore, R. M. Solovay, & J. van Heijenoort. Oxford: Oxford University Press.

Gödel, K. (1995). *Collected Works, Vol. III, Unpublished Essay and Lectures*. Edited by S. Feferman, J. W. Dawson, Jr., W. Goldfarb, C. Parsons, & R. N. Solovay. Oxford: Oxford University Press.

Gödel, K. (2003). *Collected Works, Vol. IV, Correspondence A–G*. Edited by S. Feferman, J. W. Dawson, Jr., W. Goldfarb, C. Parsons, & W. Sieg. Oxford: Oxford University Press.

Hämeen-Anttila, M., & von Plato, J. (eds.) (2021). *Kurt Gödel: The Princeton Lectures on Intuitionism*. Sources and Studies in the History of Mathematics and Physical Sciences. Cham: Springer.

James, W. (1907). *Die Religiöse Erfahrung in ihrer Mannigfaltigkeit*. Leipzig: J. C. Hinrichs'sche Buchhandlung.

Lethen, T. (2020). Kurt Gödel's anticipation of the Turing machine: A vitalistic approach. *History and Philosophy of Logic*, 41(3), 252–264.

Lethen, T. (2021a). *Gespräche, Vorträge, Séancen: Kurt Gödels Wiener Protokolle 1937/38 – Transkriptionen und Kommentare*. Veröffentlichungen des Instituts Wiener Kreis. Cham: Springer.

Lethen, T. (2021b). Kurt Gödel on logical, theological, and physical antinomies. *The Bulletin of Symbolic Logic*, 27(3), 267–297.

Lethen, T. (2022). Kurt Gödel und das Wiener Psychologische Institut. In: J. Friedrich & G. Benetka (eds.), *Karl Bühler und das Psychologische Institut oder die Bedeutung des Lokalen* (Bühleriana 2), pp. 67–100. Genf: sdvig Verlag.

Lethen, T. (2026). *Kurt Gödels theologische Notizen*. In preparation.

Lethen, T., & Passon, O. (eds.) (2021). *Kurt Gödels Notizen zur Quantenmechanik*. Berlin: Springer.

Martin, D. A. (2005). Gödel's conceptual realism. *The Bulletin of Symbolic Logic*, 11(2), 207–224.

Mattiesen, E. (1925). *Der Jenseitige Mensch: Eine Einführung in die Metapsychologie der mystischen Erfahrung*. Berlin: De Gruyter.

Oesterreich, T. K. (1917). *Einführung in die Religionspsychologie als Grundlage für Religionsphilosophie und Religionsgeschichte*. Berlin: Ernst Siegfried Mittler & Sohn.

Parsons, C. (2005). Platonism and mathematical intuition in Kurt Gödel's thought. *The Bulletin of Symbolic Logic*, 11(2), 44–74.

Schlink, E. (1931). *Emotionale Gotteserlebnisse – Ein empirisch-psychologischer Beitrag zum Problem der natürlichen Religion*. Leibzig: Johann Ambrosius Barth.

Schweitzer, A. (1913). *Die psychiatrische Beurteilung Jesu: Darstellung und Kritik*. Tübingen: Verlag von J.C.B. Mohr.

Wang, H. (1987). *Reflections on Kurt Gödel*. Cambridge, Mass.: The MIT Press.

Wang, H. (1996). *A Logical Journey – From Gödel to Philosophy*. Cambridge, Mass.: The MIT Press.

