“... it cannot be doubted that the clear exhibition of duties in opposition to all the claims of inclination, gives rise to the consciousness of freedom, and that the glorious order, beauty, and providential care, everywhere displayed in nature, give rise to the belief in a wise and great Author of the Universe.”
Notes for “The Critique of Pure Reason” by Immanuel Kant
Richard Walters 2019

No one can successfully read Kant without first attempting to understand the vocabulary he uses in his Critique. So, we will start with an impromptu glossary of terms.

Glossary of Terms

- **Sensuous Impression** – Kant uses the same definition of an impression as David Hume who used the word to indicate thoughts or ideas formed from immediate experience of the world around him. Kant adds the word “sensuous” to indicate that we’re talking about an impression from experience, and not from reflection or some other source.
- **Empirical** – Used to mean “from experience,” and often paired with the word “knowledge.”
- **A Priori** – “Knowledge altogether independent from experience.” Two criteria can be used independently to determine if something is “a priori,” namely if a thing is necessarily so, or universally so.
  - Pure – Knowledge that in no way relies on experience. Kant will sometimes use the word “pure” to refer to knowledge that is “pure a priori.”
  - Impure – Knowledge that seems to be logically true, but relies on experience in some indirect way. For example: “every change has a cause.” While this statement seems to logically flow from its definition, we can’t know anything about change without experience, and so it is not a pure a priori thought.
- **Predicate** – Kant uses the word predicate such that it means “a property of” something. The most famous example is when Kant states that “existence is not a predicate.” By this Kant means that existence is not a “quality of” or a “property of” something.
  - Unsourced from the Internet: “A predicate, from the Latin praedicare, which is itself a translation of Aristotle’s κατηγορήσαι, is something that is ‘said of’ something else. Thus in ‘Socrates is bald’, the predicate ‘bald’ is said of Socrates.”
  - Occasionally I find it helpful to substitute the phrase “grounded upon” for “predicated.”
- **Cognition** – A thought.
- **Transcendental** – Something that lies beyond sensation. Kant says: “supersensible.”
- **Metaphysics** – The science of studying “problems of mere pure reason” such as God, Freedom (of will), and immortality.
- **Dogmatic** – Suggesting that some principle is incontrovertibly true.
- **Intuition** – The ability to understand something immediately without the need of reason.
- **Analytical Judgements** – Kant defines analytical judgements to be a situation where a predicate of a subject is contained within the definition of the subject. He terms these relations “explicative” because they add nothing to the understanding of the subject. For example: “all bodies are extended.”
- **Synthetical Judgements** – Judgements where the understanding of the predicate lies completely outside of the conception of the subject, although it stands in connection with it. For example: “all bodies are heavy.”
- **Apodeictic** – Clearly established beyond dispute. There is a scientific under-tone to the use of this word. The fact must be established through experience, and not as a matter of custom.
- **Principle of Contradiction** – Simply put logically contradictory propositions cannot both be true. If we state that “A is B,” then the statement “A is not B” cannot also be true.
- **Equivocal** – Open to more than one interpretation or meaning.
- **Equivocation** – This is a logical fallacy brought about by using a word with more than one meaning in multiple ways in the same argument to lead to a false conclusion. Example: “Noisy children are a real headache. Two aspirin will make a headache go away. Therefore, two aspirin will make noisy children go away.”

- **Manifest** – Clear or obvious to the eye or mind
- **Organon** – A complete system of thought or logic.
- **Pure Reason** – Pure cognitions a priori.
- **Organon of Pure Reason** – “An organon of pure reason would be a compendium of those principles according to which alone all pure cognitions a priori can be obtained. The completely extended application of such an organon would afford us a system of pure reason.”
- **Propaedeutics** - an introductory course into a discipline, that is an art, or science.
- **Transcendental** – “I apply the term transcendental to all knowledge which is not so much occupied with objects as with the mode of our cognition of these objects, so far as this mode of cognition is possible a priori. A system of such conceptions would be called transcendental philosophy.
- **Intuition** – A means by which objects are presented to us.
  - **Sensibility** – the mode of being affected by objects. It is by sensibility that objects are presented to our intuition.
  - **Understanding** – the mode of forming conceptions from objects.
- **Empirical Intuition** – an intuition which relates to an object by means of sensation.
- **Phenomenon** – “the undetermined object of an empirical intuition”
- **Matter** – “that which in the phenomena corresponds to the sensation”
- **Form** – “that which effects [how] the content of the phenomenon can be arranged under certain relations.”
  - Note: Kant asserts that form is independent of matter and that form is an a priori cognition while matter is a posteriori.
- **A Posteriori** – though experience (the opposite of a priori, which is independent of experience)
- **Pure Intuition** – “I call all representations pure, in the transcendental meaning of the word, wherein nothing is met with that belongs to sensation. And accordingly we find existing in the mind a priori, the pure form of sensuous intuitions in general, in which all the manifold content of the phenomenal world is arranged and viewed under certain relations. This pure form of sensibility I shall call pure intuition.”
- **Transcendental Doctrine of Elements**
  - **Transcendental Aesthetic** – “The science of all the principles of sensibility a priori”
  - **Transcendental Logic** – “the principles of pure thought”
- **Aisthētá kai noētá** – Ancient Greek for the distinction between things sensed, and things thought.
- **Exposition** – “the clear, though not detailed, representation of that which belongs to a conception; and an exposition is metaphysical when it contains that which represents the conception as given a priori.”
- **Discursive** – Normally discursive means digressing from subject to subject. This word is often used to indicate a decline in quality as something continues. But, in philosophy it has a more archaic meaning close to: “proceeding by argument or reasoning rather than intuition.”
- **Transcendental Exposition** – “The explanation of a conception, as a principle, whence can be discerned the possibility of other synthetical a priori cognitions.”
Summary of the Critique of Pure Reason

- John Locke proposed that the mind is a blank slate, and all thoughts are written to that slate by experience.
- David Hume proposes that all Analytic statements are worthless because the predicate adds nothing to the meaning of the subject. He proposes burning all books that contain nothing but analytic, a priori statements.
- Kant will suggest that the human mind, understanding, or perspective acts as a filter to reality. The constructs of space, time, cause and logical categories of thought are forms that shape the sense experiences we receive and order them. As such, we don't know anything about the noumenal world. We only know a phenomenal world. But, we can scientifically examine our own aesthetic and logical filters to understand something about the Transcendental understanding of synthetic judgements a priori. In other words, we can know something about the filters built into our perception.

<table>
<thead>
<tr>
<th>Analytic</th>
<th>Synthetic</th>
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<tbody>
<tr>
<td>A Priori</td>
<td>Identity</td>
</tr>
<tr>
<td>A Posteriori</td>
<td>Not Possible</td>
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- Doctrine of the Elements
  - Transcendental Aesthetic
    - Intuitions and Concepts
    - Space and Time are a priori intuitions
      - We can’t imagine the world without these intuitions
      - 6 arguments
    - The mind is not a blank slate, but that it actively intuits/filters the world
    - Space and time are forms of Sensibility
    - Spectacle View = Transcendental
  - Transcendental Logic
    - 12 Categories (presupposed categories of space and time, presupposed for thinking and not sensing)
      - Quantity: Unity, Plurality, Totality
      - Quality: Reality, Negation, Limitation
      - Relation: Inherence/subsistence, causality/dependence, reciprocity
      - Modal: Possibility/impossibility, existence/nonexistence, necessity/contingency
    - “Thoughts without content are empty, but intuitions without concepts are blind.” This essentially means our mind is necessary for creating structure to sense experience. Concepts provide structure.
    - Cause and effect are Transcendental
      - Irreversible nature of time
    - Presupposed unity is a priori, and our mind is this unifying force
      - God is the unified force, is this our lens?
- Immanuel Kant’s transcendental perspective positions a type of logical lens between our senses and understanding of the world. This lens idea runs parallel with his ethics. If a similar lens of duty and obligation exists in each person, then we choose what is right and wrong based on a set of synthetic judgements a priori.
Preface to the Second Edition

Immanuel Kant provides an important clarification in his preface to the second edition. While this is a long quotation, it illustrates a very important shift in the way the problem of human understanding is approached. As such, it is essential to understand the following diagram and paragraph.

