1 title

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2 INTRODUCTION BEGINS

3 rules

Everything in nature, in the inanimate as well as the animate world, happens according to rules...All nature is actually nothing but a nexus of appearances according to rules; and there is nothing without rules. ...he who speaks without knowing it actually does have a grammar and speaks according to rules, even though he is not conscious of them.

Like all our powers, the understanding in particular is bound in its acts to rules we can investigate...For just as the sensibility is the faculty of intuitions, so the understanding is the faculty of thinking, that is, of bringing the presentations of sense under rules. It is therefore avid to seek rules, and satisfied when it has found them. [13]

4 form

...the universal and necessary rules of thought in general can concern solely its form, and not in any way its matter. ...And we can therefore form for ourselves the idea of the possibility of such a science, just as that of a general grammar which contains nothing beyond the mere form of a language in general, without words, which belong to the matter of language. **Now this science of the necessary laws of the understanding and reason in general, or--which is the same--of the mere form of thinking, we call logic**. [15]

5 ought

In logic, however, the question is not one of contingent, but of **necessary** rules, not how we think, but how we **ought** to think. ...Logic shall teach us **the right use** of the understanding, i.e. the one that agrees with itself... [Logic is] a science of reason not as to mere form but as to matter, since its rules are not taken from experience, and since at the same time it has reason as its subject-matter [Object]. Logic is therefore a self-cognition of the understanding and of reason, not, however, as to their faculty [Vermögen] in respect of objects [Object], but solely as to form. [16]

6 objective

Logic is therefore more than mere criticism; it is a canon that afterwards serves criticism, i.e. serves the principle of judging all use of the understanding as such, though only as to its rightness in respect to mere form...

Logic...is a science of **the right use of the understanding** and of reason as such, not subjectively, i.e. not according to empirical (psychological) principles of how the understanding thinks, but objectively, i.e. according to a priori principles of how it **ought** to think. [18]

7 logic as critique

Logic then is indeed not a universal art of inventing and not an organon of truth, not an algebra that might help us to the discovery of hidden truth. It is, however, useful and indispensable as a critique of cognition, or for judging common as well as speculative reason, not in order to teach it, but to make it correct and agreeing with itself. For the logical principle of truth is agreement of the understanding with its own general laws. [23]

8 rational vs. historical cognitions

Cognitions of reason are opposed to historical cognitions. The former are cognitions out of principles (ex principiis), the latter out of data (ex datis)... Cognitions may be distinguished
1) according to their objective origin, i.e. according to the sources from which alone a cognition is possible. In this respect all cognitions are either rational or empirical;
2) according to their subjective origin; i.e. according to the manner in which a cognition can be acquired by man. When seen from this latter viewpoint, cognitions are either rational or historical...[25]
[BB--see#22 below, from p49, where historical/rational is lined up with material/formal]

9 mathematical and philosophical

We have explained cognitions of reason as cognitions out of principles; and from this follows that they must be a priori. There are, however, two kinds of cognition which both are a priori and yet have many pronounced differences, namely mathematics and philosophy... Only the different manner of rational cognition or of the use of reason in mathematics and philosophy is decisive for the specific difference between these two sciences. Philosophy, namely, is the cognition of reason out of mere concepts; mathematics, on the contrary, is the cognition of reason out of the **construction** of concepts. [26]

10 philosophy as maxim of reason

As concerns philosophy according to the world concept, however (in sensu cosmico), one may call it a science of the highest maxim of the use of our reason, if by maxim one understands the inner principle of choice among different ends. [28]

11 philosophical questions

The field of philosophy in this cosmopolitan [weltbürgerlich] meaning may be summed

up in the following questions:
1) What can I know?
2) What ought I to do?
3) What may I hope?
4) What is man?
The first question is answered by metaphysics, the second by morality, the third by religion, and the fourth by anthropology. At bottom all this could be reckoned to be anthropology, because the first three questions are related to the last. [29]

12 Pythagoras

[Pythagoras'] students were divided by him into two classes the **Acusmatics**, who had only to listen, and the **Akroamatics**, who were also allowed to ask questions. [33]

13 subject and object

All our cognition has a twofold relation, first to the object, second to the subject. In the former respect it is related to presentation, in the latter to consciousness, the general condition of cognition in general. (Actually, consciousness is a presentation that another presentation is in me.) [37]

14 clarity and consciousness

When I am conscious of a presentation, it is **clear**; when I am not conscious of it, is **obscure**. [38]

15 logic and presentation

Generally, logic cannot treat of mere presentations and their possibility. This it leaves to metaphysics [really, the specialized subject of transcendental logic {BB}]. It is merely occupied with the rules of thinking--in concepts, judgements, and conclusions [Schlüsse]--through which all thinking takes place. [38]

16 presentation

We shall not investigate...how presentations arise. Logic does treat of cognition also, because in cognition thinking already takes place. But presentation is not yet cognition, rather cognition always presupposes presentation. And this latter cannot be explained at all. For what a presentation is would have to be explained again through another presentation. [38] [BB--it is hard to come up with a sense of 'explained' that makes this a good argument; but cf. Frege's indefinability of truth argument.]

17 distinctness

All clear presentation to which alone the logical rules can be applied can be distinguished with regard to **distinctness** and **indistinctness**. When we are conscious of the whole

presentation, but not of **the manifold contained** in it, then the presentation is indistinct. [38]

18 example of distinctness of concepts

Everybody has a clear concept of beauty. Several characteristics, however, must occur in this concept, among others, that the beautiful must be something that (1) strikes the senses and (2) generally pleases. If now we are unable to expound the manifold of these and other characteristics of the beautiful, our concept of it is still indistinct. [39]

19 'indistinct', not 'confused'

Not every indistinct presentation is a confused one. For in cognitions in which there is no manifold, there is no order, but also no confusion. This is the case with all simple presentations that never become distinct, not because there is confusion in them, but because we do not meet with a manifold in them...

20 sensible and intellectual distinctness

Distinctness itself may be twofold:
1) Sensible distinctness [Milky Way as white band vs. seeing individual stars]
2) Intellectual distinctness, in concepts, or distinctness of the understanding. This rests on analysis of the concept in respect of the manifold that lies in it as its content. Thus, for example, the concept of virtue contains as characteristics (1) the concept of freedom, (2) the concept of adherence to rules (duty), and (3) the concept of subduing the force of inclinations, inasmuch as they run counter to those rules. While thus resolving the concept of virtue into its individual components, we make it distinct by this very analysis. By **this process of making it distinct**, however, we add nothing to a concept, we only explain it. **Through distinctness, therefore, concepts are not improved as to matter, but only as to form**. [39-40]

21 logical and aesthetic perfections of cognition

On the difference here stated between intuitive and discursive cognitions, or between intuitions and concepts, is based the difference between the aesthetic and the logical perfection of cognition. A cognition can be perfect either according to the laws of sensibility, or according to the laws of understanding; in the former case it is aesthetically perfect, in the latter logically perfect... The logical perfection of cognition rests on its agreement with the object [Objecte], therefore on universally valid [allgemeineg□ltigen] laws, and can thus be judged by norms a priori [lässt sich mithin auch nach Normen a priori beurtheilen]. [41]]
[BB--note 'a priori' here, as always, is used adverbially, here modifying the judging.]
...logical perfection is the basis of all other perfections...[42]

