Wojciech Żełaniec
The Recalcitrant Synthetic A Priori

Attention:
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book are marked in this way:

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ical errors have been corrected.
Wojciech Żełaniec$\mid$ $1|2$

The Recalcitrant Synthetic A Priori
by Wojciech Żełaniec
with a Foreword by
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Foreword

Not everything that we know can be known empirically. Not everything that we know can be learned through observation, or induction, or experiment. For the very phenomena of learning and observation are such as to presuppose the possession on our part of knowledge of concepts – such as identity and difference – which could not be learned or acquired through observation. We can call our unlearned and unlearnable knowledge of such concepts, and of the associated laws – for example the law to the effect that identity is transitive – a priori knowledge, leaving to one side, for the moment, the issue whether such knowledge is innate or a product of some intrinsic intelligibility on the side of the objects of experience.

Such a priori knowledge is not restricted to a few isolated examples and nor is it restricted to examples derived from the sphere of logic. We possess a priori knowledge not only in relation to identity and difference and other basic ontological concepts, including concepts of basic part-whole theory (or mereology), but also in relation to the concepts of basic qualitative shape-theory (such as the concepts of convexity and concavity), to the concepts of basic topology (such as connectedness and separatedness), as well as to a vast range of other material concepts in the realms of the theory of colours and other sensory qualities, simple dynamic and kinematic concepts, concepts of basic chronology, and even in relation to basic ethical, legal and economic concepts (and it is no accident, as we shall see, that the most prominent school of thinkers who have defended versions of 'apriorism' in recent years is constituted by the so-called 'Austrian economists').

Cognitive scientists, including developmental psychologists and practitioners of naive or qualitative or common-sense physics, have in recent years devoted much attention to these unlearned cognitive competences and have even sought rigorous axiomatic formulations of the precise content of human a priori knowledge. Philosophers, on the other hand, with few exceptions, have tended to ignore, or to cast aspersions on, the very idea of 'a priori knowledge'. This is either because, as is still predominantly the case in the Anglo-American world, they are believers in empiricism of one or other positivistic brand, or it is because, as is the case in much of 'Continental philosophy', the very idea of 'knowledge' is dismissed as an outmoded prejudice.

If there is one group of philosophers which has to some degree kept alive the concern with a priori knowledge it is the group of thinkers associated with the Austrian tradition inaugurated by Franz Brentano and continued, in different ways, by Husserl and Felix Kaufmann, by Wittgenstein and Moritz Schlick. The present masterly work by Wojciech Żełaniec began as a study of the history of this Austrian tradition of philosophical investigation of the a priori dimension of human knowledge. As will be clear, however, Żełaniec does not offer a merely historical study of the a priori, an olde curiosity shoppe of views which are in

some circles held to be out-moded. Rather, he seeks to solve the problem of the a priori, to give a defence of the thesis that a priori knowledge exists, and to explain precisely what such knowledge is, in a way which will │ convince even crude positivists and even those more sophisticated empiricists who have been convinced by the arguments of Quine in his "Two Dogmas of Empiricism".

The driving idea of Żełaniec' work is that it is possible to study the phenomenon of synthetic or material a priori knowledge in a sense empirically. As was suggested above, there is a tremendously diverse family of cases of putative a priori truths. (As Husserl's disciple Adolf Reinach insisted, the range of the synthetic a priori is much broader than Kant allowed.) Żełaniec proceeds, therefore, by assembling a representative sample of such candidate a priori truths, and he attempts to establish, in painstaking fashion, what it is that they have in common. I know of no work in the philosophical literature which penetrates so deeply into the phenomenon of the a priori. Żełaniec uncovers, we might say, a new, pervasive sort of circularity by which the a priori is marked, of such a sort that each of the fashionable attempts to eliminate synthetic a priori propositions in favour of 'analytic' or 'logical' or 'tautological' truths is itself condemned to suffer from this same sort of circularity. Both the friends, and the enemies, of the a priori will be called upon to take account of his arguments in the future.

BARRY SMITH │

Preface

"Synthetic a priori" is supposed to be the name of a category of sentences or other kinds of truth-bearers. Strangely, however, Kant, who introduced this term into philosophical vocabulary, proceeded to the question "How are synthetic a priori judgements at all possible?" (*Critique of Pure Reason,* p. B 19) straight away, and made it to the central question of his system of philosophy, without dwelling too much on two logically prior questions: (1) how is the category of the synthetic a priori defined? and (2) are there any items that are believed to belong to it? He answered both of these questions, but the answers he gave have subsequently been found unsatisfactory. However, philosophers who pondered both questions were mostly preoccupied with the first one: How is the category of the synthetic a priori to be defined? – with the result that now scepticism as to whether it can be answered in any way at all seems to be rife. Consequently, the possibility of asking other interesting questions about the synthetic a priori, including the central Kantian question, is regarded with scepticism.

I propose, therefore, that we should start taking the second question: Are there any items that are believed to belong to the category of the synthetic a priori? more seriously, not the least because it is readily answered in the affirmative. This book is an elaboration on this suggestion.

There are truth-bearers, identical with, or expressible in – depending on what your theory of truth-bearers is – a number of sentences, that have been believed to be synthetic a priori. People who have believed them to be so held various conceptions on what the definition of the synthetic a priori should be. No matter, however, of how different from one another such conceptions have been, the actual examples of the category 'synthetic a priori' have been quite similar. It is possible to study them *en bloc.* In the process of such study, it is possible to establish whether or not items believed to be synthetic a priori, taken *en bloc,* present any problem or problems, and in case they do, if it is possible to try to solve the problem or problems in question.

This is what I do in this book. Its *subject matter* are sentences quoted as examples of the synthetic a priori. I am aware of, but leave untouched, all problems connected with the definition of the synthetic a priori, for I believe that we have enough to do with sentences quoted as belonging to this category *regardless* of how the latter might be defined. I concentrate on the sentences themselves and establish those of their properties that distinguish them from sentences of the kinds that have never been put forward as examples of the synthetic a priori. Some of these properties are plain. Others are obscure. Among the latter there is one that is particularly obscure, and it gives rise to what I shall here call "the problem of the synthetic a priori". The *task* of this book is to shed light on this obscure property. I achieve this task by contrasting the property in question with other,

similar but less obscure, properties of other categories of sentences and saying in what way the contrasts can be obliterated, whenever they can. It will turn out, however, that certain contrasts can be obliterated only at the price of assuming, as premises, other sentences that | have the same property – sentences for which the same work would have to be done. Thus, it will turn out that the synthetic a priori as a category is – to use a word dear to Quine – recalcitrant.

As far as the *method* adopted in this book is concerned, it is one of collecting, listing, and systematizing the given. There are certain givens at our disposal, for instance such that a certain sentence has often been offered as an example of the synthetic a priori, or that subjects of certain kinds have a certain 'epistemic attitude' to a sentence, for instance, they believe it or not. Finding a proper comprehensive theoretical framework for such givens is a complex task which I have not set myself in this book, but no matter how it will eventually have been accomplished there are certain basic things to be done, things that have not, strangely, been done before, such as observing that the given sentence has a certain grammatical structure, or that the given 'epistemic attitude' is, or is not, uncritical. Such observations are of largely empirical nature, that is to say, they pertain to what can be observed without commitment to any particularly "philosophical" arcanery, any "queer entities", or any . . . -ism theses, or theoretical constructs of philosophy (e.g. 'possible worlds') or of any discipline other than philosophy. It is not that I reject, as a matter of principle, theoretical constructs or the like; this would be unwise since they seem to be indispensable tools of all fields of science and scholarship. However, for the purposes of this book I have decided to concentrate on what can be done without them, in the assumption that there is enough to be done.

The underlying presupposition of this method is that the world is full of differences and contrasts, which have to be taken notice of and respected before any other sort of work can begin. By "respected" I here mean that the differences and contrasts in question should not be treated as arbitrary, mapped onto an otherwise undifferentiated mass by a human *fiat* – pending further evidence in favour of a thesis like that. Such evidence can, of course, be found, in a number of cases, but it must not be, programmatically, treated as found *before* it has actually been found. The reason why I stop short of explaining why the differences and contrasts obtain is that it is too difficult to say – at least as far as the contrasts treated here are concerned – to what properties of their terms they are due to. Establishing this may be very difficult in other cases, too. For instance, all competent speakers of English hear a difference between the phonemes "t" and "d" (ten – den) or between "k" and "p" (can – pan) but it takes a lot of sophisticated knowledge to say what properties of these phonemes the differences are due to. Or: many philosophers, mathematicians, and logicians "feel" that there is difference between "logical words" (as "and", "every", "if . . . then") and other words, but it

is not at all easy to say what properties of the words of both groups this difference is due to.[1] The contrasts that I set out in this book are not only difficult to explain with reference to properties of their terms, but also not likely to be subject to any | general, one-sweep, treatment in this respect. I stop short, for this reason, of going into the question of what such treatment may be; I point, however, into the direction that the relevant research would have to take here.

This empirical character of much of the work done here has its limitations, however, one of them being that I have not collected the givens themselves in a systematic way characteristic for empirical fields of study; rather, I have picked them up in the relevant literature, in teaching, and in various sorts of exchange with other philosophers, as well as from that sort of introspection that Brentano recommends (in his *Deskriptive Psychologie*, part 1, chapter 3) as *the true* method of philosophy. My results are, therefore, vulnerable to all sorts of counterexamples derived from the relevant fields; for I have not examined any of these fields systematically. However, the range of sources from which I have derived my data is broad enough to justify the hope with which I am sending this book to press: that even if is does not tell the whole story, it does tell the gist of the true story.