Appendix: Original German Texts

[A] Meine philosophische Ansicht

1. Die Welt ist vernünftig.
2. Die Vernunft im Menschen kann prinzipiell höher entwickelt werden (durch gewisse Techniken).
3. Es gibt systematische Methoden zur Lösung aller Probleme (auch Kunst *etc.*).
4. Es gibt andere Welten und vernünftige Wesen ganz anderer und höherer Art.
5. Die Welt, in der wir jetzt leben, ist nicht die einzige, in der wir leben oder gelebt haben.
6. Es ist unvergleichlich mehr a priori erkennbar, als jetzt bekannt ist.
7. Die Entwicklung des menschlichen Denkens seit der Renaissance ist eine durchaus einseitige.
8. Die Vernunft wird in der Menschheit allseitig entwickelt werden.
9. Das formale Rechte ist eine Wirklichkeitswissenschaft.
10. Der Materialismus ist falsch.
11. Die höheren Wesen sind durch Analogie, nicht durch Komposition, mit den anderen verbunden.
12. Die Begriffe haben eine objektive Existenz. (Ebenso wie die mathematischen Theorien.[46])
13. Es gibt eine wissenschaftliche (exakte) Philosophie und Theologie,[47] welche die Begriffe der höchsten Abstraktheit behandelt.
14. Die Religionen sind zum größten Teil schlecht, aber nicht die Religion.

[B] Aber der nächste Schritt in der Entwicklung war nun der, dass sich zeigt, dass es nicht möglich ist, die alten Rechts-Aspekte[48] der Mathematik auf eine solche mit dem Zeitgeist mehr oder weniger in Übereinstimmung stehende Weise zu retten. Sogar wenn man sich auf die Theorie der natürlichen Zahlen beschränkt, ist es unmöglich, ein System von Axiomen und formalen Regeln zu finden, aus dem für jeden zahlentheoretischen Satz immer entweder A oder $\sim A$ ableitbar wäre. Und es ist ferner unmöglich, für einigermaßen umfassende Axiome der Mathematik einen Widerspruchsfreiheitsbeweis durch bloße Betrachtung der konkreten Zeichenkombination ohne Einführung abstrakter Elemente zu führen. Die Hilbertsche Kombination von Materialismus und den Aspekten der klassischen Mathematik erweist sich also als unmöglich.

[C] Es gibt scheinbar übergeordnete Organisationsformen.

1. unorganisierter Äther vielleicht = Licht
2. Elektronen und Protonen
3. Kerne

[46] Gödel verwendet hier die Abkürzung „Th.“, die *Engelen* (2016) zu „Theoreme“ expandiert. *Wang* (1996, p. 316), der die Liste vermutlich erstmalig veröffentlicht, verschweigt den geklammerten Zusatz. Ich bevorzuge hier die Lesart „Theorien“, da Gödel in seinem Notizbuch *MaxPhil VI* schreibt „Theorien sind also eine eigene Klasse von Dingen, welche nicht in die 3-Teilung Idee–Seele–Materie hineinpasst?“ Siehe diesbezüglich auch Abschnitt 4.

[47] Gödels Fußnote: „Und diese ist auch für die Wissenschaft höchst fruchtbar.“

[48] *Gödel* (1961, p. 380) überträgt hier fälschlicherweise „die alten rechtsseitigen Aspekte“.

4. Atome
5. Moleküle
6. Lebewesen

Obwohl jedes Ding der Stufe n Dinge der Stufe $n-1$ als Teil enthält, so ist es nicht als räumliches Aggregat dieser zu verstehen. D.h., sein Verhalten kann nicht durch raumzeitliche Gesetze bezüglich der Dinge des $(n-1)$-Typs erklärt werden. D.h., der (für die Voraussage des Verhaltens nötige) Zustand (Verhältnis zueinander) der Elementarteile ist kein räumliches Verhältnis. Z.B. zwei Wasserstoff-Atome können stehen in dem Verhältnis des „ein Wasserstoffmolekül bilden“ oder in dem Verhältnis des „zwei getrennte Wasserstoffatome bilden“ und verhalten sich dann verschieden, obwohl die Wahrscheinlichkeiten der raumzeitlichen Lage vielleicht ähnlich sind. Ebenso kann ein Atomsystem vielleicht in dem Verhältnis des „einen Organismus bilden“ stehen oder in dem Verhältnis „einen Atomhaufen bilden“ und dementsprechend sich anders verhalten. D.h., ein Organismus wird nicht dadurch beschrieben, dass man die raumzeitliche Lage der ihn bildenden Atome angibt, sondern man muss außerdem etwas hinzufügen von der Art „und sie bilden einen Organismus“. Oder es ist noch eine Entelechie dabei. (Diese wäre der Unterschied zwischen Organismus und Maschine, würde aber nicht die Möglichkeit einer künstlichen Herstellung von Leben ausschließen.) Daraus würde folgen etwa: Organisation kann nicht erklärt werden durch feldmäßige, in der lebenden Substanz fortgepflanzte Wirkungen (denn diese müssten ja bei Materie im unorganisierten Zustand dieselben sein).