22 Log. Perfections of Cognition: A)Quantity B)Relation C)Quality D)Modality

A cognition is perfect as to (1) quantity , if it is universal; (2) quality, if it is distinct; (3) relation, if it is true; and finally (4) modality, if it is certain. [43] [BB--(1) does not seem right, or to fit what he goes on to do. Universality is not the same as extensiveness, it is a modal notion for K.] ...In the aforementioned perfections [aesthetic as well as logical] there are always two elements [Städe] which in their harmonious union [Vereinigung] make up perfection in itself, namely manifoldness and unity [Mannigfaltigkeit und Einheit]. With the understanding the unity lies in the concept, with the senses in intuition. Mere manifoldness without unity cannot satisfy us. And therefore among all perfections , truth is the chief perfection, because it is the ground of unity by reference of our cognition to the object. [44]

23 A) intensive and extensive magnitude of cognitions

Supersection: Specific Logical Perfections of Cognition

Section VII Logical Perfection of Cognition as to Quantity The magnitude [die Größe] of cognition [Erkenntniá] may be understood in a twofold way, either as extensive [extensive] or as intensive [intensive] magnitude. The former refers **to the extension [Umfang] of cognition** and therefore consists in its volume [Menge] and manifoldness [Mannigfaltigkeit]; the latter refers to **its content [Gehalt], which concerns the manifold validity [Vielgültigkeit] or logical importance [Wichtigkeit] and fruitfulness [Fruchtbarkeit] of a cognition, as far as it is considered as a ground for many and great consequences [großen Folgen] (non multa sed multum).** In expanding [Erweiterung] our cognitions or in perfecting [Vervollkommnung] them as to their extensive magnitude [extensiven Größe], it is well to estimate how far a cognition conforms with our ends and capacities. This reflection concerns the determination of the horizon of our cognitions, by with is to be understood the commensurateness of the magnitude of all cognitions with the capacities and ends of the subject... The horizon thus concerns judgment on and determination of, what man can know, what he needs to know, and what he should know. [45]

24 usefulness of cognition

Every logically perfect cognition has always some possible use which, although it is as yet unknown to us, may perhaps by found by posterity. [47]

25 ignorance

We may consider ignorance from an objective, and from a subjective point of view. 1) Taken objectively, ignorance is either material or formal. The former consists in a lack of historical, the latter in a lack of rational cognitions... 2) In its subjective meaning, ignorance is either erudite, scientific ignorance, or common ignorance. He who has distinct insight into the limits of cognition, thus into the field of ignorance...is ignorant in an expert way. [49] [BB--when historical/rational was introduced in #8 above, from p. 25, no hint was given that it lines up with material/formal]

26 thoroughness

A purposeful exactness in matters of form is thoroughness (scholastic perfection). Pedantry is thus an affectation of thoroughness... [52]

27 rhapsody and architectonic

All cognitions stand in a certain natural connection with one another. If in the striving after expansion of cognitions one does not heed their connections, all pansophy will become nothing but mere rhapsody...In order to proceed in expanding one's cognitions according to such an orderly and purposeful plan, on must try to understand the connection of cognitions with one another. Herein we get advice from the architectonic of sciences, a system according to ideas, in which the sciences are considered in respect of their relationship and systematic connection in a whole of cognition that is of interest to mankind. [53-54]

28 content vs. extension

Now, as concerns the intensive magnitude [intensive Größe] of cognition, i.e. its contents [Gehalt] or its import [Vielgültigkeit] and [translator gratuitously adds 'logical'] importance [Wichtigkeit]--which, as noted above, are essentially different from its mere range [von der extensien Größe, der bloßen Weitl„uftigkeit desselfen wesentlich unterscheidet]--we will add the following few remarks. 1) A cognition directed toward the large [aufs Große], i.e. the whole in the use of the understanding, is to be distinguished from subtlety in small things (micrology). 2) Every cognition is to be called logically important [logisch wichtig] which furthers logical perfection as to form [logische Vollkommenheit des Form nach befördert], e.g. every mathematical proposition, every law of nature into which we have direct insight [deutlich eingesehene], every correct [richtige] philosophical explanation. Practical importance cannot be foreseen, but must be waited for. 3) Importance must not be confounded with difficulty. A cognition may be difficult without being important, and vice versa. Difficulty therefore decides neither for nor against the value and the importance of a cognition. This rests on the magnitude and multiplicity of consequences [Diese beruht auf der Größe oder Vielheit der Folgen]. The more and greater logical consequences a cognition has, and the more use can be made of it, the more important it is. A cognition without important consequences [wichtige Folgen] is called a rumination [Grübelei], such as was, for instance, scholastic philosophy. [54]

29 form and matter

...we must carefully distinguish what belongs in our cognition to its matter and refers to the object, from what concerns the mere form as the condition without which such a cognition would not be a cognition at all. [56]

30 B) truth

Section VII. B) Logical Perfection of Cognition as to Relation. A main perfecton [Hauptvollkommenheit] of cognition, indeed the essential and inseparable condition of all perfection, is truth. Truth, one says, consists in the agreement [übereinstimmung] of cognition with the object [Gegenstande]. [55]

31 logic and truth

For before the question whether the cognition agrees with the object, must come the question whether it agrees with itself (as to form). And this is the business of logic.
The formal criteria of logic are:
1) the principle of contradiction
2) the principle of sufficient reason.
By the former is determined the logical possibility, by the latter the logical actuality of a cognition. To the logical truth of a cognition, namely, belongs: First: That it be logically possible, that is, not contradict itself. This characteristic of the internal logical truth, however, is only negative; for a cognition that contradicts itself is indeed false, but if it does not contradict itself, it is not always true. Second: That it be logically grounded, that is, have (a) reasons, and (b) no false consequences. This second criterion of the external logical truth or of the rationality of cognition, which concerns the logical connection of a cognition with reasons and consequences, is positive. And here the following rules hold good.
1) From the truth of the consequence may be concluded the truth of the cognition as a ground, but only negatively: If one false consequence follows from a cognition, then the cognition itself is false. For if the ground were true, the consequence would also have to be true, because the consequence is determined by the ground. But one cannot conclude conversely: If no false consequences follows from a cognition it is true; for from a false ground true consequences may be drawn.
2) If all consequences of a cognition are true, the cognition is also true. For if anything false were in the cognition, there would be a false consequence. From the consequence a ground may indeed be concluded, but without our being able to determine this ground. Only from the sum total of all consequences can a definite ground be concluded, that this be the true one.
The first mode of conclusion, according to which the consequence can only be a negative and indirectly sufficient criterion of the truth of a cognition, is called in logic the apagogic mode (modus tollens)... With the other, the positive and direct mode of conclusion (modus ponens), the difficulty enters that the totality of consequences cannot be cognized apodeictically, and that therefore the said mode of conclusion leads one only to a probable and hypothetically true cognition (hypotheses), on the supposition that where many consequences are true, the rest may also be true. [57-58]