“It has hitherto been assumed that our cognition must conform to the objects; but all attempts to ascertain anything about these objects a priori, by means of conceptions, and thus to extend the range of our knowledge, have been rendered abortive by this assumption. Let us then make the experiment whether we may not be more successful in metaphysics, if we assume that the objects must conform to our cognition. This appears, at all events, to accord better with the possibility of our gaining the end we have in view, that is to say, of arriving at the cognition of objects a priori, of determining something with respect to these objects, before they are given to us. We here propose to do just what Copernicus did in attempting to explain the celestial movements. When he found that he could make no progress by assuming that all the heavenly bodies revolved round the spectator, he reversed the process, and tried the experiment of assuming that the spectator revolved, while the stars remained at rest. We may make the same experiment with regard to the intuition of objects. If the intuition must conform to the nature of the objects, I do not see how we can know anything of them a priori. If, on the other hand, the object conforms to the nature of our faculty of intuition, I can then easily conceive the possibility of such an a priori knowledge. Now as I cannot rest in the mere intuitions, but — if they are to become cognitions — must refer them, as representations, to something, as object, and must determine the latter by means of the former, here again there are two courses open to me. Either, first, I may assume that the conceptions, by which I effect this determination, conform to the object — and in this case I am reduced to the same perplexity as before; or secondly, I may assume that the objects, or, which is the same thing, that experience, in which alone as given objects they are cognized, conform to my conceptions — and then I am at no loss how to proceed. For experience itself is a mode of cognition which requires understanding. Before objects are given to me, that is, a priori, I must presuppose in myself laws of the understanding which are expressed in conceptions a priori. To these conceptions, then, all the objects of experience must necessarily conform. Now there are objects which reason thinks, and that necessarily, but which cannot be given in experience, or, at least, cannot be given so as reason thinks them. The attempt to think these objects will hereafter furnish an excellent test of the new method of thought which we have adopted, and which is based on the principle that we only cognize in things a priori that which we ourselves place in them.”
Introduction

Kant’s introduction to his Critique is quite long and contains a lot of important information.

1. Does knowledge “a priori” exist? Kant will conclude that it does.
   a. “That all our knowledge begins with experience there can be no doubt. For how is it possible that the faculty of cognition should be awakened into exercise otherwise than by means of objects which affect our senses, and partly of themselves produce representations, partly rouse our powers of understanding into activity, to compare, to connect, or to separate these, and so to convert the raw material of our sensuous impressions into a knowledge of objects, which is called experience? In respect of time, therefore, no knowledge of ours is antecedent to experience, but begins with it.”
   b. “But, though all our knowledge begins with experience, it by no means follows that all arises out of experience. For, on the contrary, it is quite possible that our empirical knowledge is a compound of that which we receive through impressions, and that which the faculty of cognition supplies from itself (sensuous impressions giving merely the occasion), an addition which we cannot distinguish from the original element given by sense, till long practice has made us attentive to, and skilful in separating it.”
   c. “… whether there exists a knowledge altogether independent of experience, and even of all sensuous impressions. Knowledge of this kind is called a priori, in contradistinction to empirical knowledge, which has its sources a posteriori, that is, in experience.”
   d. “Knowledge a priori is either pure or impure. Pure knowledge a priori is that with which no empirical element is mixed up. For example, the proposition, “Every change has a cause,” is a proposition a priori, but impure, because change is a conception which can only be derived from experience.”

2. Is there such a thing as a “pure” cognition “a priori?” A cognition must be “universal” and “necessary” to be “a priori.” This is because we can’t know anything certain through inductive experience. To know something “universal” is to know something with certainty. We also can’t know anything about the “thing in itself” through experience. So, to know “necessity” is to know something beyond experience.
   a. “… if we have a proposition which contains the idea of necessity in its very conception, if, moreover, it is not derived from any other proposition, unless from one equally involving the idea of necessity, it is absolutely priori. Secondly, an empirical judgement never exhibits strict and absolute, but only assumed and comparative universality (by induction); therefore, the most we can say is — so far as we have hitherto observed, there is no exception to this or that rule. If, on the other hand, a judgement carries with it strict and absolute universality, that is, admits of no possible exception, it is not derived from experience, but is valid absolutely a priori.”
   b. “Necessity and strict universality, therefore, are infallible tests for distinguishing pure from empirical knowledge, and are inseparably connected with each other.”
   c. For example: “Every change must have a cause.”
      i. “… the conception of a cause so plainly involves the conception of a necessity of connection with an effect, and of a strict universality of the law, that the very notion of a cause would entirely disappear, were we to derive it, like Hume, from a frequent association of what happens with that which precedes; and the
habit thence originating of connecting representations — the necessity inherent in the judgement being therefore merely subjective.”

ii. “...without seeking for such examples of principles existing a priori in cognition, we might easily show that such principles are the indispensable basis of the possibility of experience itself, and consequently prove their existence a priori. For whence could our experience itself acquire certainty, if all the rules on which it depends were themselves empirical, and consequently fortuitous?”

d. “…we do possess and exercise a faculty of pure a priori cognition; and, secondly, with having pointed out the proper tests of such cognition, namely, universality and necessity.”

3. A Priori cognitions exist not only in judgements, but also in conceptions. Note that Kant uses the word “judgements” when he is dealing with experiences, and “conceptions” when he is talking about reasoning independent of experience. His point here is that there are constructs that exist outside of experience.

a. “Not only in judgements, however, but even in conceptions, is an a priori origin manifest. For example, if we take away by degrees from our conceptions of a body all that can be referred to mere sensuous experience — colour, hardness or softness, weight, even impenetrability — the body will then vanish; but the space which it occupied still remains, and this it is utterly impossible to annihilate in thought.”

b. “Again, if we take away, in like manner, from our empirical conception of any object, corporeal or incorporeal, all properties which mere experience has taught us to connect with it, still we cannot think away those through which we cogitate it as substance, or adhering to substance, although our conception of substance is more determined than that of an object. Compelled, therefore, by that necessity with which the conception of substance forces itself upon us, we must confess that it has its seat in our faculty of cognition a priori.”

4. A science that examines the “possibility,” “principles,” and “extent” of human knowledge “a priori” is needed.

a. “...certain of our cognitions rise completely above the sphere of all possible experience, and by means of conceptions, to which there exists in the whole extent of experience no corresponding object, seem to extend the range of our judgements beyond its bounds. And just in this transcendental or supersensible sphere, where experience affords us neither instruction nor guidance, lie the investigations of reason, which, on account of their importance, we consider far preferable to, and as having a far more elevated aim than, all that the understanding can achieve within the sphere of sensuous phenomena.”

b. “…unavoidable problems of mere pure reason are God, freedom (of will), and immortality.”

i. “The science which, with all its preliminaries, has for its especial object the solution of these problems is named metaphysics — a science which is at the very outset dogmatical, that is, it confidently takes upon itself the execution of this task without any previous investigation of the ability or inability of reason for such an undertaking.

c. Before we use our reason to found our cognition independent of experience we should answer the question: “how the understanding can arrive at these a priori cognitions, and what is the extent, validity, and worth which they may possess?”

5. Kant will start with mathematics as a model.
a. “For one part of our pure knowledge, the science of mathematics, has been long firmly established, and thus leads us to form flattering expectations with regard to others.”

b. “...when we get beyond the bounds of experience, we are of course safe from opposition in that quarter; and the charm of widening the range of our knowledge is so great that, unless we are brought to a standstill by some evident contradiction, we hurry on undoubtingly in our course. This, however, may be avoided, if we are sufficiently cautious in the construction of our fictions, which are not the less fictions on that account.”

c. “Mathematical science affords us a brilliant example, how far, independently of all experience, we may carry our a priori knowledge.”

d. “A great part, perhaps the greatest part, of the business of our reason consists in the analysation of the conceptions which we already possess of objects. By this means we gain a multitude of cognitions, which although really nothing more than elucidations or explanations of that which (though in a confused manner) was already thought in our conceptions, are, at least in respect of their form, prized as new introspections; whilst, so far as regards their matter or content, we have really made no addition to our conceptions, but only disinvolved them.”

i. NOTE: Here Kant is describing “analysis” and beginning to define it as the rational process of defining terms. An analytical definition doesn’t add anything to the conception of a thing. Analysis only adds depth to our understanding. All facts discovered through analysis are necessarily a part of the definition of the thing being analyzed.