[D] Bemerkung (Philosophie): Die materialistische (positivistische) Weltanschauung bedeutet auf die Wirklichkeit bezogen, dass es nur Gesetze von Druck und Stoß (und sonst nur das Chaos) gibt und nur materielle Dinge. Eine andere Form ist, dass es nur Empfindungen und Gesetze ihrer Aufeinanderfolge gibt. Eine Überschreitung ist in zweifache Richtung möglich:

1.) Was die existierenden Dinge betrifft: Seele, Begriffe, Engel.
2.) Was die bestehenden Gesetzmäßigkeiten (d.h. allgemeinen Sachverhalte) betrifft: Gerechtigkeit, Aberglaube, etc.

Positivismus ist insofern besser, als wenigstens keine Einschränkung der Gesetze vorliegt, aber in Wahrheit sind überhaupt keine Gesetze formulierbar.

In der Welt der Ideen (Mathematik) bedeuten Materialismus und Positivismus, dass es nur Gesetze für Kombinationen von Zeichen gibt, darunter natürlich auch „nützliche“ Systeme. Eine Widerlegung würde darin bestehen, dass ein System alle anderen so überragt, dass es die Merkmale der Wahrheit an sich trägt (wahrscheinlich auch in intuitionistischem Sinn).

Der Positivismus ist die einzige Form des Materialismus, die in der Gegenwart noch bestehen kann.

[E] Bemerkung: Der wesentliche Unterschied zwischen materialistischem (wissenschaftlichen) und religiösem (philosophischem) Weltbild ist bei ersterem der Versuch, die ganze Welt als eine notwendige Folge von fast nichts[49]

[49] Gödels Fußnote: „d.h. sehr wenig und sehr einfach“

hinzustellen. Einwände dagegen:

1. Fast nichts ist nicht nichts.
2. Ist es überhaupt möglich?
3. Wenn es möglich ist, so ist die Tatsache der Möglichkeit etwas so sub., dass umso mehr eine Erklärung nötig ist.

Im religiösen Weltbild wird die Welt aus etwas unendlich viel Kompliziterterem, Umfassenderen hergeleitet. (Das genaue Gegenteil.)

[F] Einwände gegen den Materialismus
Stattdessen sollte es heißen: 1.)[50] Das Vorzüglichste spielt eine Nebenrolle.
(Also ist er aesthetisch falsch, ebenso wie wenn in einem Ornament der komplizierteste Stern an unauffälliger Stelle steht und in kleinster Ausführung.)

2.) Objektive Werte, wo eingebaut, laufen leer. (D.h., es gibt kein Kriterium für die Existenz.) [Zweck = der zunächst befriedigte Wert]
Was letzten Endes heißt, die Welt ist nicht schön und nicht moralisch.
(3.) Gott ist ein Spezialfall von Geist überhaupt.)
(4.) Es gibt neben Dingen auch Eigenschaften als Element der Wirklichkeit.)
5.) Die im naiven Denken fundamentalen Begriffe (psych., Wert, Zweck) erscheinen als etwas sehr Abgeleitetes, so dass das naturwissenschaftliche Weltbild in keiner Weise eine „Verfeinerung" des naiven ist. (D.h., das natürliche Denken ist der falsche Weg.)
6.) Die uns zunächst gegebenen Objekte sind in Wirklichkeit ganz anders. Insbesondere entspricht Qualität nicht Qualität, sondern Struktur.[51]
7.) Gewisse materialistisch mögliche Vorgänge haben introspektiv überhaupt keine mögliche Korrelation, z.B. Zerteilung des Stirnhirns.
? 8.) Empirisch gibt es kein Zentralorgan. ?