32 sensibility and understanding, subjective as objective

The originating ground of all error must therefore be sought solely in the unnoticed influence of sensibility upon the understanding, or more exactly, upon judgment. This influence, namely, causes us to take merely subjective grounds in judging for objective grounds and consequently to mistake the mere semblance of truth for truth itself. For

therein consists the very essence of semblance, which on that account is to be considered a ground of holding a false cognition to be true. What makes error possible is therefore the semblance by which the merely subjective is mistaken for the objective. [59]

33 exactness and subtlety

A cognition is exact when it is adequate to its object, or when in regard to its object not the slightest error takes place; it is rough when there may be errors in it without impeding its purpose... From exactness as an objective perfection of cognition--since here the cognition is fully congruent with the object--one may further distinguish subtlety as a subjective perfection of cognition. A cognition of a thing is subtle when one discloses in it what usually escapes the attention of others... As the rough is opposed to the exact, so the crude is opposed to the subtle. [60-61]

34 C) discursive cognition, characteristics

Section VIII. C) Logical Perfection of Cognition as To Quality Human cognition on the side of the understanding is discursive, that is, it takes place through presentations that make what is common to several things the ground of cognition, thus through characteristics as such. We thus cognize things only through characteristics [Erkennen, welches von Kennen herkommt.]... A characteristic is that in a thing which makes up part of its cognition, or--what is the same--a partial presentation so far as it is considered as cognitive ground of the whole presentation. All our concepts therefore are characteristics and all thinking is nothing buy a presenting through characteristics. [63-64]

35 internal and external use

Every characteristic may be viewed from two sides: First, as a presentation in itself; Second, as belonging qua partial concept to the whole presentation of a thing and thereby as a ground of cognition of this thing itself. All characteristics considered as grounds of cognition are of twofold use, either internal or external. The internal use consist in derivation in order to cognize the thing itself through characteristics as grounds of its cognition. The external use consists in comparison, so far as we can compare, through characteristics, one thing with another according to the rules of identity and diversity. [64]

36 analytic and synthetic characteristics

1) Analytic and synthetic characteristics. The former are partial concepts of my actual concept (which I already think in it); the latter, on the contrary, are partial concepts of the merely possible whole concept (which thus through a synthesis of several parts is to complete itself). The former are all concepts of reason; the latter may be concepts of experience. [64]

37 coordinate and subordinate characteristics

2) Coordinate and subordinate characteristics. This division concerns their connection one after another, or one under another. Characteristics are coordinate so far as each of them is presented as an immediate characteristic of the matter; and they are subordinate so far as a characteristic is presented only by means of another characteristic of the same thing. The connection of coordinate characteristics is called an aggregate; the connection of subordinate characteristics is a series. The former, the aggregation of coordinate characteristics, makes up the totality of the concept, which, however, in respect of synthetic empirical concepts can never be completed, but is like a straight line without limits. The series of subordinate characteristics touches, a parte ante, or on the side of grounds, upon irresolvable concepts which, because of their simplicity, cannot be further analyzed; a parte post, or in regard to their consequences, however, it is infinite, because we do have a highest genus, but no lowest species. With the synthesis of every new concept in the aggregation of coordinate characteristics the extensive or complex distinctness is increased; with the further analysis of concepts in the series of subordinate characteristics the intensive or deep distinctness is increased. This latter kind of distinctness, as it necessarily serves the thoroughness and conclusiveness of cognition, is therefore mainly the business of philosophy and is carried farthest especially in metaphysical investigations. [65]

38 importance of characteristics

A characteristic is **important and fecund if it is a cognitive ground of great and numerous consequence,** partly in respect of its internal use--its use in derivation--so far as it is sufficient to cognize a great deal of the matter itself through it, and partly in respect of its external use--its use in comparison--so far as it serves to cognize both the similarity of a thing with many others and its difference from many others. Here, by the way, we must distinguish logical [often replaceable for him by 'inferential'--BB] importance and fecundity from the practical--from usefulness and serviceableness. [66]

39 clarity and distinctness

The first level, then, of a perfection of our cognition as to quality is its **clarity**. A second level, or higher degree of clarity, is **distinctness. This consists in the clarity of characteristics.** Here we must first of all distinguish **logical distinctness** from aesthetic distinctness. Logical distinctness rests on the objective, aesthetic on the subjective clarity of characteristics. The former is **clarity through concepts**, the latter through intuition... **Since it is the business of logic, as we have noted, to make clear concepts distinct,** the question now is: In what manner does it make them distinct? [68-69]

40 analytic and synthetic distinctness

That kind of distinctness which arises not through analysis but through synthesis of characteristics is synthetic distinctness. And there is thus an essential difference between

the two procedures [Sätzen]: to make a distinct concept and to make a concept distinct. For when I make a distinct concept, I begin with the parts and proceed from these to the whole. There are no characteristics present here; I obtain them first by synthesis. From this synthetic procedure then results synthetic distinctness, which actually expands my concept as to content by what is added as a characteristic over and above the concept in intuition (pure or empirical). This synthetic procedure in making distinct concepts is employed by the mathematician and also b the philosopher of nature. For all distinctness of mathematical as well as experiential cognition rests on expansion through synthesis of characteristics. But **when I make a concept distinct, then my cognition does not in the least increase in its content by this mere analysis. The content remains the same; only the form is changed, in that I learn to distinguish better or with greater clarity of consciousness what already was lying in the given concept.** Just as by the mere illumination of a map nothing is added to it, so by the mere elucidation of a given concept by means of analysis of its characteristics no augmentation is made to this concept itself in the least. **To synthesis belongs the making of distinct objects, to analysis belongs the making distinct of concepts.** Here the whole precedes the parts, there the parts precede the whole. [69-70]

41 degrees of perfection of content

In respect of the objective content of our cognition generatim [überhaupt], the following degrees may be thought, by which it may be graded in this regard: The first degree of cognition is to present something to oneself [Sich etwas vorstellen]. The second: to present something to oneself with consciousness, or to perceive [wahrnehmen] (percipere). The third: to be cognizant [kennen] (noscere), or to present something to oneself in conscious comparison with other things, both as to identity and disparity. The fourth: To be cognizant with consciousness, that is, to cognize [erkennen] (cognoscere). Animals also are cognizant of objects, but they do not cognize them. The fifth: to understand [verstehen] (intelligere), that is , to cognize or conceive through the understanding by means of concepts. This is very different from comprehension. We can conceive many things, although we cannot comprehend them, e.g. a perpetuum mobile, whose impossibility is shown in mechanics. The sixth: To cognize something through reason, or to have insight [einsehen] into it (perspicere). This point we reach in few things, and our cognitions become fewer and fewer the more we wish to perfect them as to content. Finally, the seventh degree: To comprehend [begreifen] something (comprehendere), that is, to cognize it through reason or a priori in that degree which is sufficient for our purpose. For all our comprehension is merely relative, that is, sufficient for a certain purpose; absolutely we do not comprehend anything. [71]