6. Analytical and Synthetical Judgements. Kant has made some progress toward proving that “a priori” conceptions exist. But, now he will essentially disqualify “analytical” conceptions because they are a matter of “identity” or “definition.” Analytical judgements don’t add anything new to a conception of a subject. Here he agrees with Hume.

a. “In all judgements wherein the relation of a subject to the predicate is cogitated (I mention affirmative judgements only here; the application to negative will be very easy), this relation is possible in two different ways. Either the predicate B belongs to the subject A, as somewhat which is contained (though covertly) in the conception A; or the predicate B lies completely out of the conception A, although it stands in connection with it. In the first instance, I term the judgement analytical, in the second, synthetical.”

b. “Analytical judgements (affirmative) are therefore those in which the connection of the predicate with the subject is cogitated through identity; those in which this connection is cogitated without identity, are called synthetical judgements.”

c. “Judgements of experience, as such, are always synthetical. For it would be absurd to think of grounding an analytical judgement on experience, because in forming such a judgement I need not go out of the sphere of my conceptions, and therefore recourse to the testimony of experience is quite unnecessary.”

d. “…although analytical judgements are indeed highly important and necessary, they are so, only to arrive at that clearness of conceptions which is requisite for a sure and extended synthesis, and this alone is a real acquisition.”

7. In the Theoretical Sciences, Synthetical Judgements A Priori are “principles”

a. “Mathematical judgements are always synthetical.”

b. “Proper Mathematical Propositions” are A Priori (they are analytical)

i. “…proper mathematical propositions are always judgements a priori, and not empirical, because they carry along with them the conception of necessity, which cannot be given by experience.”
c. “Arithmetical Propositions” are always “synthetical.” So are propositions of “pure geometry.”
   i. “Arithmetical propositions are therefore always synthetical, of which we may become more clearly convinced by trying large numbers. For it will thus become quite evident that, turn and twist our conceptions as we may, it is impossible, without having recourse to intuition, to arrive at the sum total or product by means of the mere analysis of our conceptions.”
   ii. Speaking of straight lines, he says: “For my conception of straight contains no notion of quantity, but is merely qualitative. The conception of the shortest is therefore wholly an addition, and by no analysis can it be extracted from our conception of a straight line. Intuition must therefore here lend its aid, by means of which, and thus only, our synthesis is possible.”

d. A few principles of Geometry are actually analytical. However, they are not accepted in the science of mathematics until they can be demonstrated through intuition and experience.
   i. “Some few principles preposited by geometricians are, indeed, really analytical, and depend on the principle of contradiction.”
      1. Example: “a = a, the whole is equal to itself, or (a+b) > a”
   ii. “And yet even these principles themselves, though they derive their validity from pure conceptions, are only admitted in mathematics because they can be presented in intuition. What causes us here commonly to believe that the predicate of such apodeictic judgements is already contained in our conception, and that the judgement is therefore analytical, is merely the equivocal nature of the expression. We must join in thought a certain predicate to a given conception, and this necessity cleaves already to the conception. But the question is, not what we must join in thought to the given conception, but what we really think therein, though only obscurely, and then it becomes manifest that the predicate pertains to these conceptions, necessarily indeed, yet not as thought in the conception itself, but by virtue of an intuition, which must be added to the conception.”

e. “Natural Philosophy” (physics) contains synthetical judgements a priori as principles
   i. Examples
      1. “In all changes of the material world, the quantity of matter remains unchanged”
      2. “In all communication of motion, action and reaction must always be equal.”
   ii. “In both of these, not only is the necessity, and therefore their origin a priori clear, but also that they are synthetical propositions. For in the conception of matter, I do not cogitate its permanency, but merely its presence in space, which it fills. I therefore really go out of and beyond the conception of matter, in order to think on to it something a priori, which I did not think in it. The proposition is therefore not analytical, but synthetical, and nevertheless conceived a priori; and so it is with regard to the other propositions of the pure part of natural philosophy.”

f. “Metaphysics” MUST contain synthetical judgements a priori.
   i. “As to metaphysics, even if we look upon it merely as an attempted science, yet, from the nature of human reason, an indispensable one, we find that it must contain synthetical propositions a priori.”
ii. “It is not merely the duty of metaphysics to dissect, and thereby analytically to illustrate the conceptions which we form a priori of things; but we seek to widen the range of our a priori knowledge. For this purpose, we must avail ourselves of such principles as add something to the original conception — something not identical with, nor contained in it, and by means of synthetical judgements a priori, leave far behind us the limits of experience; for example, in the proposition, “the world must have a beginning,” and such like. Thus metaphysics, according to the proper aim of the science, consists merely of synthetical propositions a priori.”

8. Finally, we have defined the real question in the investigation of Pure Reason. That question is: “How are synthetical judgements a priori possible?”
   a. “Upon the solution of this problem, or upon sufficient proof of the impossibility of synthetical knowledge a priori, depends the existence or downfall of the science of metaphysics.
   b. “Among philosophers, David Hume came the nearest of all to this problem; yet it never acquired in his mind sufficient precision, nor did he regard the question in its universality. On the contrary, he stopped short at the synthetical proposition of the connection of an effect with its cause (principium causalitatis), insisting that such proposition a priori was impossible. According to his conclusions, then, all that we term metaphysical science is a mere delusion, arising from the fancied insight of reason into that which is in truth borrowed from experience, and to which habit has given the appearance of necessity.”
   c. “...according to his own argument, there likewise could not be any pure mathematical science, which assuredly cannot exist without synthetical propositions a priori— an absurdity from which his good understanding must have saved him.”
   d. “as to metaphysics, the miserable progress it has hitherto made, and the fact that of no one system yet brought forward, far as regards its true aim, can it be said that this science really exists, leaves any one at liberty to doubt with reason the very possibility of its existence.”

   a. “…metaphysics must be considered as really existing, if not as a science, nevertheless as a natural disposition of the human mind (metaphysica naturalis). For human reason, without any instigations imputable to the mere vanity of great knowledge, unceasingly progresses, urged on by its own feeling of need, towards such questions as cannot be answered by any empirical application of reason, or principles derived therefrom; and so there has ever really existed in every man some system of metaphysics. It will always exist, so soon as reason awakes to the exercise of its power of speculation.”
   b. “We must be able to arrive at a decision on the subjects of its questions, or on the ability or inability of reason to form any judgement respecting them; and therefore either to extend with confidence the bounds of our pure reason, or to set strictly defined and safe limits to its action.”

10. Kant wishes to ask: “How is Metaphysics possible as a science?”
   a. “…the dogmatical use of reason without criticism leads to groundless assertions, against which others equally specious can always be set, thus ending unavoidably in scepticism.”
   b. “And when once Reason has previously become able completely to understand her own power in regard to objects which she meets with in experience, it will be easy to
determine securely the extent and limits of her attempted application to objects beyond
the confines of experience.”

“...mere analysis is of course useless, because it only shows what is contained in these
conceptions, but not how we arrive, a priori, at them; and this it is her duty to show, in
order to be able afterwards to determine their valid use in regard to all objects of
experience, to all knowledge in general.”

11. Kant will call his attempt at this metaphysical science a “Critique of Pure Reason.” What we
have here is an explanation of the purpose of this book, and its title.

a. “From all that has been said, there results the idea of a particular science, which may
be called the Critique of Pure Reason. For reason is the faculty which furnishes us with
the principles of knowledge a priori. Hence, pure reason is the faculty which contains
the principles of cognizing anything absolutely a priori.”

b. “This investigation, which we cannot properly call a doctrine, but only a transcendental
critique, because it aims not at the enlargement, but at the correction and guidance, of
our knowledge, and is to serve as a touchstone of the worth or worthlessness of all
knowledge a priori, is the sole object of our present essay.”

c. “Such a critique is consequently, as far as possible, a preparation for an organon; and if
this new organon should be found to fail, at least for a canon of pure reason, according
to which the complete system of the philosophy of pure reason, whether it extend or
limit the bounds of that reason, might one day be set forth both analytically and
synthetically.”