[G] Bemerkung (Grundlagen): Wahrscheinlich kann man innerhalb des Gebietes der natürlichen Zahlen nicht nur alle Sätze entscheiden, sondern auch alle Begriffe definieren. D.h., die Quantoren reichen aus (denn nur diese sind es, durch welche Begriffe über das Unendliche definiert werden). In den höheren Theorien reichen die Quantoren wahrscheinlich nicht mehr aus (andere Logik der Engel).

[H] Bemerkung (Philosophie): Das „Wort" im Sinne von Theorie[52], d.h. Prinzipien der Konstruktion von Dingen und Sachverhalten[53], verhält sich zu den Ideen wie diese zur Wirklichkeit. Es gibt die Existenz gewisser Ideen, aber nicht diese selbst. Die Ideen sind in gewissem Sinne eine „Realisierung" des Wortes, ebenso wie die Wirklichkeit eine „Realisierung" der Ideen ist. Das Wort in diesem Sinne zerfällt auch in vier Teile, und von jedem dieser vier Teile wird der rein formale Teil durch Axiome des Aussagenkalküls, der Zahlentheorie, Analysis und Mengenlehre gegeben. Alle diese vier Teile

[50] Diese Nummerierung ist offenbar nachträglich hinzugefügt worden.
[51] Dieser Punkt ist mit einem zusätzlichen Strich am Rand hervorgehoben.
[52] Gödels Fußnote: „Theorien sind also eine eigene Klasse von Dingen, welche nicht in die 3-Teilung Idee–Seele–Materie hineinpasst?"
[53] Gödels Fußnote: „und zwar im Sinne der ‚richtigen Theorie'"

haben auch einen nicht formalen (materiellen) Teil. Der materielle Teil der Analysis ist die Physik unseres dreidimensionalen Raumes, der der Mengenlehre wahrscheinlich die materielle Welt der Engel. [Was entspricht Aussagenkalkül und Zahlentheorie?] Außerdem entspricht wahrscheinlich jedem dieser Teile eine Psychologie gewisser Wesen.

[I]

- ◇ (*Fragen Theologie*)[54]
  Ein sehr fruchtbarer Gesichtspunkt ist anscheinend die Analogie: Ideen : Engel. (Wie überhaupt jede Analogie.)
- ◇ (*MaxPhil III, p. 32*)[55]
  Bemerkung: Es ist vielleicht sehr fruchtbar, die Psychologie „endlicher" Wesen[56] hinsichtlich des mathematischen Erkenntnisvermögens zu untersuchen, analog wie die Dimensionen > 3 durch Analogie der zweidimensionalen Wesen verstanden werden.
- ◇ (*MaxPhil III, p. 86*)
  Bemerkung Theologie: Vielleicht ist es der Vernunft möglich, alles unter ihr liegende zu verstehen (Raum, Zahl, Materie, Tiere), aber nicht sich selbst und das über ihr Liegende (Engel und höhere Typen).[57]
- ◇ (*MaxPhil VII, p. 472 ff.*)[58]
  Bemerkung (Grundlagen): Ist die Analogie: Gesetze der Euklidischen Geometrie : Raumvorstellung = logische Gesetze : logisches Denken korrekt? Der logische Raum ist der Hintergrund, die logische „Formel" von allem Denkbaren, ebenso wie der gewöhnliche Raum von allen physikalischen Erscheinungen. Gleichheit, Verschiedenheit und Zahl sind irgendwie die einzigen Grundbegriffe (bloß untereinander gleicher Dinge ohne Eigenschaften). Für Tiere ist die Raumvorstellung genau das? (Analogie mit Engeln.)
- ◇ (*MaxPhil VII, p. 474*)
  Bemerkung (Theologie): Ist die unterste Stufe der Engel vielleicht materiell? Da doch über[59] dem Firmament etwas sein muss?
- ◇ (*MaxPhil VII, p. 474 ff.*)
  Bemerkung (Theologie): Die Pflanzen und Kristalle sind Beispiele eines Seins mit einem viel anderen Sinn als unseres (kein „Bewusstsein"). Verhält sich das Sein der Engel ebenso zu unserem? Verhalten sich die Ideen zu den Engeln wie die Materie zu uns? (D.h., sind sie ihrem Wirken unterworfen?) Trotzdem gibt es auch bei dem niedersten Sein Lust und Leid?