42 D) truth and holding-to-be-true

Section IX, D) Logical Perfection of Cognition as to Modality: Truth is the objective property of cognition; the judgment through which something is presented as true, the relation to an understanding and thus to a special subject, is subjectively the holding-to-be-true [Fürwahrhalten].
The holding-to-be-true is of two kinds: certain or uncertain. A holding-to-be-true which

is certain, or certainty, is connected with the consciousness of necessity; the uncertain kind, however, or uncertainty, is connected with the consciousness of contingency or the possibility of the opposite. The latter, again, is either both subjectively and objectively insufficient, or objectively insufficient but subjectively sufficient. The former is called opinion, the latter must be called belief. [72]

43 opinion

1) Opinion. Opining or holding-to-be-true out of a cognitive ground that is neither subjectively nor objectively sufficient may be regarded as a preliminary judging (sub conditione suspensiva ad interim) with which we cannot readily dispense. [73]

44 belief

Belief is no special source of cognition. It is a kind of holding-to-be-true with consciousness of its incompleteness; and when it is considered as restricted to special objects (proper to belief only), it is distinguished from opinion not be the degree but by the relation it has as cognition to action. Thus, for example, the merchant, in order to make a deal, not only needs to have the opinion that something is to be gained thereby, but also needs to believe it, i.e. that his opinion is sufficient for an undertaking freighted with uncertainty... This is a holding-to-be-true that is sufficient for action, i.e. a belief... Between the acquisition of a cognition through experience (a posteriori) and through reason (a priori) there is no middle term. But between the cognition of an object and the mere presupposition of its possibility there is something intermediate, namely a ground, empirical or from reason, for adopting this possibility in relation to a necessary expansion of the field of possible objects over and above those whose cognition is possible for us... This belief is the necessity of adopting the objective reality of a concept (of the highest good), i.e. the possibility of its object as an a priori necessary object of the faculty of choice. If we merely look to action, we do not need this belief. If, however, we want to expand ourselves through action to the possession of the end thereby possible, we must adopt this end as possible throughout. [note on 75-76]

45 certainty and mediation

All certainty is either mediated or not mediated, that is, it either requires proof or is neither susceptible nor in need of any proof. There may be ever so much in our cognition that is mediately certain only, that is only through proof, yet there must also be something indemonstrable or immediately certain, and all our cognition must start from immediately certain propositions. [79] [cf. Frege]

46 proof

The proofs on which all mediated or mediate certainty of a cognition rests are either direct proofs or indirect, that is, apagogic, proofs. When I prove a truth out of its grounds, I furnish a direct proof for it; and when I conclude from the falsity of the opposite to the truth of a proposition, I furnish an apagogic proof... A proof forming the

ground of mathematical certainty is called demonstration, and one that is the ground of philosophical certainty is called an akroamatic proof. The essential components of every proof generatim [überhaupt] are its matter and its form, or the ground of the proof and the consequence [Schlüsse]. [79]

47 science and system

From scire, knowing, is derived science, by which is to be understood the complex of a cognition as a system. Science is contrasted with a common cognition, that is, the complex of a cognition as a mere aggregate. The system rest on the idea of a whole that precedes the parts, whereas in common knowledge or in the mere aggregate of cognitions the parts precede the whole. There are historical sciences and sciences of reason. In science we often know only the cognitions but not the things presented by them; consequently there can be a science of that whereof our cognition is knowledge. [79] [Editor suggests transcendental dialectic, but perhaps all of the transcendental employment of our faculties is like this.--BB]

48 persuasion and conviction

We are conscious of many cognitions only in a manner that does not enable us to judge whether the grounds of our holding-to-be-true are objective or subjective. In order to be able to advance from mere persuasion to conviction, we therefore must first reflect, that is, see to what power of cognition a cognition belongs [see B316ff.] and then investigate, that is examine whether the grounds in respect of the object are sufficient or insufficient. [80]

49 wager and oath

The sufficiency of holding-to-be-true (in belief) can be tested by wager or by oath. For the first is needed comparative, for the second, absolute sufficiency of objective grounds; instead of which, when they are not present, a subjectively sufficient holding-to-be-true is accepted [gilt]. [81]

50 provisional judgments

As concerns, however, suspension or reservation of our judgment, it consists in the resolve not to let a merely provisional judgment become a determinate one. A provisional judgment is one by which I suppose that there are more grounds for the truth of something than against it, that these grounds, however, do not suffice for a determinate or definitive judgment by which I decide straightway for the truth... Provisional judgments may therefore be regarded as maxims for the investigation of a matter. One could also call them anticipations... Prejudices are provisional judgments so far as they are adopted as principles. [83]

51 probability

By probability is to be understood a holding-to-be-true out of insufficient reasons, which, however, bear a greater proportion to the sufficient ones than the reasons of the opposite. By this explanation we distinguish probability (probabilitas) from verisimilitude (veresimilitudo), a holding-to-be-true out of insufficient reasons so far as these are greater than the reasons of the opposite...In probability the reason of holding-to-be-true is therefore objectively valid; in verisimilitude, however, only subjectively valid. Verisimilitude is mere magnitude of persuasion; probability is an approximation to certainty. [89]

52 objections and scruples

Subjectively, doubt is sometimes taken to be the state of an undecided mind, and objectively, as the cognition of the insufficiency of the grounds of holding something to be true. In the latter regard it is called an objection, that is, an objective ground of holding a cognition held to be true, to be false. A merely subjectively valid counter-reason against a holding-to-be-true is a scruple. With a scruple one does not know whether the hindrance to holding something to be true is objective or only subjective, e.g., grounded only on inclination, habit, and the like. [90]

53 skepticism, dogmatism, and criticism

There is a principle of doubting which consists in the maxim of treating cognitions by making them uncertain and showing the impossibility of attaining certainty. This method of philosophizing is the skeptical manner of thinking, or skepticism. It is opposed to the dogmatic manner of thinking, or dogmatism, which is blind trust in the ability of reason to expand a priori through mere concepts without critique, simply because of the seeming success of this expansion... [The skeptical] method therefore is actually a mere suspension of judgment. It is very useful to critical procedure, by which is to be understood that method of philosophizing which makes one examine the sources of ones affirmations or objections and the grounds on which they rest--a method that give hope of attaining certainty. [91]

54 hypothesis

A hypothesis is a holding-to-be-true of a judgment of the truth of a ground, for the sake of its sufficiency for consequences; or in short: The holding-to-be-true of a presupposition as a ground. All holding-to-be-true in hypotheses is based on a presupposition which, as a ground, is sufficient to explain other cognitions as consequences. For here we conclude from the truth of the consequence to the truth of the ground. But since this manner of conclusion, as noted above, gives a sufficient criterion of the truth and can lead to apodeictic certainty only when all possible consequences of an assumed ground are true, and since all possible consequences can never be determined by us, it becomes clear that hypotheses always remain hypotheses, that is, presuppositions whose complete certainty we can never attain... The probability of a hypothesis nevertheless can increase and rise to an analogon of certainty, if, namely, all consequences that have occurred to us can be explained out of the presupposed ground.