12. Probably one of Kant’s most lasting impacts on the world relates to his definition of the word
“transcendental.” If you understand properly that it is the transcendental world that Kant
wants to explore, then it is easier to understand why he needs to define the science behind this
discovery mission.

a. “Transcendental philosophy is the idea of a science, for which the Critique of Pure
Reason must sketch the whole plan architectonically, that is, from principles, with a full
guarantee for the validity and stability of all the parts which enter into the building. It is
the system of all the principles of pure reason.”

b. “To the Critique of Pure Reason, therefore, belongs all that constitutes transcendental
philosophy; and it is the complete idea of transcendental philosophy, but still not the
science itself; because it only proceeds so far with the analysis as is necessary to the
power of judging completely of our synthetical knowledge a priori.”

c. “The principal thing we must attend to, in the division of the parts of a science like this,
is that no conceptions must enter it which contain aught empirical; in other words, that
the knowledge a priori must be completely pure. Hence, although the highest principles
and fundamental conceptions of morality are certainly cognitions a priori, yet they do
not belong to transcendental philosophy; because, though they certainly do not lay the
conceptions of pain, pleasure, desires, inclinations, etc. (which are all of empirical
origin), at the foundation of its precepts, yet still into the conception of duty — as an
obstacle to be overcome, or as an incitement which should not be made into a motive
— these empirical conceptions must necessarily enter, in the construction of a system of
pure morality. Transcendental philosophy is consequently a philosophy of the pure and
merely speculative reason. For all that is practical, so far as it contains motives, relates
to feelings, and these belong to empirical sources of cognition.”
Doctrine of the Elements

Having defined the need for a transcendental philosophy, Kant proceeds with a doctrine of the elements. Specifically, Kant will address the Transcendental Aesthetic first. This is the doctrine of “sense” where we explore the rules for intuitions. Next, he will explore Transcendental Logic which pertains to the “understanding.” The logic potion will focus on conceptions and their rules.

1. Finally, Kant is ready to start defining transcendental philosophy.
   a. “… there are two sources of human knowledge (which probably spring from a common, but to us unknown root), namely, sense and understanding. By the former, objects are given to us; by the latter, thought. So far as the faculty of sense may contain representations a priori, which form the conditions under which objects are given, in so far it belongs to transcendental philosophy. The transcendental doctrine of sense must form the first part of our science of elements, because the conditions under which alone the objects of human knowledge are given must precede those under which they are thought.”

b. There are two modes:
   i. Sensibility (intuitions): “an intuition can take place only in so far as the object is given to us. This, again, is only possible, to man at least, on condition that the object affect the mind in a certain manner. The capacity for receiving representations (receptivity) through the mode in which we are affected by objects, is called sensibility. By means of sensibility, therefore, objects are given to us, and it alone furnishes us with intuitions…”
   ii. Understanding (conceptions): “… by the understanding they are thought, and from it arise conceptions. But a thought must directly, or indirectly, by means of certain signs, relate ultimately to intuitions; consequently, with us, to sensibility, because in no other way can an object be given to us.”

c. Empirical Intuitions: “That sort of intuition which relates to an object by means of sensation is called an empirical intuition.”

d. Phenomenon: “The undetermined object of an empirical intuition is called phenomenon.”

e. Matter: “That which in the phenomenon corresponds to the sensation, I term its matter”

f. Form: “… but that which effects that the content of the phenomenon can be arranged under certain relations, I call its form.”
g. “It is, then, the matter of all phenomena that is given to us a posteriori; the form must lie ready a priori for them in the mind, and consequently can be regarded separately from all sensation.”

h. **Pure Intuition:** “I call all representations pure, in the transcendental meaning of the word, wherein nothing is met with that belongs to sensation. And accordingly we find existing in the mind a priori, the pure form of sensuous intuitions in general, in which all the manifold content of the phenomenal world is arranged and viewed under certain relations. This pure form of sensibility I shall call pure intuition.”

i. “Thus, if I take away from our representation of a body all that the understanding thinks as belonging to it, as substance, force, divisibility, etc., and also whatever belongs to sensation, as impenetrability, hardness, colour, etc.; yet there is still something left us from this empirical intuition, namely, extension and shape.”

j. **Transcendental Aesthetic:** “The science of all the principles of sensibility a priori, I call transcendental aesthetic.”

k. **Transcendental Logic:** “in contradistinction to that part which contains the principles of pure thought, and which is called transcendental logic.”

l. “In the science of transcendental aesthetic accordingly, we shall first isolate sensibility or the sensuous faculty, by separating from it all that is annexed to its perceptions by the conceptions of understanding, so that nothing be left but empirical intuition. In the next place we shall take away from this intuition all that belongs to sensation, so that nothing may remain but pure intuition, and the mere form of phenomena, which is all that the sensibility can afford a priori. From this investigation it will be found that there are two pure forms of sensuous intuition, as principles of knowledge a priori, namely, space and time.”
Transcendental Aesthetic

1. Kant proposes that Space and Time are not properties belonging to any object. That an object has extension and it continues to exist are constructs of the mind perceiving that object. But, they are not purely relative constructs. They exist for everyone, even if they cannot be compared such that we can know for certain that they are exactly the same for everyone. Regardless, Kant is saying that we add space and time to help us order our intuitions. We can’t imagine anything at all without these constructs. As such, they are conceptions a priori. More, they are not analytical because they add something to each thing they define. So, they are the definition of “synthetical judgements a priori.”
   a. “Of time we cannot have any external intuition, any more than we can have an internal intuition of space. What then are time and space? Are they real existences? Or, are they merely relations or determinations of things, such, however, as would equally belong to these things in themselves, though they should never become objects of intuition; or, are they such as belong only to the form of intuition, and consequently to the subjective constitution of the mind, without which these predicates of time and space could not be attached to any object?”

2. Four Rules to Space
   a. “Space is not a conception which has been derived from outward experiences.”
   b. “Space then is a necessary representation a priori, which serves for the foundation of all external intuitions.”
      i. “We never can imagine or make a representation to ourselves of the non-existence of space, though we may easily enough think that no objects are found in it.”
   c. “Space is no discursive, or as we say, general conception of the relations of things, but a pure intuition.”
      i. “For, in the first place, we can only represent to ourselves one space, and, when we talk of divers spaces, we mean only parts of one and the same space.”
      ii. “Space is essentially one, and multiplicity in it, consequently the general notion of spaces, of this or that space, depends solely upon limitations. Hence it follows that an a priori intuition (which is not empirical) lies at the root of all our conceptions of space.
      iii. “Thus, moreover, the principles of geometry — for example, that “in a triangle, two sides together are greater than the third,” are never deduced from general conceptions of line and triangle, but from intuition, and this a priori, with apodeictic certainty.”
   d. “Space is represented as an infinite given quantity.”

3. Transcendental Exposition of Space
   a. “By a transcendental exposition, I mean the explanation of a conception, as a principle, whence can be discerned the possibility of other synthetical a priori cognitions.”
   b. “Geometry is a science which determines the properties of space synthetically, and yet a priori. What, then, must be our representation of space, in order that such a cognition of it may be possible? It must be originally intuition, for from a mere conception, no propositions can be deduced which go out beyond the conception, and yet this happens in geometry. (Introd. V.) But this intuition must be found in the mind a priori, that is, before any perception of objects, consequently must be pure, not empirical, intuition. For geometrical principles are always apodeictic, that is, united
with the consciousness of their necessity, as: “Space has only three dimensions.” But propositions of this kind cannot be empirical judgements, nor conclusions from them. (Intro. II.) Now, how can an external intuition anterior to objects themselves, and in which our conception of objects can be determined a priori, exist in the human mind? Obviously not otherwise than in so far as it has its seat in the subject only, as the formal capacity of the subject’s being affected by objects, and thereby of obtaining immediate representation, that is, intuition; consequently, only as the form of the external sense in general.”

c. “Thus it is only by means of our explanation that the possibility of geometry, as a synthetical science a priori, becomes comprehensible. Every mode of explanation which does not show us this possibility, although in appearance it may be similar to ours, can with the utmost certainty be distinguished from it by these marks.”

4. Conclusions about Space
   a. “Space does not represent any property of objects as things in themselves, nor does it represent them in their relations to each other; in other words, space does not represent to us any determination of objects such as attaches to the objects themselves, and would remain, even though all subjective conditions of the intuition were abstracted. For neither absolute nor relative determinations of objects can be intuited prior to the existence of the things to which they belong, and therefore not a priori.”
   b. “Space is nothing else than the form of all phenomena of the external sense, that is, the subjective condition of the sensibility, under which alone external intuition is possible.”