Regarding the *internal organization* of this work, it is divided into sections, each of which is devoted to a problem of the approximately the same rank of importance as those to which all other sections are devoted. Final sections are of homogeneous character: they all provide illustrations, on examples employed earlier on, of how the problem of the synthetic a priori can be solved, and/or how the synthetic a priori, as a category, is recalcitrant. The sections are of very unequal length, from a few lines to a few pages, but this is quite inessential. Notes provide various sorts of aside information, including aside bibliographical information and original versions of texts quoted in English in the main text, while references are provided in the main text. Some notes are much longer or shorter than others but this, too, is inessential. In references, the main part is the title of the work which is being referenced. Against the advice of the *Chicago Manual of Style*, 14th edition, I have not employed the author-date system, because it seemed to me that it was easier for the reader to identify the source by the title, not by the date. There is no overlap of, and no criss-crossing between, the main text and the notes, so that if the reader does not feel like reading notes, he can ignore them altogether, and yet get everything that belongs to the argument. He will not, however, get the aside information provided in the notes. In using quotation marks, I follow the American practice of using double quotes as both quotation marks and "scare quotes" except within a pair of such quotes, where single quotes are used. "Quoth the Raven 'Nevermore' ", as the poet says. In conformity with the general practice, recog-

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[1] On this topic, and on previous attempts to solve the problem of what constitutes the borderline between logical and extra-logical words see "Bolzano, Tarski, and the Limits of Logic", chapter 2 in *Philosophy and Logic in Central Europe from Bolzano to Tarski: Selected Essays*, pp. 13–40.

nized by the *Chicago Manual of Style,* 14th edition, I also use single quotation marks to distinguish technical, or semi-technical, philosophical terms (op. cit., p. 213). With regard to the mutual relations between quotation marks and punctuation marks, I follow what the *Chicago Manual of Style,* 14th edition (p. 161) calls "the exacting British system" of putting all punctuation marks *outside* quotation marks, *unless* they belong to whatever is being quoted. The *bibliography* list lists all and only works cited in the text except[2] | various classical works (from Plato and Aristotle down to, and including Kant, excluding Pascal, including Wittgenstein's *Tractatus*, and Husserl's *Ideas* and *Logical Investigations)* for which well-established modes of citing exist. (Such modes of citing are either based on classical editions, such as e.g. the Becker edition for Aristotle, or the Adam and Tannery edition for Descartes, or are edition-independent.)

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[2]The reason of this restriction being economy of space.

1   The purpose of this book is to formulate the problem of the synthetic a priori in a new fashion, and to solve it.

What I mean by the "problem of the synthetic a priori" is explained in the following sections up to, and including, Section 8.

2   Philosophers since Kant have used the term "synthetic a priori" as the name of a category of judgements, propositions, sentences, or whatever else they took to be the bearers of truth-values, that is, items that truthvalues are *sui generis* properties of. They discussed this category in connection with two other categories which they called "analytic" and "synthetic a posteriori", respectively. The leading questions of these discussions were, alternately: How can truth-bearers belonging to these categories be known to be true? and: If they are true, how can they be justified?[3] |

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[3]For the definitions of this three-member family of terms, the following authors and works have been of major influence: Kant's *Critique of Pure Reason,* pp. A 6f./B 10, Bolzano's *Wissenschaftslehre,* section 148, Frege's *Foundations of Arithmetic*, section 3, Husserl's *Logical Investigations,* 3, p. A 245/B_1 251, and *Ideas,* 1, section 16, Wittgenstein's *Tractatus Logico-Philosophicus,* 4.46–6.4, in particular 6.1, and Carnap's *The Logical Syntax of Language*, section 14, *Meaning and Necessity,* pp. 8, 10 (section 2) and "Beobachtungssprache und theoretische Sprache". A nearly-complete list (with short characterizations) of all conceptions of the analytic ever advanced is given in *Metamatematyka a epistemologia* by Woleński, pp. 121–47. For an ample bibliography of (mostly German-language) literature on the analytic and the synthetic a priori in Kant and in Husserl see *Nichtempirische Erkenntnis: Analytische und synthetische Urteile a priori bei Kant und bei Husserl* by Hoche.

It is impossible to list all secondary literature relevant for these conceptions, but the following items are useful for a study of the problem of the synthetic a priori not concerned chiefly with exegetical issues: "Le problème du fondement des propositions analytiques" by Ajdukiewicz, "Degrees of Analyticity" by Bar-Hillel, "Analyticity and Analytical Truth" by Bencivenga, *Kant's Analytic* by Bennett, especially chapters 1, 5, and 7–12, "Analyticity" by Bergmann, "Analyticity Redefined" by Bunge, "Phänomenologische Beschreibung, essentielles Apriori, transzendentale Subjektivität und was dann?" by Diemer, *Kant, Ontology, and the A Priori* by Gram, "Analytic and Synthetic Propositions" by Gupta, "Contemporary Philosophy and the Analytic-Synthetic Dichotomy" by Hackett, "The Very Idea of a Synthetic-Apriori" by Hanson, essays in the book *Return of the A Priori* edited by Hanson and Hunter, "A Note on the Synthetic A Priori" by Harrison, "A Priori Knowledge" by Kitcher with the literature on the a priori given there, "Von dem Unterschiede analytischer und synthetischer Urteile" by Kurth, "Synthetic Apriority" by Levin, "Kant's Analytic/Synthetic Distinction" by Lucey, "Analytic and Synthetic Judgements in Type Theory" by Martin-Löf, "Explicating 'x knows *a priori* that p'" by McFetridge, "Kant's Definition of Analyticity" by Palmer, *Semantics and Necessary Truth* by Pap as well as the article by Castaneda, "Analytic Propositions, Definitions and the *A Priori*" that is a sort of extended discussion with the book by Pap, "How Are Analytic A Priori Judgments Possible for Kant?" by Radner, "Kants Begriff der synthetischen Urteile a priori" by Ros, "Analytic/Synthetic" by Swinburne, "Juicios sintéticos a priori" by Torretti, "Analytic-Synthetic" by Waismann, "Kant and the Synthetic *A Priori*" by Walsh "Analytic and Synthetic Concepts According to Kant's LOGIC" by Werkmeister, and "Zum Problem der Unterscheidung analytischer und synthetischer Urteile bei Kant" by Wohlfart.

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3 Philosophers who since Kant have dealt with the synthetic a priori used to define this category in various ways, but the constant element of all of these definitions was that whatever is to be called "synthetic a priori" must not be analytic.[4] Because of this, the question of the definability of the category of the synthetic a priori has become contingent on the question of the definability of the analytic. To this latter question, various answers were given, until after Quine's celebrated article "Two Dogmas of Empiricism" of 1951 it became a nearly universally es-

For the Husserlian conception of the concepts here at issue see "La découverte de l'a priori synthéthique matériel: au-delà du "quelque chose", le tout et les parties (RL III)" by Benoist, "On Husserl's Approach to Necessary Truth" by Chauncey and "Lo sintético a priori en Husserl" by Montes. For a comparison between the Husserlian and the Neopositivist concept of the a priori (analytic and synthetic) see "The A Priori in Phenomenology and the Legacy of Logical Empiricism" by Blosser. For a comprehensive history of the concept of the analytic see *Questions of Form* by Proust.

With regard to pre-Kantian attempts to define categories related to the three categories here at issue, see "Hume's Fork and Analytic/Trifling Propositions" by Backhaus, *Die Logik Locke's* by Martinak, pp. 116–9, "Locke, Analyticity and Trifling Propositions" by Meyers, "St. Thomas and the Question 'How Are Synthetic Judgments A Priori Possible?'" by Veatch, "On the Mistake of Identifying Locke's Trifling-Instructive Distinction with the Analytic-Synthetic Distinction" by Wolfram, "Bolzano's Analytic Revisited" by Proust, and "Die Funktion analytischer Sätze in Leibniz frühen Entwürfen zur Charakteristik" by Schulz. For a comparison of various pre-Kantian conceptions of the (synthetic) a priori with that of Husserl and that (employed, if not quite openly professed) by Carl Menger and economists of his school see "Austrian Economics and Austrian Philosophy" by Smith.

The most recent attempt to frontally come to terms with the problem of the synthetic a priori is to be found in Delius, *Untersuchungen zur Problematik der sogenannten synthetischen Sätze apriori.*

The necessary–the contingent is yet another pair of concepts, connected in various ways with the three-member family here at issue. The traditional assumption was that whatever is analytic or synthetic a priori is also necessary, but since Kripke's *Naming and Necessity* this assumption has been considered dubious or false. I shall not discuss the issue of the necessity of the synthetic a priori, because, as I shall explain, sentences belonging to this category need not be true.