For in such a case there is no reason why we should not assume that all possible consequences will be susceptible of being explained by it. We thus commit ourselves to the hypothesis as if it were perfectly certain, although it is so only through induction. And yet, something must be apodeictically certain in every hypothesis, namely:
1) The possibility of the presupposition itself... actualities may be imagined, but not possibilities; these must be certain.
2) The consequence. From the assumed ground the consequences must follow correctly...
3) Unity. It is an essential requirement of a hypothesis that it be only one and need no subsidiary hypotheses for its support...For the more consequences can be derived from a hypothesis, the more probably it is; the fewer, the more improbable. [92]

55 practical cognitions and imperatives

Practical cognitions are either
1) imperatives, and in so far are opposed to theoretical cognitions; or they contain
2) the grounds for possible imperatives, and in so far are opposed to speculative cognitions.
By imperative, in general, is to be understood every statement that expresses a possible free action by which a certain end is to be made actual...
If, however, we oppose practical cognitions to speculative ones, they can also be theoretical in so far as imperatives can be derived from them. Viewed in this regard, they are practical as to content (in potentia), or objectively so. By speculative cognitions, on the other hand, we understand those from which no rule of behavior can be derived or which contain no grounds for possible imperatives. [94]

56 DOCTRINE OF ELEMENTS begins

57 concepts and intuitions

All cognitions, that is, all presentations consciously referred to an object, are either intuitions or concepts. [sec 1, p 96]

58 matter and form of concepts

The matter of concepts is the object; their form is generality. [s2;96]

59 empirical and pure concepts

The concept is either an empirical or a pure one (vel empiricus vel intellectualis). A pure concept is one that is not abstracted [abgezogen] from experience but springs from the understanding even as to content. [s3;97]

60 given and made concepts

All concepts, as to their matter, are either given (conceptus dati) or made (conceptus

factitii). The former are given either a priori or a posteriori. All empirical, or a posteriori given concepts are called experiential concepts; a priori given concepts are called notions.
Note. The form of a concept, as of a discursive presentation, is always made. [s4;99]

61 origin of form of concepts in reflection

The origin of concepts as to mere form rests on reflection and abstraction from the difference of things that are designated by a certain presentation...
Since general logic abstracts from all content of the cognition through concepts or from all matter of thinking, it can ponder the concept only in regard to its form, that is, subjectively only: not how, through a characteristic, it determines an object, but only how it can be referred to several objects. Thus it is not for general logic to investigate the source of concepts, not how concepts as presentations arise, but solely how given presentations become concepts in thinking--whatever these concepts may contain, something taken from experience, or something thought out, or something gathered from the nature of the understanding. This logical origin of concepts--the origin as to their mere form--consists in reflection, whereby arises a presentation common to several objects (conceptus communis) as the form required for the power of judgment... The origin of concepts in respect of their matter, which makes a concept either empirical or constructed or intellectual, is pondered in metaphysics. [s5;99]

62 comparison, reflection, abstraction

1) comparison, i.e. the likening of presentations to one another in relation to the unity of consciousness;
2) reflection, i.e. the going back over [šberlegung] different presentations, how they can be comprehended in one consciousness;
3) abstraction or the segregation of everything else by which given presentations differ.
In order to make our presentations into concepts, one must be able to compare, reflect, and abstract, for these three logical operations of the understanding are the essential and general conditions of generating any concept whatsoever...
Abstraction is only the negative condition under which generally valid presentations may be generated; the positive is comparison and reflection. For by abstraction no concept comes into being; abstraction only completes and encloses the concept within its definite limits. [s6;100-101]

63 intension and extension of concepts

Every concept, as a partial concept [Theilbegriff], is contained in the presentation of things; as a ground of cognition, i.e. as a characteristic [Merkmal], it has these things **contained under** it. In the former regard, every concept has an intension (content) [Inhalt]; in the latter, it has an extension [Umfang]. Intension and extension have an inverse relation to each other. **The more a concept contains under it, the less it contains in it**.
Note. The generality or general validity of the concept does not rest on the concept being

a partial concept but on its being a ground of cognition. [s7;101-102]

64 extension or sphere of concept

The more things stand under a concept and can be thought through it, the larger its extension or sphere. Note. Just as one says of a ground generally that it contains the consequence [Folge] under it, so one may also say of a concept that as a ground of cognition it contains all those things under it from which it has been abstracted [abstrahirt]...For since every concept, as a generally valid presentation, contains what is common to several presentations of different things, all these things which in so far are contained under it, may be presented through it...The more things there are that can be presented by a concept, the greater is its sphere. [s8;102]

65 higher and lower concepts [a mistake]

Concepts are called higher so far as they have other concepts under them, which in relation are called lower concepts. A characteristic of a characteristic--a distant characteristic--is a higher concept... [s9;102] [BB-Kant here runs together the subset relation and the set membership relation, for he goes on to offer a confused example concerning subordinate concepts such as 'mammal' and 'horse']

66 higher and lower again

The lower concept is not contained in the higher, for it contains more in itself than the higher; but it is yet contained under the latter, because the higher contains the cognitive ground of the lower. Further, a concept is not wider than another because it contains more under it--for one cannot know that--but so far as it contains under the other concept and besides it still more. [s13;104] [BB--This all seems most compatible with a straight set-membership reading of higher-lower, as the 'characteristic of a characteristic' language would suggest. But then 'mammal' is not a higher concept than 'horse'. Frege directly addresses this muddle in GL.]

67 extensions and higher and lower concepts

In respect of the logical extension of concepts, the following general rules are valid:
1) What appertains to or contradicts [zukommt oder widerspricht] the higher concepts, that appertains to or contradicts also all lower concepts contained under those higher ones.
2) Conversely: What appertains to or contradicts all lower concepts, that appertains to or contradicts also their higher concept. [s14;104-105]

68 logical abstraction and logical determination

By continued logical abstraction originate [enstehen] ever higher concepts, just as on the other hand ever lower concepts originate by continued logical determination. [s15;105]

69 judgment

A judgment is the presentation of the unity of the consciousness of several presentations, or the presentation of their relation so far as they make up [ausmachen] one concept. [s17;106]

70 matter and form of judgments

The matter of judgment consists in given cognitions that are joined in judgment into unity of consciousness [gegebenen, zur Einheit des Bewuátseins im Urtheile verbundenen Enkenntnissen]; in the determination of the manner in which various presentations as such belong to one consciousness consists the form of judgment. [s18] Since logic abstracts from all real or objective differences of cognition, it can deal with the matter of judgments as little as with the content of concepts. It therefore has to ponder solely the difference of judgments in respect of their mere form. [s19;107]

71 universal judgments

In the universal judgment the sphere of one concept is completely enclosed within the sphere of the other...[s21;107]

72 analytic and synthetic universality

Universal rules are either analytically or synthetically universal. The former abstract from differences; the latter attend to the differences and consequently are determinative also in respect of them. The simpler an object is thought, the more possible is analytic universality according to a concept. [s21;note3;108]