5. Five Rules for Time
   a. “Time is not an empirical conception.”
      i. “For neither coexistence nor succession would be perceived by us, if the representation of time did not exist as a foundation a priori. Without this presupposition we could not represent to ourselves that things exist together at one and the same time, or at different times, that is, contemporaneously, or in succession.”
   b. “Time is a necessary representation, lying at the foundation of all our intuitions.”
      i. “With regard to phenomena in general, we cannot think away time from them, and represent them to ourselves as out of and unconnected with time, but we can quite well represent to ourselves time void of phenomena. Time is therefore given a priori.”
   c. “On this necessity a priori is also founded the possibility of apodeictic principles of the relations of time, or axioms of time in general, such as: ‘Time has only one dimension,’ ‘Different times are not coexistent but successive’ (as different spaces are not successive but coexistent). These principles cannot be derived from experience, for it would give neither strict universality, nor apodeictic certainty.”
   d. “Time is not a discursive, or as it is called, general conception, but a pure form of the sensuous intuition. Different times are merely parts of one and the same time.”
   e. “The infinity of time signifies nothing more than that every determined quantity of time is possible only through limitations of one time lying at the foundation. Consequently, the original representation, time, must be given as unlimited.”

6. Conclusions about time:
   a. “Time is not something which subsists of itself, or which inheres in things as an objective determination, and therefore remains, when abstraction is made of the subjective conditions of the intuition of things. For in the former case, it would be something real, yet without presenting to any power of perception any real object. In the latter case, as
an order or determination inherent in things themselves, it could not be antecedent to things, as their condition, nor discerned or intuited by means of synthetical propositions a priori. But all this is quite possible when we regard time as merely the subjective condition under which all our intuitions take place. For in that case, this form of the inward intuition can be represented prior to the objects, and consequently a priori.”

b. “Time is nothing else than the form of the internal sense, that is, of the intuitions of self and of our internal state. For time cannot be any determination of outward phenomena. It has to do neither with shape nor position; on the contrary, it determines the relation of representations in our internal state. And precisely because this internal intuition presents to us no shape or form, we endeavour to supply this want by analogies, and represent the course of time by a line progressing to infinity, the content of which constitutes a series which is only of one dimension; and we conclude from the properties of this line as to all the properties of time, with this single exception, that the parts of the line are coexistent, whilst those of time are successive. From this it is clear also that the representation of time is itself an intuition, because all its relations can be expressed in an external intuition.”

c. “Time is the formal condition a priori of all phenomena whatsoever. Space, as the pure form of external intuition, is limited as a condition a priori to external phenomena alone. On the other hand, because all representations, whether they have or have not external things for their objects, still in themselves, as determinations of the mind, belong to our internal state; and because this internal state is subject to the formal condition of the internal intuition, that is, to time — time is a condition a priori of all phenomena whatsoever — the immediate condition of all internal, and thereby the mediate condition of all external phenomena.”

7. Conclusions about the Transcendental Aesthetic

a. “We have now completely before us one part of the solution of the grand general problem of transcendental philosophy, namely, the question: “How are synthetical propositions a priori possible?” That is to say, we have shown that we are in possession of pure a priori intuitions, namely, space and time, in which we find, when in a judgement a priori we pass out beyond the given conception, something which is not discoverable in that conception, but is certainly found a priori in the intuition which corresponds to the conception, and can be united synthetically with it. But the judgements which these pure intuitions enable us to make, never reach farther than to objects of the senses, and are valid only for objects of possible experience.”
Overview of Transcendental Logic

Where the Transcendental Aesthetic dealt with putting together the objects of sense impressions, Transcendental Logic categorizes the impressions into thoughts. This is where we arrive at understanding of the world around us. Kant will suggest that our brains make sense of the world because they have built-in (a priori) functions represented by the chart below.

<table>
<thead>
<tr>
<th>FUNCTION OF THOUGHT IN JUDGMENT</th>
<th>CATEGORIES OF UNDERSTANDING</th>
<th>PRINCIPLES OF PURE UNDERSTANDING</th>
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<tbody>
<tr>
<td>Quantity</td>
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<tr>
<td>Universal</td>
<td>Unity</td>
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<td>Particular</td>
<td>Plurality</td>
<td><strong>Axioms of Intuition</strong></td>
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<tr>
<td>Singular</td>
<td>Totality</td>
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<td>Quality</td>
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<tr>
<td>Affirmative</td>
<td>Reality</td>
<td><strong>Anticipations of Perception</strong></td>
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<td>Negative</td>
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<td>Relation</td>
<td>Relation</td>
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<tr>
<td>Categorical</td>
<td>Of Inherence and Subsistence (substantia et accidens)</td>
<td><strong>Analogies of Experience</strong></td>
</tr>
<tr>
<td>Hypothetical</td>
<td>Of Causality and Dependence (cause and effect)</td>
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<tr>
<td>Disjunctive</td>
<td>Of Community (reciprocity between the agent and patient)</td>
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<td>Modality</td>
<td>Modality</td>
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<tr>
<td>Problematical</td>
<td>Possibility-Impossibility</td>
<td><strong>Postulates of Empirical Thought in General</strong></td>
</tr>
<tr>
<td>Assertorical</td>
<td>Existence-Non-existence</td>
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<tr>
<td>Apodeictical</td>
<td>Necessity-Contingence</td>
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Transcendental Logic

1. Intuitions and Conceptions
   a. “Our knowledge springs from two main sources in the mind, first of which is the faculty or power of receiving representations (receptivity for impressions); the second is the power of cognizing by means of these representations (spontaneity in the production of conceptions).
   b. “Intuition and conceptions constitute, therefore, the elements of all our knowledge, so that neither conceptions without an intuition in some way corresponding to them, nor intuition without conceptions, can afford us a cognition.”
   c. “Pure intuition consequently contains merely the form under which something is intuited, and pure conception only the form of the thought of an object.”
   d. “Only pure intuitions and pure conceptions are possible a priori; the empirical only a posteriori.”

2. For Understanding, we need both Intuitions and Conceptions
   a. “We apply the term sensibility to the receptivity of the mind for impressions, in so far as it is in some way affected...”
   b. “… we call the faculty of spontaneously producing representations, or the spontaneity of cognition, understanding.”
   c. “Our nature is so constituted that intuition with us never can be other than sensuous, that is, it contains only the mode in which we are affected by objects. On the other hand, the faculty of thinking the object of sensuous intuition is the understanding. Neither of these faculties has a preference over the other.”
   d. “Without the sensuous faculty no object would be given to us, and without the understanding no object would be thought.”
   e. “Thoughts without content are void; intuitions without conceptions, blind.”
   f. “Hence it is as necessary for the mind to make its conceptions sensuous (that is, to join to them the object in intuition), as to make its intuitions intelligible (that is, to bring them under conceptions).”
   g. “Neither of these faculties can exchange its proper function. Understanding cannot intuite, and the sensuous faculty cannot think.”
   h. “We therefore distinguish the science of the laws of sensibility, that is, aesthetic, from the science of the laws of the understanding, that is, logic.”

3. Logic can be split into two. The division is between “Logic of the General” and “Logic of the Use of the Understanding.”
   a. General Logic (elemental): “The first contains the absolutely necessary laws of thought, without which no use whatsoever of the understanding is possible and gives laws therefore to the understanding, without regard to the difference of objects on which it may be employed.”
      i. Pure General Logic:
         1. “… we abstract all the empirical conditions under which the understanding is exercised; for example, the influence of the senses, the play of the fantasy or imagination, the laws of the memory, the force of habit, of inclination, etc., consequently also, the sources of prejudice — in a word, we abstract all causes from which particular cognitions arise, because these causes regard the understanding under certain
circumstances of its application, and, to the knowledge of them experience is required.”