[54] Kurt Gödel Papers, Box 6a, Folder 51, item accession 030074.

[55] Kurt Gödel Papers, Box 6b, Folder 66, item accession 030089.

[56] Gödels Fußnote: „606 ist die Zahl eines Tieres nach der Apocalypse." ⟦„Hier ist Weisheit. Wer Verstand hat, der überlege die Zahl des Tieres; denn es ist eines Menschen Zahl, und seine Zahl ist sechshundert und sechsundsechzig." (Offb. 13:18) Das Tier wird in der Regel mit Kaiser Nero identifiziert, da die Summe der entsprechenden Zahlenwerte der Buchstaben im hebräischen Alphabet gerade 666 ergibt. Fälschlicherweise notiert Gödel den Wert 606.⟧

[57] Bzgl. einer näheren Betrachtung dieser Bemerkung in mengen- und typentheoretischem Licht siehe *Lethen* (2021b, §4).

[58] Kurt Gödel Papers, Box 6b, Folder 68, item accession 030093.

[59] Im Text steht „oben". Denkbar ist also auch die Übertragung: „Da doch oben im Firmament etwas sein muss?"

- ◇ (*MaxPhil VIII, p. 659*)[60]
  Bemerkung (Philosophie): Es ist sonderbar, dass die phys. Welt eine so geringe Mächtigkeit (Dimension) hat. Oder haben bloß die Bilder dieser Welt in unseren Sinnen eine so geringe Mächtigkeit?[61] Vgl. Quantenmechanik.
- ◇ (*MaxPhil IX, p. 71 ff.*)[62]
  Bemerkung (Philosophie): Begriffe : toten Dingen = Engel : Tieren. Begriffe sind auch etwas „Einfaches“ und „Totes“ im Vergleich zu den Engeln. Der Mensch steht in der Mitte zwischen Tier und Engel, ebenso wie die Mathematik zwischen Körper und Begriff. Bei dieser 2-Teilung ist immer das eine das „Beherrschende“, „Geordnete“, das andere das Chaos. Dagegen das zweite Paar ist bloß eine „Verstärkung“ des ersten. Bei Begriffen hat man merkwürdigerweise[63] das Gefühl, dass sie nicht wirklich Dinge, sondern bloß „Schatten“ sind oder bloße Möglichkeiten und nicht „wirkliche“ Gegenstände. (Oder vielleicht etwas „Allgemeines“.)

[J] Bemerkung: Alles, was irgendwie eingesehen werden kann, ist entweder

1. vollkommen klar (das, was man wissen kann)
2. einigermaßen klar (Ersetzungsaxiom)[64]
3. plausibel, d.h. annehmbar aus aesthetischen, Vollständigkeitsgründen, etc.

Fra.:

1. Kann das Plausible analytisch gemacht werden mittels der Vollkommenheit Gottes?
2. Kann alles Erkennbare (auch das Synthetische und Empirische) plausibel gemacht werden oder gibt es eine wahre Theorie, die nur eine „Bewährung“ hat?

[K] Verwandlung der subjektiven in objektive Begriffe durch die Vermittlung Gottes:

- ◇ es existiert ≡ Gott nimmt wahr
- ◇ es ist wahr ≡ Gott glaubt
- ◇ es ist sinnlos ≡ Gott versteht nicht
- ◇ Begriff ≡ Vorstellung Gottes

(D.h.: Gott ist das Maß aller Dinge.)