73 affirmative and negative judgments

In the affirmative judgment, the subject is thought under the sphere of the predicate; in the negative it is posited outside the sphere of the latter...[s22;109]

74 unity of judgment

...the given presentations in judgments are subordinated, one to another, for the sake of the unity of consciousness, either as predicate to the subject, or as consequent to the ground, or as member of the division to the divided concept. By the first relation are determined categorical, by the second, hypothetical, and by the third, disjunctive judgments. [s23;110]

75 categorical judgments: matter and form

In categorical judgments, subject and predicate make up their matter; the form through which the relation (of agreement or disagreement) between subject and predicate is

determined and expressed is called copula. Note. Categorical judgments indeed make up the matter of the other judgments; but...All three kinds of judgments rest on essentially different logical functions of the understanding. [s24;111]

76 hypothetical judgments

The matter of hypothetical judgments consists of two judgments that are connected with each other as ground and consequent. The first of these judgments, containing the ground, is the antecedent proposition [Bordersatz] (antecedens, prius); the second, which is related as the consequent to it, the consequent proposition (consequens, posterius); and the presentation of this kind of connection of the two judgments with each other in behalf of the unity of consciousness is called consequence, which makes up the form of hypothetical judgments. Note 1. What the copula is to categorical judgments, the consequence is to the hypothetical--their form. [s25;111] [BB-traditional logical vocabulary requires K to use a 'Satze' derivative, not 'Urtheile' here, so no significance should be attached to this distinction here. But cf. Frege's interest.]

77 modus ponens and modus tollens

The form of connection [Verknüpfung] in hypothetical judgments is twofold: the positing [setzende] (modus ponens) or the deposing [aufhebende] (modus tollens) form.

[BB: note this use of 'aufheben', in connection with indirect argument, with modus tollens]

1) If the ground (antecedens) is true, the consequent (consequens) determined by it is also true-modus ponens.
2) If the consequent (consequens) is false, the ground (antecedens) is also false--modus tollens. [s26;112]

78 modality

As to modality, by which moment is determined the relation of the entire judgment to the faculty of cognition, judgments are either problematic, assertoric, or apodeictic. [s30;114]

79 judgment and proposition (expression in words)

On the difference between problematic and assertoric judgments rests the true difference between judgments and propositions, which otherwise one is used to placing falsely in the mere expression by words--without which one could not judge anyway. [emphasis added, BB] In a judgment the relation of different presentations to the unity of consciousness is thought as merely problematic, in a proposition, however, as assertoric. A problematic proposition is a contradictio in adjecto. [s30;n3;116]

80 theoretical and practical propositions

Theoretical propositions are those which refer to the object and determine what appertains to it or does not appertain to it; practical propositions, however, are those which state the action that is the necessary condition for an object to become possible. [s32;116] [BB--why 'S„tze' and 'Urtheile'?]

81 fundamental propositions

Immediately certain judgments a priori may be called fundamental propositions [Gründsätze], so far as other judgments can be proved from them, while they themselves cannot be subordinated [subordinirt] to any other judgment. For that reason they are also called principles (beginnings). [s34;117]

82 intuitive and discursive fundamental propositions

Fundamental propositions are either intuitive or discursive. The former can be exhibited in intuition and are called axioms (axiomata); the latter can only be expressed by concepts and may be called akroamata. [s35;117]

83 analytic and synthetic propositions

Analytic propositions one calls those propositions whose certainty rests on identity of concepts (of the predicate with the notion of the subject). Propositions whose truth is not grounded on identity of concepts must be called synthetic... Synthetic propositions augment cognition [vermehren das Erkenntnis] materialiter, analytic propositions merely formaliter. The former contain determinations, the latter only logical predicates. [s36;117-118] [BB-another passage of great importance to Frege, at opening of USB]

84 tautological propositions, implicit and explicit

The identity of concepts in analytic judgments can be either explicit [ausdr□ckliche] (explicata) or non-explicit [nicht-ausdrückliche] (implicita). In the former case analytic propositions are tautological. Note 1. Tautological propositions are virtualiter empty or **void of consequences [folgeleer]**, for [denn] they are of no avail or use [ohne Nutzen und Gebrauch]. Such is, for example, the tautological proposition Man is man. For if I know nothing else of man than that he is man, I know nothing else of him at all. Implicitly [implicite] identical propositions, on the contrary, are not void of consequences or fruitless [folge- oder fruchtleer], for they clarify [machen klar] the predicate which lay undeveloped [unentwickelt] (implicite) in the concept of the subject through development [Entwickelung] (explicatio). [s37;118]

[BB--cf. Frege in the PW stuff on BGS definitions and clarifications]

85 postulate

A postulate is a practical, immediately certain proposition or a fundamental proposition

which determines a possible action [Handlung] of which it is presupposed that the manner of executing it is immediately certain. [s38;118]

86 perceptual and experiential judgments

A perceptual judgment [Wahrnehmungsurtheile] is merely subjective; an objective judgment from perceptions is an experiential judgment [Erfahrungsurtheil]. Note: A judgment from mere perceptions is not possible except by stating my presentation as a perception: I who perceive a tower, perceive on it red color. I can, however, not say: It is red. For this would not merely be an empirical but also an experiential judgment, i.e. an empirical judgment by which I gain a concept of the object. [s40;119]

87 concluding, inference

By concluding [Schliessen] is to be understood that function of thought in which one judgment is deduced [hergeleitet wird] from another. A conclusion [Schluss] in general is thus the deduction of one judgment from another. [s41;120]

88 immediate and mediate (multi-premise) inference

All conclusions are either immediate or mediate [unmittelbare oder mittelbare]. An immediate conclusion (consequentia immediata) is the deduction [Ableitung] of one judgment from another without an intermediate [vermittelndes] judgment (judicium intermedium). A conclusion is mediate if beside the concept contained in a judgment one needs others to deduce a cognition from it. [s42;120]
[BB--mediate inference is multipremise inf.]

89 inferences of understanding, of reason, of judgment

The immediate conclusions are also called conclusions of the understanding [Verstandesschlüsse]; all mediate conclusions, however, are either conclusions of reason [Vernunftschlüsse] or conclusions of judgment [Schlüsse der Urtheilskraft]. [s43;120]
[BB--Are these immediate ones called inferences of understanding because the concepts and rules it grasps are given content ultimately by immediate inferential moves? No, see next section.]

90 immediate inferences all formal

The essential character of all immediate conclusions and the principle of their possibility consists solely in a change of the mere form of judgments, while their matter, subject and predicate, remains the same, unchanged.
Note 1. Because in immediate conclusions only the form of judgment is changed and by no means the matter, they distinguish themselves essentially from all mediate conclusions in which judgments differ also as to matter, in that a new concept as mediating judgment or as middle concept (terminus medius) must supervene in order to deduce one judgment from another. [s44;121]

91 inferences of reason

A syllogism [Vernunftschl□ss] is the cognition [Erkenntnis] of the necessity [Nothwendigkeit] of a proposition by subsumption of its condition [Bedingung] under a given general rule. [s56;125]

92 validity of inferences of reason

The general principle on which rests the validity [Gültigkeit] of all conclusions through reason, may be expressed in the following formula: What stands under the condition of a rule stands also under the rule itself. Note: The syllogism premises [prämittirt] a general rule and a subsumption under its condition. One thereby cognizes the conclusion a priori not by itself but as contained in the general and as necessary under a certain condition. The fact that everything stands under the general and may be determined by general rules, is the very principle of rationality, or of necessity (principium rationalitatis s. necessitatis). [s57;125]
[BB--This sort of inference is the model for rules, and for anything that has a condition, and so for judgments and concepts as well.]