[4]There has been, it is true, another conception of the synthetic a priori, namely, one according to which what is synthetic (a priori or otherwise) is knowledge-ampliative, or widens, or adds to, knowledge (see e.g. *Critique of Pure Reason,* pp. A 9f./B 13f.) (this was brought to my mind by Volker Peckhaus of the University of Erlangen). This approach has, however, been less popular and less consequential for the research on the topic of the synthetic a priori; one possible reason for this is that the concept of the knowledge-ampliative is itself rather difficult, and, if thought through, it leads to various consequences that are skew to views established on the former (synthetic as non-analytic) conception of the synthetic a priori: such as, e.g., that logical truths may be synthetic a priori (see "Are Logical Truths Analytic?" and "Information, Deduction, and the *A Priori*" by Hintikka). Whatever its other merits are, however, it is not clear if this conception of the synthetic a priori can be regarded as an attempted *definition* of the synthetic a priori, rather than a piece of theory on it. In favour of the former possibility speaks that the *Oxford English Dictionary* explains "synthetic" as "In the philosophy of Kant, [...] applied to judgements which add to the subject attributes not directly implied in it".

tablished view, at least in America, that the analytic cannot be defined.[5] In this

[5]See Quine, "Two Dogmas of Empiricism". For the history of Quine's views on the analytic, see "The *A Priori*" in Richard Creath, ed. *Dear Carnap, Dear Van.* The main difficulty raised by Quine is this: According to what appears to be a possible interpretation of the Kantian tradition, synthetic sentences are defined as non-analytic sentences. (Why is this only *a possible,* if widely spread, interpretation of the Kantian tradition? Because, as can be seen on a closer reading of the Kant quotation supplied in footnote 3, Kant distinguishes two sorts of cases: (1) the concept of the predicate is 'contained' in the concept of the subject; (2) the concept of the predicate lies 'quite outside of' (*ganz außer*) the concept of the subject. But certainly, a third sort of cases is possible, namely, when the concept of the predicate is neither 'contained' in, nor 'lies quite outside of', the concept of the subject, but overlaps it, in the way, say, in which the concept of a dog overlaps, and is overlapped by, the concept of a female. On this topic see the article "Non-Pure Synthetic A Priori Judgements in the 'Critique of Pure Reason'" by Cramer.) | Moreover, according to what also appears to be a possible interpretation of the Kantian tradition (see Frege, *Foundations of Arithmetic,* section 3), analytic sentences are defined as sentences true in virtue of their logical form and the meaning of their constituent expressions. But it is difficult to say what it is, for a sentence, to be true in virtue of meaning of any expression, and in general, it is difficult to say what meaning is. Quine's thesis is that the *only* way to make sense of meanings and being true in virtue of meaning is by appeal to the concept of analyticity, and that this way leads to a *circulus in definiendo* (a diallele), given that analyticity is defined, as remarked above, by appeal to truth in virtue of meaning. (About why circular definitions may not be useless, with clear references to Quine: Saito, "Circular Definitions and Analyticity".) A similar argument can be found in "The Analytic and the Synthetic: An Untenable Dualism" by Morton White: it rests on the purported undefinability of "synonymous"; an original point made by White is that if the concept of synonymity is to be applicable to expressions of ordinary language its applications *must not* rely on terminological stipulations set up by logicians or any other reformers of language (p. 82). Also, he shows that certain attempts to say clearly what the relation of synonymity is are contingent on the assertability of contrary-to-fact conditionals, and the notion of such a conditional is "just as much in need of explanation as the notion of *analytic* itself" (p. 89). Yet another similar attack, based on the thesis that "sameness of meaning" can be established only for identical expressions, is to be found in "On Likeness of Meaning" by Goodman. A useful book about the criticisms by Goodman, White, and Quine, as well as the influence their respective attacks on the concept of the analytic exerted on subsequent philosophy and on what reactions they provoked is *Empiricism and the Analytic-Synthetic Distinction* by Nordenstam.

Quine's attack on the analytic has provoked reactions and spurred on a new series attempts at defining the allegedly undefinable category. Let just the following ones be mentioned:"On An Analytic-Synthetic Distinction" by Aune, "Analytic/Synthetic: Sharpening a Philosophical Tool" by van Benthem, "Analytic and Synthetic" by Bird, "Quine, Synonymity and Logical Truth" by Barrett, "Quine and Two Dogmas of Empiricism" by Broughton, "Quine on Analyticity" by Carnap, "Analytic and Synthetic: Not an Untenable Dualism" by Chakravarty, "The Analytic-Synthetic Controversy" by Gasking, "The Analytic/Synthetic Problem" by Gillies (who supports Quine's conclusion with Wittgensteinian arguments), "In Defense of a Dogma" by Grice and Strawson, "Quine on Analyticity and Logical Truth", and "Indeterminacy of Translation and Analyticity" by Harris (in the former of the two articles Harris gives strong arguments to the effect that Quine could have attacked the concept of a logical truth along similar lines), "An Analysis of Analyticity" by Hintikka, "Chomsky versus Quine on the Analytic-Synthetic Distinction" by Horwich (where the relevance of an analytic-synthetic distinction, drawn in a way distinct from that of Quine, for linguistics and psychology is emphasized), *The Notion of Analytic Truth* by

way, the synthetic a priori has come to be │ seen as undefinable, too. In addition, there appears to be a tacit presupposition popular among philosophers writing on this topic, namely, the presupposition that items belonging to the category of the synthetic a priori can be identified as such only after an explicit definition of this category has been provided. This presupposition, together with the alleged undefinability of the synthetic a priori, has led philosophers to believe that we know of no synthetic a priori truth-bearers, and that, therefore, there is no problem of the synthetic a priori to worry about.

Such views are very widely accepted, but – if my observation collected over four years or so are any guide – they are accepted often on grounds that have to do *not only* with rational discussion and the strength of arguments. Because of this, I shall not discuss them. I shall stay neutral and agnostic about their truth-value. *In particular, I shall have nothing whatever to say about a definition of the analytic, or about the very definability, or otherwise, of this category.* The question of what an acceptable definition of the analytic might be is very difficult, as show the numerous attempts to provide it, several of which are listed in footnote 3. But this question is also of no relevance whatsoever from the point of view of the methodology adopted in this study, and of no importance at all from the point of view of the objective of this study. In other respects, too, it is superfluous, vacuous, and utterly inconsequential: it might well be a matter of decision more than that of insight. Instead of looking for a definition of the analytic, I shall explain (in Section 5) how it is possible to deal with the problem of the synthetic a priori without a definition of the synthetic a priori, and, *a fortiori*, without a definition of the analytic. One way of doing that suggests itself easily: if there

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Martin (esp. pp. 25–30), "Analytic Sentences" by Mates, "Quine on Analyticity and Translation" by Minogue, "On an Account of Our Analyticity Judgements" by Oakley, "Spór o analityczność" by Poznański, "Two Dogmas of Quineanism" by Priest, "The Analytic and the Synthetic", " 'Two Dogmas' Revisited", and "Analycity and Apriority" by Putnam (on the Quine-Putnam dispute see Yu's "Analycity and Apriority: The Quine-Putnam Dispute"), "Quine on Analyticity" by Sleinis, "Revisability, A Priori Truth, and Evolution" by Sober, and "Analytic/Synthetic" by Walsh.

A sort of a neutral *exposé* of Quine's views can be found in "Quine on Analyticity" by Bohnert.

A recent outgrowth of various strands of the reaction to Quine is the concept of an 'inferential role semantics'; see "Inferential Role Semantics and the Analytic/Synthetic Distinction" by Boghossian.

In his later work, Quine seems to have acquiesced in a language-acquisition-theoretical definition of analyticity according to which a sentence is analytic if every native speaker learns that it is true just by learning its words. (Quine, *The Roots of Reference,* p. 79.) While this definition might be the best that will ever be available, it is also somewhat difficult to operate with unless one is ready to leave philosophy and embark upon a study of language acquisition. Other than that, the definition in question is too similar to others, criticized by Quine in "Two Dogmas of Empiricism" (on this topic see Haack, "Analyticity and Logical Truth in *The Roots of Reference*", p. 140). I do have an answer to the question of truth in virtue of meaning (see "In Defense of an Old Dogma" by Żełaniec), but I do not need it for the purposes of this study.

are any sentences *quoted* as examples of the synthetic a priori, it is possible to examine them, and to try to establish if they have any characteristic properties and if they present anything of a problem.

4   Apart from the attempts at giving a definition of the synthetic a priori philosophers who dealt with this category quoted, or referred to, a number of sentences which they thought were examples of it. I shall henceforth call such sentences '*synap sentences*', for the sake of brevity.

Those philosophers who thought that the synthetic a priori is a category of propositions/judgements/statements would, or did, say that synap sentences expressed examples of the synthetic a priori, or respectively, were sentences by means of which statements that were examples of the synthetic a priori were made. Since, however, propositions are expressed by sentences, statements are made in sentences, and judgements are issued by means of sentences, we can, without any loss of generality, treat synap sentences themselves as examples, or putative examples, of the synthetic a priori.[6] The only reason why | this would not be legitimate would be the fact that synap sentences contained occasional expressions like "here", "then", or "they". Because then they would express more than one proposition, and could be made to express more than one judgement, as Williams has shown in his article "Do I Have To Be Here Now?" But synap sentences do not contain any occasional expressions.