[L] Bemerkung (Philosophie): Die Hilflosigkeit des natürlichen Verstandes der Mathematik gegenüber beruht offenbar darauf, dass gewisse Begriffe für uns verdunkelt sind, und dass das übrigbleibende (durch „reine Anschauung“ gegebene) Begriffssystem nicht „vollständig“ ist, d.h., viele Probleme

[60] Kurt Gödel Papers, Box 6b, Folder 69, item accession 030094.
[61] Gödels Fußnote: „Sind vielleicht die phys. (empirischen) Begriffe das Höherdimensionale in unserer Welt, welchen die Engel ebenso gegenüberstehen wie wir den einzelnen Dingen?“
[62] Kurt Gödel Papers, Box 6b, Folder 69, item accession 030095.
[63] Gödels Fußnote: „im Gegensatz zu den anderen“
[64] Diese ersten beiden Punkte sind mit einer geschweiften Klammer zusammengefasst, an der „analytisch“ steht.

zu formulieren gestattet, die es nicht lösen kann. (Dies wird in der Philosophie von Descartes hinsichtlich der Verantwortlichkeit behauptet.)

Der intuitionistische Weg zur Auflösung besteht darin, das Begriffssystem durch Weglassung zu vervollständigen. Oder dient das nur dazu, dass wir die wahre Situation an einem Beispiel verfolgen können, wo man sowohl das „vollständigere“ als das verstümmelte System sieht? (Ähnlich wie die vierte Dimension durch das zweidimensionale erläutert wird.)

[M] Die Dinge sind ein Mischerzeugnis aus Wesenheit und Stoff. Ding ohne Eigenschaft ist ⟦d.h. existiert⟧, aber wir können es nicht vorstellen. Eigenschaft ohne Ding ist nicht, aber wir erkennen es.

[N] Entgegengesetzte Auffassung der Existenz der Ideen ist lediglich logisch: Es gibt zwei Reiche, das Reich des Besonderen oder der Sinneswelt und das Reich des Allgemeinen oder Logischen. Dabei ist aber die Existenz vom Denken nicht abhängig. Das heißt, das Denken erzeugt nicht die Ideen. Denn dann wäre der Begriff weniger wirklich als das sinnliche Ding. Die Ideen werden im Denken nur erfasst, nicht erzeugt. Sie bestehen nicht, solange und insofern sie gehört werden, sondern an sich. Dies kann man mit demselben Recht behaupten, als man die sinnliche Welt für von der Wahrnehmung unabhängig hält. Beweis: Es gibt ein richtiges und unrichtiges Denken. Das eine erfasst die Ideen, wie sie sind, das andere, wie sie nicht sind.

[O] Bemerkung (Grundlagen): Das Arbeiten in der Richtung des Aufbaus der intuitionistischen Mathematik hat folgende Charakteristika:

1.) Die Fragen lösen sich oft bereits durch ein Klarmachen der Begriffe. (D.h., es folgt alles aus den Definitionen.)
2.) Die Antwort ist meist eindeutig (was das „Richtige“ ist).
3.) Es besteht eine nahe Verwandtschaft zur Wortsprache, und das Sprachgefühl kann mit Nutzen angewendet werden.
4.) Man hat das Gefühl, dass etwas „Tiefes“ dahintersteckt.
5.) Viele Grundlagen- (und philosophische) Probleme finden dabei ihre exakte Formulierung und Lösung „an einem Modell“.

[P] Bemerkung (Psychologie): Auch wenn mir etwas gefällt und ich das Gefühl habe: „Das ist das Richtige“ (z.B. Arbeiten in der Richtung des Intuitionismus, Bekenntnisse des Augustinus, Nachdenken über Maximen, gutes Essen oder Theaterstücke, Erfolg in der Arbeit), habe ich nicht die richtige Freude.