93 essential parts of inferences of reason (syllogisms), rules

The following three essential pieces belong to every syllogism:
1) a general rule, which is called major proposition [Obersatz] (propositio major);
2) the proposition that subsumes a cognition under the condition of the general rule and is called minor proposition [Untersatz] (propositio minor)
3) the proposition that affirms or negates the predicate [Pr„dicat] of the rule as valid of the subsumed cognition, the concluding proposition [Schluásatz] (conlcusio).
The first two propositions in their conjunction with each other are called antecedent propositions [Vordersätze] or premises [Prämissen].
Note: A rule is an assertion [Assertion] under a general condition. [cf. A105,113,B387] The relation of the condition to the assertion, how namely, the latter stands under the former, is the exponent of the rule.
The cognition that the condition (somewhere) takes place [stattfinde] is the subsumption. The conjunction of what has been subsumed under the condition with the assertion of the rule is the conclusion [der Schluá]. [s58;126]

94 matter and form of syllogisms

In the antecedent propositions or premises consists the matter, and in the conclusion [Conclusion], so far as it contains [enthalt] the consequence [Consequenz], the form of syllogisms [Vernunftschlüsse]. Note 1. Thus, first the truth of the premises must be examined in every syllogism, and then the correctness [Richtigkeit] of the consequence. In rejecting a syllogism, one must never reject the conlcusion first but always either the premises or the consequence [Consequenz] first. Note 2. In every syllogism the conclusion is given at once when the premises and the consequence are given. [s59;126]

95 rules, judgments, and the unity of consciousness

All rules (judgments) contain objective [objective] unity of consciousness of the manifold of cognition, hence [mithin] a condition under which a cognition belongs with [mit...gehört] to one consciousness. Now only three conditions [Bedingungen] of this unity can be thought, namely: as subject [Subject] of the inherence [Inh„renz] of characteristics [Merkmale]; or as ground of the dependence of one cognition on another; or, lastly, as connection of the parts of a whole (logical division [Eintheilung]). [s60;126-7]

96 reducibility of categoricals to first figure

The rule of the first figure is that the major is a universal [allgemeiner], the minor an affirmative [bejahender] proposition. And since this must be the general rule of all categorical syllogisms in general, it follows from this that the first figure is the only lawful one which underlies all others and to which all others, so far as they are to have validity, must be reduced by conversion [Umkehrung] of the premises (metathesin praemissorum). [s69;131]
The condition of the validity of the three last figures under which a correct [richtig] Modus of concluding in each of them is possible amounts to this, that the middle term, in these propositions, assume a place from which, through immediate conclusions [unmittelbare Schlüsse]] (consequentias immediates), can arise their place [Stelle] according to the rules of the first figure. [s70;131]

97 hypothetical syllogisms

A hypothetical conclusion [Schluss] is one that has as its major a hypothetical proposition. It consists therefore of two propositions, (1) an antecedent [Vordersatze] (antecedens), and (2) a consequent [Nachsatze] (consequens); and the conclusion takes place either according to modus ponens or modus tollens.
Note 1. Hypothetical syllogisms have no medium terminum, but the consequence [Consequenz] of one proposition out of another [eines...aus einander] is only indicated in them. In their major is expressed the consequence of two propositions out of one another, of which the first is a premise [Pr„misse], the second a conclusion [Conclusion]. The minor is a commutation [Verwandlung] of the problematic condition into a categorical proposition. Note 2. It can be seen from the fact that the hypothetical syllogism consists of two propositions only, without having a middle term, that it actually is no syllogism at all but rather an immediate conclusion [ein unmittelbarer] to be proved from an antecedent proposition [Vordersatze] and a consequent [Nachsatze] according to matter or form (consequentia imediata denostrabilits [ex antecedente et consequente] vel quoad materiam vel quoad formam). Every syllogism shall [soll] be a proof [Beweis]. But the hypothetical syllogism carries only the ground of proof [Beweis-Grund] with it. It follows from this also that it cannot be a syllogism. [s75;133] [BB--I can read this as taking conditionals as codifications of inference]

98 determinative and reflective judgment

The power of judgment [Urtheilskraft] is twofold, either determinative [bestimmende] or reflective [reflectirende]. The former proceeds from the universal to the particular, the later from the particular to the general. The latter has only subjective validity, for the general to which it proceeds is empirical generality only--a mere analogon of the logical. [s81;135]

99 conclusions of (reflective) judgment

The conclusions [Schlüsse] of judgment [Urtheilskraft] are certain kinds of conclusion to reach general [allgemeinen] concepts [Begriffen] from particular [besondern] ones. They thus are not functions of determinative, but of reflective judgment; hence they do not determine the object but only the manner of reflecting on it in order to attain its cognition [Kenntnis]. [s82;136]

100 principle of conclusions of reflective judgment

The principle underlying the conclusions of judgment is this: It is impossible for many to conform in one without a common ground; rather, what appertains to many in this manner will be necessary out of a common ground. Note. Since such a principle is underlying the conclusions of judgment, they can on that account not be taken for immediate conclusions. [s83;136]

101 induction and analogy

In proceeding from the particular to the general in order to draw general judgments from experience--hence not a priori ([but] empirically) general judgments--the power of judgment concludes either from many to all things of a kind or from many determinations and properties in which things of the same kind agree, to the others so far as they belong to the same principle. The first manner of concluding is called conclusion through induction [Schluá durch Induction], the other conclusion through analogy [Schluá durch Analogie]... Note 2. Every syllogism [Vernunftschluá] must yield necessity. Induction and analogy are therefore no syllogisms but only logical presumptions [Pr„sumtionen] or empirical conclusions [Schl□sse]; and through induction one does get general [generale], but not universal [universale] propositions. [s84;136-7]

102 **ratiocinatio polysyllogistica**

A composite syllogism [zusammengesetzer Schluá] in which several [die mehreren] syllogisms [Vernunftschlüsse] are connected not by mere coordination but by subordination, that is as grounds and consequents, is called a chain of syllogisms [Kette von Vernunftschlüssen] (ratiocinatio polysyllogistica). [s86;138]

103 prosyllogisms and episyllogisms

In the series of composite syllogisms one can conclude in a twofold manner, either down from the grounds to the consequents [Folgen], or up from the consequents to the grounds. The first takes place through episyllogisms, the second through prosyllogisms. An episyllogism is that syllogism in the series of syllogisms whose premise becomes the conclusion of a prosyllogism--thus of a syllogism that has the premise of the episyllogism as its conclusion. [s87;138]

104 DOCTRINE OF METHOD begins

105 mode and method

All cognition, and any whole of cognition must conform [gem„á sein] to a rule. (Lack of rules is irrationalism.) The rule, however, is either that of mode [Manier] (free) or of method (constraint) [Zwang]. [s94;140] [editors quote Akad. xvi, 3326: "Modus, mode [die Manier], is distinguished from methodo in that the latter is a modus out of principles, the former out of empirical grounds."]