2. “Pure general logic has to do, therefore, merely with pure a priori principles, and is a canon of understanding and reason, but only in respect of the formal part of their use, be the content what it may, empirical or transcendental.”

ii. Applied General Logic:
1. “General logic is called applied, when it is directed to the laws of the use of the understanding, under the subjective empirical conditions which psychology teaches us.”
2. “it is neither a canon of the understanding in general, nor an organon of a particular science, but merely a cathartic of the human understanding.”
3. “… applied logic treats of attention, its impediments and consequences, of the origin of error, of the state of doubt, hesitation, conviction, etc., and to it is related pure general logic in the same way that pure morality, which contains only the necessary moral laws of a free will, is related to practical ethics, which considers these laws under all the impediments of feelings, inclinations, and passions to which men are more or less subjected, and which never can furnish us with a true and demonstrated science, because it, as well as applied logic, requires empirical and psychological principles.”

iii. Two rules that define Pure General Logic. It is very important to Kant to separate out applied general logic from pure general logic.
1. “As general logic, it makes abstraction of all content of the cognition of the understanding, and of the difference of objects, and has to do with nothing but the mere form of thought.”
2. “As pure logic, it has no empirical principles, and consequently draws nothing (contrary to the common persuasion) from psychology, which therefore has no influence on the canon of the understanding. It is a demonstrated doctrine, and everything in it must be certain completely a priori.”

b. Particular Use of Understanding Logic (science): “The logic of the particular use of the understanding contains the laws of correct thinking upon a particular class of objects.”
   i. Kant does not expound on this at all. And it makes sense that he wouldn’t. He is not concerned with the application of the rules of science in the empirical world.

4. Kant will further divide Pure General Logic to discover what is truly transcendental. To do this he will remark that Space itself is not transcendental. It is the concept of Space that is transcendental.
   a. “… not every cognition a priori, but only those through which we cognize that and how certain representations (intuitions or conceptions) are applied or are possible only a priori; that is to say, the a priori possibility of cognition and the a priori use of it are transcendental.”
   b. “Therefore neither is space, nor any a priori geometrical determination of space, a transcendental representation, but only the knowledge that such a representation is not of empirical origin, and the possibility of its relating to objects of experience, although itself a priori, can be called transcendental.”
c. “So also, the application of space to objects in general would be transcendental; but if it be limited to objects of sense it is empirical.”

5. And so Kant has now reduced the definition of Logic down to “acts of pure thought.” This, he will define as Transcendental Logic.
   a. “Accordingly, in the expectation that there may perhaps be conceptions which relate a priori to objects, not as pure or sensuous intuitions, but merely as acts of pure thought (which are therefore conceptions, but neither of empirical nor aesthetical origin)—in this expectation, I say, we form to ourselves, by anticipation, the idea of a science of pure understanding and rational cognition, by means of which we may cogitate objects entirely a priori. A science of this kind, which should determine the origin, the extent, and the objective validity of such cognitions, must be called transcendental logic, because it has not, like general logic, to do with the laws of understanding and reason in relation to empirical as well as pure rational cognitions without distinction, but concerns itself with these only in an a priori relation to objects.”

6. Kant switches gears to talk about Dialectic.
   a. “… that general logic, which is merely a canon of judgement, has been employed as an organon for the actual production, or rather for the semblance of production, of objective assertions, and has thus been grossly misapplied. Now general logic, in its assumed character of organon, is called dialectic.”
   b. “… which the ancients used this term for a science or an art, we may safely infer, from their actual employment of it, that with them it was nothing else than a logic of illusion—a sophistical art for giving ignorance, nay, even intentional sophistries, the colouring of truth, in which the thoroughness of procedure which logic requires was imitated, and their topic employed to cloak the empty pretensions.”
   c. “Now it may be taken as a safe and useful warning, that general logic, considered as an organon, must always be a logic of illusion, that is, be dialectical, for, as it teaches us nothing whatever respecting the content of our cognitions, but merely the formal conditions of their accordance with the understanding, which do not relate to and are quite indifferent in respect of objects, any attempt to employ it as an instrument (organon) in order to extend and enlarge the range of our knowledge must end in mere prating; any one being able to maintain or oppose, with some appearance of truth, any single assertion whatever.”

7. Transcendental Logic is then divided into its Analytic and Dialectic components.
   a. **Transcendental Analytic:** “That part of transcendental logic, then, which treats of the elements of pure cognition of the understanding, and of the principles without which no object at all can be thought, is transcendental analytic, and at the same time a logic of truth.”
   b. **Transcendental Dialectic:** “… understanding runs the risk of making, by means of empty sophisms, a material and objective use of the mere formal principles of the pure understanding, and of passing judgements on objects without distinction—objects which are not given to us, nay, perhaps cannot be given to us in any way. Now, as it ought properly to be only a canon for judging of the empirical use of the understanding, this kind of logic is misused when we seek to employ it as an organon of the universal and unlimited exercise of the understanding, and attempt with the pure understanding alone to judge synthetically, affirm, and determine respecting objects in general. In this case the exercise of the pure understanding becomes dialectical.”

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8. So, we have finally arrived at the main target Kant wants to discuss. It is the Transcendental Analytic that he wishes to understand fully, because in it we are dealing with the “pure cognition of the understanding.”
   a. “In order to effect our purpose, it is necessary: “
      i. “That the conceptions be pure and not empirical; “
      ii. “That they belong not to intuition and sensibility, but to thought and understanding; “
      iii. “That they be elementary conceptions, and as such, quite different from deduced or compound conceptions; “
      iv. “That our table of these elementary conceptions be complete, and fill up the whole sphere of the pure understanding. Now this completeness of a science cannot be accepted with confidence on the guarantee of a mere estimate of its existence in an aggregate formed only by means of repeated experiments and attempts.”
Transcendental Analytic

1. Judgements
   a. “Transcendental philosophy has the advantage, and moreover the duty, of searching for its conceptions according to a principle; because these conceptions spring pure and unmixed out of the understanding as an absolute unity, and therefore must be connected with each other according to one conception or idea.”
   b. “But besides intuition there is no other mode of cognition, except through conceptions; consequently, the cognition of every, at least of every human, understanding is a cognition through conceptions — not intuitive, but discursive.”
   c. “All intuitions, as sensuous, depend on affections; conceptions, therefore, upon functions. By the word function I understand the unity of the act of arranging diverse representations under one common representation.”
   d. “As no representation, except an intuition, relates immediately to its object, a conception never relates immediately to an object, but only to some other representation thereof, be that an intuition or itself a conception.”
   e. “A judgement, therefore, is the mediate cognition of an object, consequently the representation of a representation of it.”
   f. “… we can reduce all acts of the understanding to judgements, so that understanding may be represented as the faculty of judging.”
   g. “If we abstract all the content of a judgement, and consider only the intellectual form thereof, we find that the function of thought in a judgement can be brought under four heads, of which each contains three momenta.”

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<thead>
<tr>
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<tr>
<td>Of Modality: Problematical, Assertorical, Apodeictical</td>
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2. Categories (section 6). Whereas General Logic abstracts meaning out of the content of cognition, receiving representations from elsewhere through analysis, transcendental logic has the content of “a priori sensibility” lying before it.
   a. “… transcendental logic has lying before it the manifold content of a priori sensibility, which transcendental aesthetic presents to it in order to give matter to the pure conceptions of the understanding, without which transcendental logic would have no content, and be therefore utterly void.”
   b. Synthesis: “… spontaneity of thought requires that this diversity be examined after a certain manner, received into the mind, and connected, in order afterwards to form a cognition out of it.”
      i. “By the word synthesis, in its most general signification, I understand the process of joining different representations to each other and of comprehending their diversity in one cognition.”
      ii. “… synthesis is that by which alone the elements of our cognitions are collected and united into a certain content, consequently it is the first thing on which we must fix our attention, if we wish to investigate the origin of our knowledge.”
iii. “Synthesis, generally speaking, is, as we shall afterwards see, the mere
operation of the imagination — a blind but indispensable function of the soul,
without which we should have no cognition whatever, but of the working of
which we are seldom even conscious.”

Cognition: “But to reduce this synthesis to conceptions is a function of the
understanding, by means of which we attain to cognition, in the proper meaning of the
term.”

i. “By means of analysis different representations are brought under one
conception — an operation of which general logic treats. On the other hand, the
duty of transcendental logic is to reduce to conceptions, not representations,
but the pure synthesis of representations.”

ii. Three Steps toward a unified conception
   1. “diversity of the pure intuition”
   2. “synthesis of this diversity by means of the imagination”
   3. “conceptions which give unity to this pure synthesis, and which consist
      solely in the representation of this necessary synthetical unity”

iii. “The same function which gives unity to the different representation in a
judgement, gives also unity to the mere synthesis of different representations
in an intuition; and this unity we call the pure conception of the
understanding. Thus, the same understanding, and by the same operations,
whereby in conceptions, by means of analytical unity, it produced the logical
form of a judgement, introduces, by means of the synthetical unity of the
manifold in intuition, a transcendental content into its representations, on
which account they are called pure conceptions of the understanding, and
they apply a priori to objects, a result not within the power of general logic.”

d. “In this manner, there arise exactly so many pure conceptions of the understanding,
applying a priori to objects of intuition in general, as there are logical functions in all
possible judgements. For there is no other function or faculty existing in the
understanding besides those enumerated in that table. These conceptions we shall, with
Aristotle, call categories, our purpose being originally identical with his, notwithstanding
the great difference in the execution.”