5   We do not need a definition of the category of the synthetic a priori in order to speak of examples of the synthetic a priori. Instead of looking for such a defini-

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[6]Not always is the transition from sentence to judgement so simple. Ros argues in his article "Kants Begriff der synthetischen Urteile a priori" (pp. 149f.) that in Kant, judgements as items that can be 'synthetic a priori' in the proper (Kantian) sense of this expression have to be expressed, not in sentences with which we should like to identify them, but in sentences of the form: "I believe that ..." where what follows "that" is a sentence which we (and often Kant himself, too) usually employ(s) while discussing the issue of the synthetic a priori. For | instance, if we have the sentence "All bodies are heavy" that expresses a synthetic a priori judgement in the Kantian sense (*Critique of Pure Reason,* p. A 7/B 11) it is really the sentence "I believe that all bodies are heavy", or even "I believe we necessarily think that all bodies are heavy" ("Kants Begriff der synthetischen Urteile a priori", p. 162) that fully expresses the judgement in question.

According to Ros, a 'judgement' in the Kantian sense is an action in which a stance is being taken (*Einstellung eingenommen)* to a certain state of affairs (ibid., note 7). In an action like that a 'propositional attitude' (in Ros in English, ibid., note 9) is involved, such as that of belief, or surmise, etc., and a stance like that is often spoken of by Kant as a 'modality of judgement' (*Modalität des Urteils).* According to Ros, Kant does not always clearly distinguish the modality of judgement involved in a given judgement from the judgement itself. Nor, and more deplorably, does he always observe the difference between the judgement and what he calls the 'content of judgement' (*Inhalt des Urteils)* (ibid., note 10), the latter being expressed by what we ordinarily think of as Kantian examples synthetic a priori sentences, for instance, the sentence "All bodies are heavy".

tion, I shall treat the expression "...is an example of the synthetic a priori" as a simple unary predicate, applicable to a sentence, proposition, judgement, or another truth-bearer if and only if someone has said of this sentence, proposition, or judgement: "This is an example of the synthetic a priori" or something like this. The question whether this someone had any definition of the synthetic a priori is irrelevant here: it would only be relevant if we had an agreed-upon definition of the synthetic a priori. But we do not. An examination of examples of the synthetic a priori may, however, help to formulate a definition of the synthetic a priori that will stand a better chance of commanding wide agreement than all definitions put forward so far. On the basis of a definition like that, it will become possible to decide which examples of the synthetic a priori are "really" synthetic a priori in the sense of fitting this definition, and which are not.

6 Here are some examples of synap sentences. They stem from authors who have written about the synthetic a priori or at least mentioned this category. I do not claim that, for any example, the author or authors credited for it is, or are, the first, or the most important, or in any other way most prominent, among those who used or mentioned the example: I have no need for a claim like that. I do not, either, list the examples here in the form in which they occur in the source texts. Rather, I reformulate them so as to make the problems that they present more conspicuous and more easily tractable. On the basis of the quotations given in the notes, however, the reader will see that I never read into them more than they contain. To the contrary, I strip them of any features which would make them more difficult than necessary, as e.g. modal operators. I present them in no particular order because I want to direct the attention of | the reader to the properties they all have in common, rather than to properties shared by only some of them. The examples I have chosen are those which, in my opinion, are the most tractable and the likeliest to reach any results on:[7]

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[7] For a number of other examples, see Wang's "Notes on the Analytic-Synthetic Distinction", pp. 172f., and *From Mathematics to Philosophy*, pp. 260f. See also "A Proof that Synthetic *A Priori* Propositions Exist" by Langford, and "Grundlegung eines fallibilistischen Apriorismus" by Smith, esp. p. 396, where the thesis that a sentence expressing the transitivity of the relation "...is larger than..." is advanced. The incompleteness theorems by Gödel have been taken to suggest that there are sentences that are synthetic a priori (in a specific sense): see "Modern Logic and the Synthetic A Priori" and "Gödel and the Synthetic A Priori: A Rejoinder". by Copi, and "Gödel and the Synthetic *A Priori*" by Turquette; "Church's Theorem and the Analytic-Synthetic Distinction" by Castonguay. What Gödel's stance on this issue might have been can be guessed, in an *ex pede Herculem* way, from his remarks on the analytic in "Russell's Mathematical Logic", pp. 138ff.

I have excluded mathematical sentences used by Kant and other philosophers, because the problem of the syntheticity or otherwise of mathematical truths has, after Frege and Russell, become too complex to be regarded as just a part of the more general problem of synthetic a priori sentences. On this topic see "Sind die mathematischen Urteile analytisch oder synthetisch" by

1. every colour is extended;[8]

2. for every two events, if one of them is later than the other, the other is not later than the first one;[9]

3. if something is beautiful and real, then it is good;[10]

4. everything red is coloured;[11]

5. every three tones are ordered linearly with regard to their pitch;[12] |

Behmann, "Mathematics and the *A Priori"* by Hempel, "On the Synthetic Aspect of Mathematics" by Whitrow, and "On the Nature of Basic Mathematical Truths" by Żełaniec.

[8]Sentences like this are to be found in Kant (*Critique of Pure Reason*, p. A 20–23/B 33-34), in Berkeley: *Treatise Concerning the Principles of Human Knowledge,* section 10, Hume, *Treatise of Human Nature*, book 1, part 2, section 3, Austin, "The Meaning of a Word" pp. 34f., and Husserl, *Vorlesungen über Ethik und Wertlehre 1908–1914,* p. 403, where he says that "Farbe [ist] notwendig verknüpft [...] mit Ausdehnung in der Weise einer Überdeckung" under the heading of "Praktische Gesetze als materiale Vernunftwahrheiten" (cf. footnote 12). Cf. also Stumpf, *Über den psychologischen Ursprung der Raumvorstellung*, p. 109, where he speaks of what one can have a presentation of.

[9]Pap, *Semantics and Necessary Truth,* p. 208.

[10]Roth, *Edmund Husserls ethische Untersuchungen dargestellt anhand seiner Vorlesungsmanuskripte,* p. 121. In Husserl's *Vorlesungen über Ethik und Wertlehre 1908–1914* we find, as an example of an a priori law, the following: "Das Schöne ist zugleich ein Gutes; jedes Gute ist, wenn es nicht existiert, ein Begehrungswertes" (p. 48).

[11]Chisholm, *Theory of Knowledge,* p. 59.

[12]Roth, *Edmund Husserls ethische Untersuchungen dargestellt anhand seiner Vorlesungsmanuskripte,* p. 37. Cf. also Husserl, *Vorlesungen über Ethik und Wertlehre 1908–1914*, pp. 403ff., where the sentence "daß je drei Tonqualitäten ihre feste Ordnung haben, daß notwendig einer unter [den Tönen] ein mittlerer ist" and its equivalents are treated under the heading of "Praktische Gesetze als materiale Vernunftwahrheiten", '*material*' being the opposite of '*formal*', and the latter being an equivalent of 'analytic', so that, in the light of the interpretation of the Kantian tradition mentioned in footnote 5 the sentence in question can be classified as *synthetic* a priori. As a confirmation we read on p. 43 of the quoted work: "[W]ir haben doppelte Wahrheiten und speziell auch doppelte apriorische Wahrheiten, die einen formal oder analytisch, die anderen material oder synthetisch". It may well be, however, that the source of this example is in *Tonpsychologie*, vol. 1 by Stumpf, where Stumpf says: "Von je drei ungleichen Tönen | ist stets einer ein mittlerer zwischen den beiden anderen" (p. 142). Stumpf does not call this sentence "synthetic a priori", however. He considers the possibility that the sentence may be a priori (without "synthetic") but says that this question has to be decided by logic, not by psychology (*Tonpsychologie* is a work of psychology) (p. 144). Later on (pp. 182f.) he examines the view that the scale of tones forms a sequence, not a circle, and that this sequence extends indefinitely in both directions, rather than ends with the highest and/or the lowest tone. On this occasion, he does mention the possibility that this view (or the sentences that express it, as we should say) may be *synthetic a priori*, but he refuses to discuss this possibility, apart from the remark that psychology may have something to contribute to this issue. See also Husserl's *Vorlesungen über Ethik und Wertlehre 1908–1914*, p. 403, where Husserl claims that "je drei Tonqualitäten [haben] ihre feste Ordnung" and that "diese Ordnung [ist] eine offene, welche Anfangs- und Endpunkt voneinander entfernt, so daß jede Tonreihe notwendig eine offene und nicht eine sich schließende ist". However, Stumpf introduces the whole

6.   the pleasant is preferable to the unpleasant;[13]

7.   no surface, if it is red all over, is at the same time green all over;[14]

8.   everything that is square has a shape;[15]

9.   only good actions can be the object of a duty;[16] |

10.   man acts;[17]

section in which these two and other views are discussed with the statement that these views could be arrived at by a student of the realm of tones who has no previous knowledge about this realm solely on the basis of reliable and general judgements about similarities among tones (p. 142). This, however, makes these view (or, strictly speaking, the sentences in which they are expressed) similar to synap sentences as characterized in this work (see Section 11, towards the end).

[13]"[D]as Angenehme [wird] dem Unangenehmen vorgezogen. . . (ceteris paribus)" Scheler, *Der Formalismus in der Ethik und die materiale Wertethik,* p. 125.