106 method, science, and system

Title: Form of Science--Method Cognition as a science must be organized after a method. For science is a whole of cognition as a system and not merely an aggregate. It therefore requires a systematic cognition drawn up according to deliberate rules. [s94;140]

107 doctrine of elements and doctrine of method

Just as the doctrine of elements in logic has the elements and conditions of the perfection of a cognition as its content, so on the other hand the general doctrine of method, as the second part of logic, has to deal with the form of a science as such, or with the manner of connecting the manifold of cognition into a science. [s96;140]

108 attaining logical perfection of cognition

The doctrine of method is to put forward the manner of attaining perfection of cognition. Now one of the most essential logical perfections of cognition consists in distinctness, in thoroughness, and in its systematic arrangement into the whole of a science. [s97;140] [BB--think of 'perfection' as like 'virtue', a property made up to be what one ought to aim at.]

109 conditions of distinctness of cognition

Distinctness [Deutlichkeit] of cognitions and joining them into a systematic whole depends on distinctness of concepts both in respect of what is contained in them and in regard to what is contained under them. The distinct consciousness of the intension [Inhalt {!}] of concepts is furthered by their exposition and definition; the distinct consciousness, however, of their extension [Umfang], by their logical division

[Eintheilung]. [s98;141]

110 I. Development of Log Perf Cog by Def, Exposition, and Description of Concepts

I. Development [Bef'rderung]of Log Perf Cog by Def, Exposition, and Description of Concepts

A definition is a sufficiently distinct and delimited [precise] [abgemessener] concept (conceptus rei adequatus in minimis terminis; complete determinatus). [s99;141]

111 analytic and synthetic definition, of given and made concepts

All definitions are either analytic or synthetic. The former are definitions of a given, the latter of a made concept.

112 given and made concepts, a priori and a posteriori

The given concepts of an analytic definition are given either a priori or a posteriori just as the made concepts of a synthetic definition are made either a priori or a posteriori. [s101;141-2]

113 synthetic definitions

The synthesis of made [gemachten] concepts from which spring synthetic definitions is either that of exposition (of the appearances) or that of construction. The latter is the synthesis of arbitrarily [freely] [willkürlich] made concepts, the former the synthesis of empirically made concepts, that is, of concepts made out of given appearances as their matter (conceptus factitii vel a priori vel per synthesin empiricam). Arbitrarily made concepts are the mathematical. [s102;142] Since the synthesis of empirical concepts is not arbitrary but empirical and as such can never be complete (for in experience ever new characteristics of the concept can be discovered), empirical concepts cannot be defined. [s103;142]

114 analytic definitions of a priori and a posteriori given concepts

All given concepts, be they given a priori or a posteriori, can only be defined through analysis. For given concepts can only be made distinct by making their characteristics successively clear. If all characteristics of a given concept are made clear the concept becomes completely distinct; and if it does not contain too many characteristics, it is at the same time precise and from this springs a definition of the concept. Note. Since one cannot become certain by any proof whether all characteristics of a given concept have been exhausted by complete analysis, all analytic definitions must be held to be uncertain. [s104;143]

115 expositions, definitions, descriptions

Not all concepts can, but also not all need to be defined. There are approximations [Annäherungen] to the definition of certain concepts; these are partly expositions [Er”rterungen] (expositiones), partly descriptions (descriptiones) [Beschreibungen]. The exposition [Exponiren] of a concept consists in the connecting [einander hangenden] (successive) presentation of its characteristics, so far as these have been found by analysis. The description is the exposition of a concept so far as it is not precise.
Note 1. We can expound either a concept or an experience. The first takes place through analysis, the second through synthesis [cf. s102].
Note 2. Exposition always takes place only with given concepts, which are made distinct by it; it thereby differs from the declaration, which is a distinct presentation of made concepts. As it is not always possible to make an analysis complete, and since, generatim [überhaupt], an analysis must be incomplete before it becomes complete, also an incomplete exposition as part of a definition is a true and useful exhibition of a concept. Here the definition always remains only the idea of a logical perfection that we must seek to attain.
Note 3. Description can take place only with empirically given concepts. It has no definite rules and contains only materials for definition. [105;143-4]
[BB--I think these passages are very important for understanding Frege and his approach to definition, and what he thinks he is accomplishing be replacing natural language concepts with BGS-style explicitated concepts.]

116 definition and tautology

...as to relation, [a definition] must not be tautological; i.e. the characteristics of the definitum, as grounds of its cognition, must be different from the definitum itself...[s107;145]

117 II. Development of Log Perf in Cog through Logical Division of Concepts

II. Development of Log Perf in Cog through Logical Division of Concepts Every concept contains a manifold under it in so far as the manifold agrees, but also in so far as it is different. The determination of a concept in respect of everything possible contained under it, so afar as the elements are opposed to one another, i.e. differ from one another, is called the logical division of the concept. The higher concept is called the divided concept [eingetheilte Begriff] (divisum), and the lower concepts are called the members of the division [Glieder der Eintheilung] (membra dividentia). Note 1. To dissect [theilen] a concept and to divide [entheilen] it are two very different things. In dissecting a concept I see what is contained in it (through analysis); in dividing it I consider what is contained under it. Here I divide the sphere of the concept and not the concept itself. The division, far from dissecting the concept, rather adds to it through its members, for they contain more within them than does the concept. [s110;146-7]

118 rules of logical division

In every division of a concept it is to be heeded that:
1) the members of the division exclude or are opposed to one another; further

2) they belong under a higher concept (conceptum communem) and,
3) they all together make up the sphere of the divided concept or are equal to it.
Note. The members of the division must be separated from one another by contradiction, not mere contrariness. [s111;147]

119 dichotomy from principles, polytomy empirical

A division into two members is called dichotomy; if, however, it has more than two members, it is called polytomy. Note 1. All polytomy is empirical; dichotomy is the only division out of principles a priori--thus the only primary [primitive] division. For the members of the division shall be opposed to one another, and the opposite [Gegentheil] of every A is indeed nothing more than a non A. Note 2. Polytomy cannot be taught in logic, for cognition of the object belongs to it. Dichotomy needs only the proposition of contradiction, without knowing the concept one wants to divide as to content [Inhalt]. Polytomy needs intuition, either a priori, as in mathematics (e.g. the division of conic sections), or empirical intuition, in describing nature. Yet, the division out of the principle of synthesis a priori has [the characteristics of] trichotomy, namely (1) the concept as the condition, (2) the conditioned, and (3) the deduction of the latter from the former. [see Crit. of Judg., Intro, last note] [s113;148]

Selections from Kant's Logic

Brandom