<table>
<thead>
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<tr>
<td>Of Modality: Possibility/Impossibility, Existence/Non-Existence, Necessity/Contingence</td>
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i. “It was a design worthy of an acute thinker like Aristotle, to search for these
fundamental conceptions. Destitute, however, of any guiding principle, he
picked them up just as they occurred to him, and at first hunted out ten, which
he called categories (predicaments). Afterwards be believed that he had
discovered five others, which were added under the name of post
predicaments.

ii. “I purposely omit the definitions of the categories in this treatise. I shall analyse
these conceptions only so far as is necessary for the doctrine of method, which
is to form a part of this critique. In a system of pure reason, definitions of them
would be with justice demanded of me, but to give them here would only bide
from our view the main aim of our investigation, at the same time raising doubts and objections, the consideration of which, without injustice to our main purpose, may be very well postponed till another opportunity.”

iii. “… that this table is useful in the theoretical part of philosophy, nay, indispensable for the sketching of the complete plan of a science, so far as that science rests upon conceptions a priori, and for dividing it mathematically, according to fixed principles, is most manifest from the fact that it contains all the elementary conceptions of the understanding, nay, even the form of a system of these in the understanding itself, and consequently indicates all the momenta, and also the internal arrangement of a projected speculative science, as I have elsewhere shown.”

e. Division of the Ancients

i. “In the transcendental philosophy of the ancients there exists one more leading division, which contains pure conceptions of the understanding, and which, although not numbered among the categories, ought, according to them, as conceptions a priori, to be valid of objects. But in this case they would augment the number of the categories; which cannot be. These are set forth in the proposition, so renowned among the schoolmen —‘Quodlibet ens est UNUM, VERUM, BONUM’ (whatever entity is one, true, good, or perfect).”

3. Transcendental Deduction of Conceptions. Kant is trying to label the categories as “necessary” and “universal” the same way he was able to do with time and space. The worry here is that the categories could be seen as arbitrary classifications and not necessary, deductive conclusions a priori.

a. “Teachers of jurisprudence, when speaking of rights and claims, distinguish in a cause the question of right (quid juris) from the question of fact (quid facti), and while they demand proof of both, they give to the proof of the former, which goes to establish right or claim in law, the name of deduction.”

b. “I term, therefore, an examination of the manner in which conceptions can apply a priori to objects, the transcendental deduction of conceptions, and I distinguish it from the empirical deduction, which indicates the mode in which conception is obtained through experience and reflection thereon; consequently, does not concern itself with the right, but only with the fact of our obtaining conceptions in such and such a manner.”

c. “Such an investigation into the first efforts of our faculty of cognition to mount from particular perceptions to general conceptions is undoubtedly of great utility; and we have to thank the celebrated Locke for having first opened the way for this inquiry. But a deduction of the pure a priori conceptions of course never can be made in this way, seeing that, in regard to their future employment, which must be entirely independent of experience, they must have a far different certificate of birth to show from that of a descent from experience. This attempted physiological derivation, which cannot properly be called deduction, because it relates merely to a quaestio facti, I shall entitle an explanation of the possession of a pure cognition. It is therefore manifest that there can only be a transcendental deduction of these conceptions and by no means an empirical one; also, that all attempts at an empirical deduction, in regard to pure a priori conceptions, are vain, and can only be made by one who does not understand the altogether peculiar nature of these cognitions.”

d. “Geometry, nevertheless, advances steadily and securely in the province of pure a priori cognitions, without needing to ask from philosophy any certificate as to the pure and
legitimate origin of its fundamental conception of space. But the use of the conception
in this science extends only to the external world of sense, the pure form of the intuition
of which is space; and in this world, therefore, all geometrical cognition, because it is
founded upon a priori intuition, possesses immediate evidence, and the objects of this
cognition are given a priori (as regards their form) in intuition by and through the
cognition itself.”

e. “The reader, then, must be quite convinced of the absolute necessity of a
transcendental deduction, before taking a single step in the field of pure reason;
because otherwise he goes to work blindly, and after he has wondered about in all
directions, returns to the state of utter ignorance from which he started.”

f. “We have been able, with very little trouble, to make it comprehensible how the
conceptions of space and time, although a priori cognitions, must necessarily apply to
external objects, and render a synthetical cognition of these possible, independently of
all experience.”

g. “On the other hand, the categories of the understanding do not represent the
conditions under which objects are given to us in intuition; objects can consequently
appear to us without necessarily connecting themselves with these, and consequently
without any necessity binding on the understanding to contain a priori the conditions
of these objects. Thus we find ourselves involved in a difficulty which did not present
itself in the sphere of sensibility, that is to say, we cannot discover how the subjective
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ii. “If we thought to free ourselves from the labour of these investigations by
saying: “Experience is constantly offering us examples of the relation of cause
and effect in phenomena, and presents us with abundant opportunity of
abstracting the conception of cause, and so at the same time of corroborating
the objective validity of this conception”; we should in this case be overlooking
the fact, that the conception of cause cannot arise in this way at all; that, on the
contrary, it must either have an a priori basis in the, understanding, or be
rejected as a mere chimera. For this conception demands that something, A,
should be of such a nature that something else, B, should follow from it
necessarily, and according to an absolutely universal law.”

iii. “The strict universality of this law never can be a characteristic of empirical
laws, which obtain through induction only a comparative universality, that is,
an extended range of practical application. But the pure conceptions of the
understanding would entirely lose all their peculiar character, if we treated
them merely as the productions of experience.”
The Supreme Principle of All Analytical Judgements: “Unity of Apperception”

I am skipping down into the second book on Principles. The focus of this book is to show that principles are based on contradiction

1. **Principle of Contradiction:** “No subject can have a predicate that contradicts it.”
   a. Analytical judgements must conform to this rule. “If the judgement is analytical, be it affirmative or negative, its truth must always be recognizable by means of the principle of contradiction.”
   b. Statements like “It is impossible for a thing to be and not to be at the same time,” adds the qualifier “at the same time,” which complicates the statement. “If I say: ‘A man who is ignorant is not learned,’ the condition ‘at the same time’ must be added, for he who is at one time ignorant, may at another be learned. But if I say: ‘No ignorant man is a learned man,’ the proposition is analytical, because the characteristic ignorance is now a constituent part of the conception of the subject; and in this case the negative proposition is evident immediately from the proposition of contradiction, without the necessity of adding the condition ‘the same time.’”

2. **Unity of Apperception:** “The synthesis of our representations rests upon the imagination; their synthetical unity (which is requisite to a judgement), upon the unity of apperception.”
   a. “In this, therefore, is to be sought the possibility of synthetical judgements, and as all three contain the sources of a priori representations, the possibility of pure synthetical judgements also; nay, they are necessary upon these grounds, if we are to possess a knowledge of objects, which rests solely upon the synthesis of representations.”
   b. “If a cognition is to have objective reality, that is, to relate to an object, and possess sense and meaning in respect to it, it is necessary that the object be given in some way or another. Without this, our conceptions are empty, and we may indeed have thought by means of them, but by such thinking we have not, in fact, cognized anything, we have merely played with representation.”
   c. “The possibility of experience is, then, that which gives objective reality to all our a priori cognitions. Now experience depends upon the synthetical unity of phenomena, that is, upon a synthesis according to conceptions of the object of phenomena in general, a synthesis without which experience never could become knowledge, but would be merely a rhapsody of perceptions, never fitting together into any connected text, according to rules of a thoroughly united (possible) consciousness, and therefore never subjected to the transcendental and necessary unity of apperception. Experience has therefore for a foundation, a priori principles of its form, that is to say, general rules of unity in the synthesis of phenomena, the objective reality of which rules, as necessary conditions even of the possibility of experience can which rules, as necessary conditions — even of the possibility of experience — can always be shown in experience. But apart from this relation, a priori synthetical propositions are absolutely impossible, because they have no third term, that is, no pure object, in which the synthetical unity can exhibit the objective reality of its conceptions.”
3. **The Supreme Principle of All Synthetical Judgements:** “Every object is subject to the necessary conditions of the synthetical unity of the manifold of intuition in a possible experience.”
   a. “A priori synthetical judgements are possible when we apply the formal conditions of the a priori intuition, the synthesis of the imagination, and the necessary unity of that synthesis in a transcendental apperception, to a possible cognition of experience, and say: “The conditions of the possibility of experience in general are at the same time conditions of the possibility of the objects of experience, and have, for that reason, objective validity in an a priori synthetical judgement.”