[14]"Eine Fläche kann nicht zugleich rot und grün sein", Schlick, "Gibt es ein materiales Apriori?", p. 25; ("Is There a Factual *A Priori*?", p. 165.) As Simons noted (*Philosophy and Logic in Central Europe from Brentano to Tarski*, p. 364) this sentence is probably the favourite one among those employed by the students of the synthetic a priori – unless, one has to add, they relied on examples derived from Kant. It occurs, in various versions in, among others, Wittgenstein's *Tractatus,* 6.375, 6.3751; in Russell's *An Inquiry into Meaning and Truth,* p. 82; Ayer's *Language, Truth and Logic,* p. 74, and a legion of other authors. Pap in his *Semantics and Necessary Truth* uses a sentence like the above (except that "green" is replaced by "blue") as *the* example of the synthetic a priori.

This example should be set apart from sentences that express certain relations – chiefly relations of difference and similarity – of the sort quoted under item 13. The relations expressed in those other examples have epistemological and logical properties importantly different from those expressed in the present example. For instance, one can *see* that the green of this patch is different from the red of that patch, but one cannot see that no patch has both colours at the same time. In sentences like "Red is different from green" there are two "protagonists", in sentences like 7, there are three: two colours and something that the colours are the colours of, and it is possible to ask if this something has this or that colour. It is not, however, possible to ask if this or that colour has some other colour. Aristotle comes quite close to the type of example here discussed when he asserts (in *Metaphysics,* book Δ, chap. 10, 1018a 20–4) that white and grey are opposites (ἀντικείμενα) "since they do not belong to one and the same thing at the same time (ἅμα τῷ αὐτῷ οὐχ ὑπάρχει)" . This remark is made in the context of the discussion of the category of the opposite, of which the relation of white and grey illustrates only a subcategory, contradiction (ἀντίφασις) being *another* one. This sheds some light on the thesis that sentences of this sort are analytic if the Kantian thesis that analytic sentences are provable by means of the law of non-contradiction alone (*Critique of Pure Reason*, p. A 151/B 190) is true. For a thorough study of various kinds of opposition in Aristotle see Guariglia's *Quellenkritische und logische Untersuchungen zur Gegensatzlehre des Aristoteles*, particularly pp. 89–95.

[15]Chisholm, *Theory of Knowledge,* p. 34.

[16]"So kann auch nur zur 'Pflicht' werden, was *gut ist*": Scheler, *Der Formalismus in der Ethik und die materiale Wertethik,* p. 96.

[17]Hoppe, *Praxeology and Economic Science,* pp. 19f. Hoppe offered this sentence as an example of the synthetic a priori on behalf of Ludwig von Mises, who, however, seemed to consider all principles of his 'praxeology' analytic: *Human Action*, pp. 38ff. Mises offers sentences, however, that *could* be on our list, as they share all relevant properties with other sentences on this

11. if any tone-quality is eliminated, a tone-intensity will also be eliminated;[18]

12. every promise gives rise to – mutually correlated – claim and obligation;[19]

13. pink is more like red than black;[20]

14. every judgement comprises a presentation within itself.[21] |

list; e.g. "[M]en prefer what satisfies them more to what satisfies them less and they value things on the basis of their utility" (p. 133). Aristotle in his *Eudemian Ethics* maintained that only men (human beings) acted: 1222b 20.

[18]"Mit der Aufhebung der Qualität ist unausweichlich die Intensität aufgehoben," Husserl, *Logical Investigations,* 3, p. A 230/B$_1$234.

[19]"Diese ganze Sachlage. . . ist „selbstverständlich", insofern es sich hier um etwas handelt, das jeder kennt [. . .] [d]a ist etwas, das wir als Versprechen kennen [. . .] [w]ird dieses Versprechen vollzogen, so tritt mit ihm etwas Neues ein in die Welt. Es erwächst ein Anspruch auf der einen, eine Verbindlichkeit auf der anderen Seite." Reinach, "Die apriorischen Grundlagen des bürgerlichen Rechtes", p. 148. Cf. Lipps, "Bemerkungen über das Versprechen", p. 97.

[20]Offered as a *possible* example of the synthetic a priori by Austin, "The Meaning of a Word," in his *Philosophical Paper,* p. 34. Sentences like this have often been offered as self-evident: Locke's "blue is not red": *Essay on Human Understanding* book 4, chapter 7, section 4; Hume's remarks to the effect that blue and green, though different simple ideas, are more similar to each other than blue and scarlet: *Treatise of Human Nature,* book 1, part 1, section 7, note; claim in *Logical Investigations,* 3, that the sentence "This red is different from this green" expresses a "synthetic necessity" (p. A 248/B$_1$ 255); pupils of the early Husserl, as e.g. Reinach, who quoted Hume's remarks on similarity between red and orange as an example of a synthetic judgement ("Kants Auffassung des Humeschen Problems" p. 74, English p. 168). For a stronger thesis, namely, that redness and greenness are opponent colours – nearly as much so as black and white – and its analysis from the point of view of the physiology of sight, see Hering, *Outlines of a Theory of the Light Sense,* p. 50. Interestingly, Aristotle claims the opposite in the *Categories,* 10b 12–17: "Ὑπάρχει [. . .] ἐναντιότης κατὰ τὸ ποιόν, [. . .] οἷον [. . .] τὸ λευκὸν τῷ μέλανι. οὐκ ἐπὶ πάντων δὲ τὸ τοιοῦτον· τῷ γὰρ πυῤῥῷ ἢ ὠχρῷ ἢ ταῖς τοιαύταις χροιαῖς οὐδέν ἐστιν ἐναντίον ποιοῖς οὖσιν." (There are things that are contrary the one to the other in virtue of qualities, such as white and black. This, however, is not always the case: Red, yellow, and such colours, though qualities, have no contraries. [Edghill's translation, slightly modified. W. Ż.].)

[21]"[J]enes Urteilen schließt ein Vorstellen in sich ein", Stegmüller, "Der Begriff des synthetischen Urteils a priori und die moderne Logik", p. 547. Stegmüller credits with this example an entity that he calls "Brentano's philosophy", although Brentano tended to reject the category of the synthetic a priori. Strictly speaking, he believed that what philosophers had referred to as 'the synthetic a priori' were only "blind", or unfounded, beliefs, judgements, prejudices – unless they were 'analytic', as, for instance, mathematical axioms (see his *Versuch über die Erkenntnis*, pp. 8, 10, 17f., 197, and *Vom Ursprung sittlicher Erkenntnis,* p. 36.) However, a sentence similar to that mentioned by Stegmüller was a cornerstone of the whole of Brentano's philosophy and would, therefore, never be classified, by Brentano himself, as a "blind prejudice". To wit, in volume 2 of his *Psychologie vom empirischen Standpunkt* Brentano first introduces the concepts of presentation and judgement thus: "Wir reden von einem Vorstellen, wo immer uns etwas erscheint. Wenn wir etwas sehen, stellen wir uns eine Farbe, wenn wir etwas hören, einen Schall, wenn wir etwas phantasieren, eine Phantasiegebilde vor. [. . .] Unter dem Urteilen verstehen wir [. . .] ein (als wahr) Annehmen oder (als falsch) Verwerfen." | (chap. 6, section 3, p. 34.) A little later on (chap. 7, section 1, p. 38), he goes on to say: "Wir behaupten [. . .] daß jeder Gegenstand, der

7 Synap sentences have a number of properties in common. Among them, there is one that is directly relevant for the questions that were raised about sentences (or whatever else one held to be primary truth-bearers) supposed to belong to the category of the synthetic a priori: questions of their truth, origin of our knowledge of them, and their justification (see Section 2). This property is that synap sentences seem to be *obviously true.* For if these sentences had not seemed obviously true – if they had been like, for instance, the sentence "The Solar System has nine planets" or "The *Illiad* had a unique author", then other questions would have had to be raised in the first place, such as, e.g., if the sentences are true at all. Only then would it have been possible to proceed to the issues of the origin of knowledge, and of justification, if the answers given to the former question had not preempted this.

Two objections can be raised against the claim that synap sentences appear to be obviously true: (1) It is a pleonasm to say that a sentence, or another truth-bearer, *seems* to be obviously true, because every kind of obviousness pertains to what seems to certain subjects; (2) The wording of the claim at issue is unprecise, in that it, among other things, does not specify to whom – to what category of subjects – synap sentences seem obviously true.

As for the first objection, it suffices to recall the fact that there are various kinds of obviousness, and that not all of them are *only* a matter of what appears

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beurteilt werde, in einer doppelten Weise im Bewußtsein aufgenommen sei, als vorgestellt und als anerkannt oder geleugnet."

Moreover, in his *Deskriptive Psychologie,* Brentano lists several categories of what he calls *distinktionelle Teile*, i.e. parts "bei welchen eine [...] beiderseitige oder einseitige Abtrennbarkeit nicht mehr stattfinden kann" (part 1, II. B., p. 13) If, now, *a, b,* and *c* are *distinktionelle Teile* of a certain whole *w,* one can formulate sentences of this kind: "*w* is consists of, among others, *a, b,* and *c*". Some of such sentences would have many properties of synap sentences. Brentano's own examples are: (a) *bejahende Qualität;* (b) *das Gerichtetsein auf das Objekt „Wahrheit";* (c) *Evidenz;* (d) *die apodiktische Modalität* as *distinktionelle Teile* of the whole which is the judgement *„Es gibt eine Wahrheit"* (part 1, II. D. 1., p. 20); *Empfinden, Sehen, Rotsehen,* as *distinktionelle Teile* of seeing red (part 1, II. D. 2., pp. 20f.); *Sehen* and *Gesehenes, Vorstellen* and *Vorgestelltes, Wollen* and *Gewolltes, Leugnen* and *Geleugnetes* as *distinktionelle Teile* of the respective acts *cum* their intentional objects (that are, according to Brentano, consciousness-immanent) (part 1, II. D. 3., pp. 21f.). The class of sentences corresponding to the second examples, i.e. sentences of the sort "das Sehen ist ein Empfinden" comprises sentence 4 on our list. Sentences corresponding to the third example are particularizations of a general Brentanian thesis that every mental act is directed ('intentionally') to an object which, however, need not exist (*Vom Ursprung sittlicher Erkenntnis,* section 19, p. 16). Attempts have been made to show that this thesis is false, because, at least in cases where the purported object of an intentional act does not have real existence, the mode of speaking adopted by Brentano and suggesting that there is, after all, an object enjoying *some* sort of unreal existence is misleading and can be replaced by some other, less misleading mode of speaking. However, as Chisholm has shown in his "Homeless Objects", such other modes of speaking can be at all understood only if something like the Brentanian thesis expressed in his "misleading" mode of speaking has been accepted.

to certain – perhaps even all – subjects (unless we should be willing to say that all knowledge is just a matter of what appears to a certain subject). There are certain kinds of obviousness of which it does not make sense to say that it is only seeming. For instance, Aristotle sometimes described syllogisms of | the first figure as "obvious" or "manifest" (φανερός, *Prior Analytics,* A, 14, 33a, 31; cf. ibid. 15, 33b, 35f.) Patzig (in his *Die Aristotelische Syllogistik,* pp. 55–65) has argued that they are, indeed, obvious, or more obvious than other syllogisms, and provided an elaborate explanation of why this should be so. No-one will, however, argue that the obviousness of *Barbara*, if it has any, is only "seeming" – unless, that is, one is ready to append this adjective to epistemological evaluations of all sorts of cognition. In the case of synap sentences, since it can be argued that some of them (as for instance the sentence "All bodies are heavy", *Critique of Pure Reason,* p. A 7/B 11, or the Newtonian laws of mechanics, or the principle of conservation of matter, ibid., p. B 11) are *false,* it is better say that they *seem* to be obviously true; without suggesting that they *only* seem to be true.[22]

As for the second objection: To say that synap sentences seem to be obviously true is indeed an unprecise statement, but it expresses a piece of data to be examined, not a thesis, and it is allowed, for this reason, to be unprecise. Taken as a piece of data, a given to be examined, the seeming obviousness of synap sentences cannot, I propose, be seriously questioned. We know that for *most* people *most* of the sentences listed here will appear obviously true (and possibly even uninteresting, banal, trivial), even if we *ourselves* do not find all of them obviously true. Soon it will become more precise, and, to begin with, we shall have a fairly precise answer to the question "To what category of subjects do synap sentences appear obviously true?" (see Section 11).

Other properties of the sentences listed here and relevant in the present context are these:

1. The sentences are all formulated in ordinary language. No theories, therefore, that presuppose that synthetic a priori sentences are formulated in a "regimented", or technical, or in some other ways specially prepared, language can be directly applied to sentences listed above. Clearly, it is possible, and indeed quite easy, to "translate" synap sentences into a formal language, and even incorporate them into a formal system: as axioms, or as definitions of some of their constituent expressions, or – if suitable axioms and inference rules have been found – as theses. But what light would results achieved in this way shed on the seeming obviousness of the synap sentences in their natural state, if it cannot be assumed that the axioms are true, the definitions are correct,[23] and the theses are derived from true

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[22]On the topic of the obvious see *Theory of Knowledge,* pp. 11f. and "The Directly Evident" by Chisholm, and "Les propositions évidentes" by Winance.

[23]The correctness of definitions employed is an issue brought to the fore by Frege in his definition of analyticity (*Foundations of Arithmetic,* section 3), but neglected even by his best com-

axioms and correct definitions by means of valid inference rules? However, all of these assumptions are easy to make if we take the seeming obviousness of synap sentences for granted and assume that they are true, possibly even necessarily true, whereas if we do not, the assumptions are difficult to make. A formal system that avoids | validating assumptions of this sort by appeal to the very same synap sentences whose seeming obviousness it purports to explain, or to some other, related, synap sentences, has still to be constructed.

2. The sentences in question are all about kinds of objects that most subjects are quite familiar with: colours, events, tones, shapes, basic facts of social life, basic ethical and aesthetical phenomena, and the like. This, however, does not mean that most subjects who find the sentences obviously true can say *why* they should be true. To the contrary: To speak in words of Thomas Reid which he used to describe "first principles", sentences like "The cause of wise conduct is wisdom," which could have appeared on our list: "The principle is . . . common to philosophers and to the vulgar; to the civilized and to the most illiterate; to the civilized and to the savage" and yet "no one in ten thousand can give a reason for it" (*Essays on the Intellectual Powers of Man*, Essay 4, chap. 6, p. 458 (p. 623 of the original edition of 1785)).[24] In this regard, sentences on our list contrast with sentences like: "If one is not supposed to read this report, then *a fortiori* one is not supposed to write it, either". This sentence has many features in common with synap sentences, but at least it is easy to say why it should be so obviously true as it seems to be: Usually, one is not supposed to read a report, because one is not supposed to know its contents. But writing the report in question would make one know its contents – although in a different way than by reading it. It is also possible to imagine a set of – rather unusual – circumstances in which the sentence would be false. But the sentences listed here are not at all like that.

3. Yet another property that all sentences listed here share is that they contain at least two extra-logical expressions. The logical form of the sentences is this: "All *A*'s are *B*", where "*A*" and "*B*" are different predicates. This suggest a type of answers to the questions about the truth of synap sentences and about the origin of our knowledge of them: Namely, that synap sentences are true and known to be true, indeed obviously true, because the "meanings" (whatever that might be) of their extra-logical constituent expressions have certain types of relations to each other.

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mentators. See Dummett, *Frege: Philosophy of Mathematics,* p. 24. (But see Woleński, *Metamatematyka a epistemologia,* p. 131, for a list of Frege scholars who have not neglected this issue.)

[24]One is reminded of the words of Pascal from *Les Pensées*: "Too much of truth amazes us . . . the first principles have too much evidence for us" (section 72, entitled *Disproportion d'homme:* "trop de vérité nous étonne [. . .] [l]es premiers principes ont trop d'évidence pour nous", p. 84.)

8 Let us provisionally assume that there is a group of subjects to whom synap sentences appear obviously true. There arises the following problem: *What kind of obviousness is the apparent obviousness of synap sentences?* Is it, for instance, like the obviousness of other kinds of obvious sentences, such as tautologies, or is it like the high plausibility of very well confirmed empirical hypotheses? The obviousness of tautologies and the high plausibility of very well confirmed empirical hypotheses is better understood than the seeming obviousness of synap sentences.

This is what I shall here call the *problem of the synthetic a priori.* |

There is, however, yet another problem here, a problem that is to be expressed in what I shall call the '*concomitant question': What is the epistemological value of this apparent obviousness of synap sentences?*[25] Is it a good, or a misleading hint, that they are true? Is it at all relevant for establishing the truth value of synap sentences? For we know what the epistemological value of tautologies and well confirmed empirical hypotheses is – to mention just these two examples of sentences whose obviousness, or high plausibility, is better understood than the seeming obviousness of synap sentences. As I remarked above (Section 2), most definitions of the synthetic a priori presupposed that items that belonged to that category were true. Without this presupposition, the questions traditionally asked about synap sentences: question pertaining to their source and justification, could not have been asked, or no more than about any other category of sentences, or any group of sentences selected at random. But an inspection of sentences offered as examples of the synthetic a priori reveals just this: They *seem* to be true, indeed obviously true. This alone, however, is no warrant that they *are* true, let alone that they are necessarily true.

9 It could be that the apparent obviousness of synap sentences is of the same kind as that of other obvious, or highly plausible sentences, as for instance, of tautologies and well-confirmed empirical hypotheses. If this were the case for all synap sentences, then the problem of the synthetic a priori, as formulated here, would not arise. At most, there would be the meta-problem of why the problem of the synthetic a priori could, for a moment, seem to arise. By supplying evidence to the effect that the apparent obviousness of synap sentences is quite like the better-understood obviousness, or high plausibility, of other types of sentences, the aura

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[25]Both questions precede, logically, the question that may be taken to express the problem of the synthetic a priori as presented by Kant: "How are synthetic a priori judgements at all possible?" (*Critique of Pure Reason,* p. B 19). Because Kant may be taken to have presupposed that sentences that expressed what he called "synthetic a priori judgements", such as basic tenets of mathematics, physics, and 'metaphysical principles' such as "The world must have had a beginning" (op. cit., pp. B 15–20) *are* true and that we can know it. That this should be the case, however, is only one among many possible answers to the 'concomitant question'. But in the light of what has been said in note 6 it is not at all clear that Kant did not, much rather, assume that all subjects must *think* that those sentences are true, quite independently of whether they were true.

of strangeness in which at least some synap sentence are wrapped could be dispelled. The questions traditionally asked about the synthetic a priori: How can we know the items belonging to this category? and: How are they to be justified? could not be asked, either, in any sense peculiar to synap sentences. They would be similar to such questions as: "Why do logs burn?", which has no place in the scientific study of natural phenomena except, perhaps, for illustrative and didactic purposes as a special case of the question "Why does wood burn?"