4. **Principles of the Pure Understanding:**
   a. “The table of the categories is naturally our guide to the table of principles, because these are nothing else than rules for the objective employment of the former. Accordingly, all principles of the pure understanding are:”

<table>
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<th>Principles of the Pure Understanding</th>
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<td>Of Quantity: Axioms of Intuition</td>
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<td>Of Quality: Anticipations of Perception</td>
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<td>Of Relation: Analogies of Experience</td>
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<td>Of Modality: Postulates of Empirical Thought in General</td>
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5. **Axioms of Intuition:** “All Intuitions are Extensive Quantities.”
   a. All phenomena contain, as regards their form, an intuition in space and time, which lies a priori at the foundation of all without exception. Phenomena, therefore, cannot be apprehended, that is, received into empirical consciousness otherwise than through the synthesis of a manifold, through which the representations of a determinate space or time are generated; that is to say, through the composition of the homogeneous and the consciousness of the synthetical unity of this manifold (homogeneous). Now the consciousness of a homogeneous manifold in intuition, in so far as thereby the representation of an object is rendered possible, is the conception of a quantity (quantitative). Consequently, even the perception of an object as phenomenon is possible only through the same synthetical unity of the manifold of the given sensuous intuition, through which the unity of the composition of the homogeneous manifold in the conception of a quantity is cogitated; that is to say, all phenomena are quantities, and extensive quantities, because as intuitions in space or time they must be represented by means of the same synthesis through which space and time themselves are determined.”
   b. “I cannot represent to myself any line, however small, without drawing it in thought, that is, without generating from a point all its parts one after another, and in this way alone producing this intuition. Precisely the same is the case with every, even the smallest, portion of time. I cogitate therein only the successive progress from one moment to another, and hence, by means of the different portions of time and the addition of them, a determinate quantity of time is produced. As the pure intuition in all phenomena is either time or space, so is every phenomenon in its character of intuition
an extensive quantity, inasmuch as it can only be cognized in our apprehension by successive synthesis (from part to part). All phenomena are, accordingly, to be considered as aggregates, that is, as a collection of previously given parts; which is not the case with every sort of quantities, but only with those which are represented and apprehended by us as extensive.”

c. Examples: “... between two points only one straight line is possible, ’two straight lines cannot enclose a space,’ etc. These are the axioms which properly relate only to quantities (quanta) as such.”

6. **Anticipations of Perception:** “The principle of these is: In all phenomena the Real, that which is an object of sensation, has Intensive Quantity, that is, has a Degree.”

a. “Now, a gradual transition from empirical consciousness to pure consciousness is possible, inasmuch as the real in this consciousness entirely vanishes, and there remains a merely formal consciousness (a priori) of the manifold in time and space; consequently there is possible a synthesis also of the production of the quantity of a sensation from its commencement, that is, from the pure intuition = 0 onwards up to a certain quantity of the sensation. Now as sensation in itself is not an objective representation, and in it is to be found neither the intuition of space nor of time, it cannot possess any extensive quantity, and yet there does belong to it a quantity (and that by means of its apprehension, in which empirical consciousness can within a certain time rise from nothing = 0 up to its given amount), consequently an intensive quantity. And thus we must ascribe intensive quantity, that is, a degree of influence on sense to all objects of perception, in so far as this perception contains sensation.”

b. “Now every sensation is capable of a diminution, so that it can decrease, and thus gradually disappear. Therefore, between reality in a phenomenon and negation, there exists a continuous concatenation of many possible intermediate sensations, the difference of which from each other is always smaller than that between the given sensation and zero, or complete negation.”

c. **Intensive Quantity (Degree):** “... that quantity which is apprehended only as unity, and in which plurality can be represented only by approximation to negation = 0, I term intensive quantity. Consequently, reality in a phenomenon has intensive quantity, that is, a degree.”

d. “Accordingly, every sensation, consequently every reality in phenomena, however small it may be, has a degree, that is, an intensive quantity, which may always be lessened, and between reality and negation there exists a continuous connection of possible realities, and possible smaller perceptions.”

e. **Continuity:** “Every colour — for example, red — has a degree, which, be it ever so small, is never the smallest, and so is it always with heat, the momentum of weight, etc. This property of quantities, according to which no part of them is the smallest possible (no part simple), is called their continuity.”

i. “Space and time are quanta continua, because no part of them can be given, without enclosing it within boundaries (points and moments), consequently, this given part is itself a space or a time.”
f. “...if even the complete intuition of a determinate space or time is thoroughly real, that is, if no part thereof is empty, yet because every reality has its degree, which, with the extensive quantity of the phenomenon unchanged, can diminish through endless gradations down to nothing (the void), there must be infinitely graduated degrees, with which space or time is filled, and the intensive quantity in different phenomena may be smaller or greater, although the extensive quantity of the intuition remains equal and unaltered.”

g. “It is worthy of remark, that in respect to quantities in general, we can cognize a priori only a single quality, namely, continuity; but in respect to all quality (the real in phenomena), we cannot cognize a priori anything more than the intensive quantity thereof, namely, that they have a degree. All else is left to experience.”

7. Analogies of Experience: “The principle of these is: Experience is possible only through the representation of a necessary connection of Perceptions.”
   a. Experience: “...is therefore a synthesis of perceptions, a synthesis which is not itself contained in perception, but which contains the synthetical unity of the manifold of perception in a consciousness”
   b. “...in experience our perceptions come together contingently, so that no character of necessity in their connection appears, or can appear from the perceptions themselves, because apprehension is only a placing together of the manifold of empirical intuition, and no representation of a necessity in the connected existence of the phenomena which apprehension brings together, is to be discovered therein.”
   c. “But as experience is a cognition of objects by means of perceptions, it follows that the relation of the existence of the manifold must be represented in experience not as it is put together in time, but as it is objectively in time.”
   d. “And as time itself cannot be perceived, the determination of the existence of objects in time can only take place by means of their connection in time in general, consequently only by means of a priori connecting conceptions.”
   e. “Now as these conceptions always possess the character of necessity, experience is possible only by means of a representation of the necessary connection of perception.”
      i. “The general principle of all three analogies rests on the necessary unity of apperception in relation to all possible empirical consciousness (perception) at every time, consequently, as this unity lies a priori at the foundation of all mental operations, the principle rests on the synthetical unity of all phenomena according to their relation in time.”
   g. “This synthetical and a priori determined unity in relation of perceptions in time is therefore the rule: ‘All empirical determinations of time must be subject to rules of the general determination of time’; and the analogies of experience, of which we are now about to treat, must be rules of this nature.”
   h. In short:
      i. The Synthesis of Perception concerns the matter of phenomena.
      ii. The Synthesis of Experience concerns the relation of these perceptions.
i. “It follows that these principles can have nothing else for their aim than the conditions of the empirical cognition in the unity of synthesis of phenomena. But this synthesis is cogitated only in the schema of the pure conception of the understanding, of whose unity, as that of a synthesis in general, the category contains the function unrestricted by any sensuous condition.”

8. Postulates of Empirical Thought in General:
   a. “That which agrees with the formal conditions (intuition and conception) of experience, is possible. “
   b. “That which coheres with the material conditions of experience (sensation), is real.”
   c. “That whose coherence with the real is determined according to universal conditions of experience is (exists) necessary.”
Appendix:

Aristotle’s Categories

1. substance
2. quantity
3. quality
4. relatives
5. somewhere
6. sometime
7. being in a position
8. having
9. acting
10. being acted upon