My contention, however, is that the seeming obviousness of at least some synap sentences is different from that of the obviousness, or high plausibility, of other sentences that have either of these properties and in which these properties are understood better than in synap sentences. I support this contention | by listing other categories of obvious, or highly plausible, sentences, and saying what the difference between them and synap sentences can be, with regard to the seeming obviousness of the latter. The contrasts arrived in this way circumscribe the kind of obviousness which is peculiar to those synap sentences for which these contrasts obtain. This circumscription can serve as a definition of this peculiar kind of obviousness.[26] Next, the question as to why the contrasts at issue obtain for those synap sentence for which they do will have to be raised and answered. As soon as this has been achieved, the problem of the synthetic a priori will be solved. It will be seen, however, that even if, for a synap sentence, it can be established whether the contrasts at issue obtain, and if, in case they do, it can be explained why they do, there is a residual problem: namely, other synap, or apparently synap, sentences are necessary for accomplishing these two tasks. In this sense, the *category* of the synthetic a priori will prove to be recalcitrant, even if the problem of the synthetic a priori can be solved for each synap sentence separately.

Having solved the problem of the synthetic a priori in the above sense of circumscribing the contrasts that synap sentences have to other obvious, or highly

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[26]It could be objected that a circumscription like that is only a surrogate of a 'real' definition. However, even if we had, or thought we had, a definition of the synthetic a priori (as Kant believed he did) we should still have to deal with this problem: How can there be sentences that are synthetic a priori in the sense of the definition that we have and how are they different from sentences that are not synthetic a priori in the same sense? Witness Ros who says in his "Kants Begriff der synthetischen Urteile a priori", p. 163, that Kant suggests that "es könne Begriffe geben, die notwenigerweise miteinander „verknüpft" sind (notwendigerweise zueinander „gehören"), *ohne* daß der eine dieser Begriffe im anderen „enthalten" wäre" or, in other words, that there are sentences that are synthetic a priori in the sense of Kant's definition. But Ros hastens to explain that it does not at all enlighten reason why there should be any such sentences, at least within the framework of Kant's basic assumptions. However, the answer to this problem that Ros gives (op. cit., pp. 167ff.) does not enlighten reason, either. Ros makes reference to recondite details of the Kantian epistemology – such as the distinction between the 'schematism' of the concepts of pure intellect and their 'rules' (op. cit., p. 169) – which he never explains – and introduces operations – such as moving upwards from 'perceptual' to 'experiential' concepts – which present the same problem as synthetic a priori judgements in the Kantian sense (op. cit., pp. 170f.)

plausible sentences, and explaining why the contrasts obtain, we shall be in the position to answer the 'concomitant question' raised above (Section 8), that is, the question: "What is the epistemological value of the obviousness of synap sentences?"

I shall shortly proceed to these three tasks: (1) circumscribing the obviousness of synap sentences by means of contrasts to the kinds of obviousness, or high plausibility, enjoyed by other categories of sentences; (2) explaining why the contrasts obtain; and (3) examining the epistemological value of sentences characterized by the kind of obviousness so circumscribed. But before I go on, I shall answer two questions.

10 One question is this: What is the importance or relevance of the problem of the synthetic a priori, as here construed? Is it not, much rather, a "dead, or nearly dead issue" (Lewis, *An Analysis of Knowledge and Valuation,* p. 158)? (Why | should it be a nearly dead issue? Because the "conviction that all *a priori* truth is analytic [is] now quite general", Lewis, loc. cit.)

The importance of this problem resides in two facts:

1. It is good to understand why certain sentences seem to be obviously true, if only because we can then better assess their epistemological value; here enters what I called the 'concomitant question' of the problem of the synthetic a priori. *Seeming* to be obviously true is not a sufficient reason to assume that the sentence that has this property *is* true, as show examples of various fallacies and illusions. Yet, a sentence that seems to be obviously true has a good chance of being assumed to be true as, once again, show examples of various fallacies and illusions. Understanding why the sentence seems obviously true may help us to avoid taking it, and sentences like it, for more, or less, than they are.

If it turns out, in the course of this research, that synap sentences not only *seem* to be true but also *are* true, we can go on to ask in virtue of what they are so. It can turn out that they are true in virtue of something that sets them apart from sentences that are true empirically, logically, or in some other, better-understood, fashion. In a case like that, we can attempt to construct a new *definition* of the synthetic a priori; a definition which, in line with most of the definitions proposed hitherto, would presuppose that synap sentences are, indeed, true. In a case like that, too, we should be able to go beyond the mere *presupposing* that synap sentences are true, and say to what property of theirs synap sentences owe their truth. This desirable result might not be achieved, but even if we do not achieve it, we shall learn something about the epistemological value of the apparent obviousness of synap sentences.

2. As remarked above in Section 2 (item 2), one of the properties shared by nearly all sentences quoted as examples of the synthetic a priori is that they concern objects and phenomena with which most subjects are very familiar. Given

that sentences concerning such familiar objects play a crucial role in education, communication, ethics,[27] knowledge representation for artificial intelligence systems[28] and other disciplines, and even to "the progress of human knowledge"[29], it may be of interest for these disciplines, to understand how such sentences may appear obviously true.[30] This may be equally, or even more, important for paedagogics, politics, journalism, and whatever else fields of activities may have use for the fact that sentences of a certain sort appear obviously true to subjects of a certain sort.

  3. Last but not least, the fate of philosophy is at stake here. As Stegmüller noted, philosophy stands and falls with synthetic a priori sentences.[31] We do not even need a definition of the synthetic a priori to agree with this: philosophical writings are full of sentences that are similar, in many respects, to examples of that category, such as listed above (Section 6). Stenius has argued (in his article "The Semantic Status of Laws of Logic") that even logical laws are synthetic, in a "peculiar way" (p. 219) which makes them look like synap sentences. On the other hand, Johnson has argued in his "Denial of the Synthetic A Priori" that the very thesis that there are no sentences that are synthetic a priori is, against Schlick, itself a synthetic a priori sentence.[32] Most philosophical 'first principles' are similar to synap sentences at least in that their champions pretend that they are obviously true to everyone who understands the words in which they are expressed. Many of such principles share certain properties with the sentences on our list (in Section 6) and participate in the contrasts (listed in Section 12) that synap sentences have to other sentences that are obvious, or highly plausible. To choose some well-known examples of such 'first principles' at random: "There is nothing more certain than that the Beautiful, the Good, and the True are to the highest degree" (Plato,

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[27]See e.g. the article "Do We Know That Basic Norms Cannot Be True or False?" by Næss. According to Von Savigny, synthetic a priori judgements constitute the link between descriptive judgements and value judgements. For example, to pass from "John causes avoidable suffering to others on a regular basis" to "John is an evil man" one needs the synthetic a priori judgement: "Good men do not cause avoidable suffering to others on a regular basis". Von Savigny, *Die Überprüfbarkeit der Strafrechtssätze,* pp. 67, 71. Cf. also a sentence like this: "Jedes Handeln hat Folgen, die dem betreffenden Subjekt zugeschrieben werden können" in Bayertz, "Eine kurze Geschichte der Herkunft der Verantwortung", p. 13.

[28]See Hayes, "The Second Naive Physics Manifesto", pp. 10ff.

[29]Ben Zeev, "The Analytic, Synthetic and 'A Priori' ", p. 481.

[30]On how even tautologous sentences can be important for everyday communication see the article "Uses of Analytic Statements in Ordinary Discourse" by Stroll.

[31]Stegmüller, "Der Begriff des synthetischen Urteils a priori und die moderne Logik", pp. 535, 562f. On the basis of his definition of the synthetic a priori which is liberal enough to cover all cases listed in Section 6 he shows that even if there is no synap sentence in the object-language, then there is at least this one in the meta-language: "There are no synap sentences in the object-language".

[32]Cf. the thesis by Stegmüller referred to in footnote 31.

Phaedo, 77a) "Happiness [...] is something final and self sufficient, and is the end of action" (Aristotle, *Nicomachean Ethics,* 1097b 20f.) "No hearing without something heard, not belief without something believed, no striving without something striven for" (Brentano, *Vom Ursprung sittlicher Erkenntnis*, p. 16 (section 19)), [33] "The world is everything that is the case" (Wittgenstein, *Tractatus Logico-Philosophicus,* 1), *"Cogito, ergo sum"* (Descartes, *Principia philosophiae* I, p. 7, l. 8) or what a contemporary author calls a "determinist principle": "Every event is subsumable under universally quantified natural laws" (Burkholder, "The Determinist Principle as Synthetic and A Priori", p. 43.) *A fortiori,* the same holds of philosophical theology with its principles like "Being is not necessarily material", as emphasized by Casaubon in his article "Sobre los juicios analíticos y sintéticos y la possibilidad de la metafísica" (esp. p. 56).[34] We can criticize such tenets by showing that although they seem obvious, they are false, and we can argue, by contrast, that they are more than just *seemingly* obviously true. In both cases, however, we need a better under- | standing of how such tenets can appear as obviously true as they do, and with what right they can do so.

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11 The other question is this: given that obviousness of sentences is always relative to a subject, to what kinds of subjects do synap sentences appear true?

This question cannot be answered by dint of any a priori insight. It is true that *certain* categories of subjects to whom synap sentences do not appear obvious can be discovered a priori: For instance, subjects ignorant of the language in which a given synap sentence is formulated, subjects mentally handicapped or mentally ill, comatose subjects, intoxicated subjects, etc. However, since such categories are very obvious, the question "To what category of subjects do synap sentence appear obvious?" can be taken to pertain to whatever is left after these obvious exclusions have been carried out. Now, if my observations, collected over three years or so, are not biassed, the following is the case: It is very easy to find subjects who say that they find synap sentences obviously true, and for this reason banal, boring, not worth considering. But it is also possible to find subjects who – confronted with a synap sentence, and not ignorant of the language in which the sentence is formulated, nor disturbed or impaired with respect to their mental powers in any way – say that they do not find the sentence obviously true, nor true

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[33]In his *Deskriptive Psychologie* Brentano describes the situation here as follows: "Vor allem also ist es eine Eigenheit, welche für das Bewußtsein allgemein charakteristisch ist, daß es immer und überall, d.h. in jedem seiner ablösbaren Teile eine gewisse Art von Relation zeigt, welche eine Subjekt zu einem Objekt in Beziehung setzt" (p. 21). The only reason why this sentence could not pass as a typical synap sentence is that it is expressed in highly technical jargon, which would make it comprehensible only to those who understand this jargon. Those who do, however, are, to a large extent, also those who have a piece of special information sufficient for finding the sentence in question non-obvious (cf. Section 11, item 3).

[34]Cf. *Language about God: Analytic, Synthetic, or Synthetic A Priori?* by Downey.

at all, or that they even believe it to be false. I have found such subjects, and some of them were of superior intelligence. As I have established, however, there are *only three* types of explanations provided by such subjects for why a given synap sentence does not appear obvious to them:

1. "This sentence just does not appear obvious to me" or something like it. A person of normal intelligence, not terrorized or in any other way prevented from making use of the faculty vulgarly called "free will", not psychotic or intoxicated, will always be able to say that a given sentence does not appear obvious to him or her. If this is all that the person in question has to say, and if questions like "Have you ever seen, or suspected you saw, anything that would falsify this sentence?" are replied invariably with something like: "No, but I still do not find this sentence obvious" then it is difficult to say what the sentence in question really appears like to that person. If no other explanations are supplied, one gets the impression of frivolity and bantering, or sheer exercise in contrariness. This impression can, of course, be misleading. Yet, in the absence of any further reports of what other epistemologically relevant properties the sentence in question has for that person, we cannot go any further.

2. "Any sentence that is not a tautology can be false, and if something can be false, it cannot appear obvious to me" or something like it. Since synap sentences are not instantiations of tautologies (as a most cursory inspection will reveal), they certainly can be false, if someone understands "can be false" as equivalent to "is not an instantiation of a tautology". Although this is not the only possible way of understanding the expression "can be false", there can be no objection to someone's adopting it. It can be asked, however, how non-obvious a given sentence appears to someone who cannot quote any evidence against it except that it is not an instantiation of a tautology. But what matters, | is, ultimately, that the subject in question does not find that sentence obvious, regardless of what the degree or other properties of that non-obviousness are. Perhaps the subject in question has trained his mind to be as skeptical about *any* sentence that is not an instantiation of a tautology as most of us are about UFO reports.

3. "I do not find this sentence obvious, because I know that . . . " where what follows "that" is some '*special information*' that pertains to objects, properties, and relations mentioned in the sentence in question, and not just to objects, properties, and relations of other, broader or related, categories. The information in question may be that there are subjects who have seen a counterinstance of the sentence at issue[35]; or who have predicted, on the basis of a scientific theory, its occurrence in the future; or who have constructed mathematical models of this sentence and

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[35]For the sentence "No surface, if green all over, is at the same time red all over" a good example are the experiments quoted by Hardin in his *Unweaving the Rainbow:*, pp. 124ff., taken to show that under certain conditions subjects can see surfaces uniformly red and green all over.

established that its truth is contingent on constants that might have been different from what they are; or something like it. (This characterization of 'special information' sufficient for not finding a synap sentence obvious may still appear very woolly; but in Section 15 we shall arrive at a more precise formulation.)

Subjects who belong to this category often turn out to understand synap sentences which they do not find obvious in a way | different from that of subjects who do find the same sentences obvious. For instance, someone who says that he does not find the sentence "Man acts" (example 10 of Section 6) obvious may prove to understand "act" in such a way that "x acts" cannot be true of someone who has decided not to change anything about himself or in his environment except by acquiescing in the "course of things". With this understanding of "act", it may be true that certain categories of people: e.g. Buddhists, do not act.[36]

Thus, we have here a category of subjects: subjects who do not find a synap sentence obvious and who understand one or more constituent expressions of that sentence in a way different from that in which subjects who do find the sentence obvious understand the expression(s) at issue. It could seem that this category is worth singling out, alongside the preceding three, as a category of subjects who do not find synap sentences obvious.

On reflection, however, we see that the singling out of this category of subjects on a par with the preceding three is not necessary. This is because the category in question consists of two subcategories, one of which is uninteresting, and the other can be reduced to category 3 of subjects who do not find synap sentences obvious. The first of these two subcategories is that of subjects who understand one or more constituent expression(s) of a synap sentence which they do not find obvious in an idiosyncratic or arbitrary way. The second subcategory consists of subjects who understand one or more constituent expression(s) of a synap sentence which they do not find obvious in a way which is different from that of subjects who do find the given synap sentence obvious, but which is neither idiosyncratic nor arbitrary, but, rather, suggested by certain beliefs, certain 'special information' which they seem to have.

For instance, the above-discussed "deviant", or narrow, way of understanding the verb "act" is neither idiosyncratic nor arbitrary, because the majority of English speakers know that (1) there are people who, at least once in a while, decide to stop interfering with the course of things and (2) this sort of attitude is in certain important, though maybe difficult to specify, ways different from other attitudes, so that drawing a boundary here suggests itself easily.[37] The boundary is that of applying, or refusing to apply, the verb "act" to people who have adopted, or every

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[36]I owe this observation to Professor Marko Uršič of the University of Ljubljana.

[37]On the relatively novel topic of "drawing boundaries" in the metaphorical sense evoked here, and "creating" objects in this way see "Fiat Objects", "On Drawing Lines on a Map", and "More Things in Heaven and Earth" by Smith.

now and again adopt, an attitude like that. By contrast, imagine someone should protest that the sentence "All men are fallible" is not true because he chose to understand "man" as "an infallible being otherwise quite like you or me" or the like, so that far from its being the case that all men are fallible, it would be true that *no* men are fallible. We should reply that there are, to the best of our knowledge (unless, that is, we believe to have 'special information' to the contrary), no infallible men, and that, for this very reason, narrowing down the understanding of "man" in such a way as to cover only those (traditionally so called) men that are infallible is quite an idle exercise.[38]

What, however, of the subject who maintained that the sentence "Man acts" is not obvious at all, or indeed false, because there are Buddhists? Since his understanding of "act" is not idiosyncratic or arbitrary, no-one can say that he ought to discard it and adopt some other one, in particular, one on which the sentence at issue would start seeming obvious even to him. We ought, however, to point out that the understanding of "act" that he employs is narrower than necessary, and that there is a broader understanding of "act". We should explain to him what that broader understanding would be – it would be expressible in a formula like "being a member of a species whose healthy members are born with the ability to make decisions" – and ask him if he does not find "Man acts" obvious on this understanding of "act". Maybe we should also explain why we think that this understanding of "act" is not idiosyncratic or arbitrary, either, and what is other comparative advantages are.

The above ways of not finding a sentence obvious are not *all* that deserve attention. This can be seen on the following example. Most people who have no 'special information' about coins and their shapes will not find the sentence "There have never been any elliptic coins" obvious, at least not in the same way in which they find most synap sentences obvious. (They might │ find it highly plausible, but the difference between this kind of plausibility and the kind of obviousness that synap sentences enjoy is one of the contrasts to be listed below: contrast 6 of Section 12.) Asked why they do not find it obvious, they would probably say that nothing they know about coins and shapes (including the elliptic shape) excludes the possibility of there being, or having been, elliptic coins. Asked to elaborate upon this, they could explain that elliptic coins would, after all, be just metal objects of elliptic shape, whose manufacture was commissioned by some authority, usually called "the central bank"; now, there are metal objects of various shapes manufactured on the commission of various authorities, and there are, therefore,

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[38] Ajdukiewicz's conception of the analytic addresses the problem of the existence of referents of terms occurring in analytic sentences (see his "Le problème du fondement des propositions analytiques"). Several interesting examples of a fine-tuning of one's understanding of expressions to known facts (and on why, consequently, an 'analytic' statement may be only 'contingently' true) see "The Synthetic Significance of Analytic Statements" by Rozeboom.

no reasons to believe that this particular combination: metal object, elliptic shape, the central bank of some country, should be prevented from cooperating at making elliptic coins come into being.

An objection could here be made: A surface red and green at the same time and all over would, too, be just a surface with two different visual qualities, and, since there are surfaces instantiating various visual qualities at the same time and all over, special reasons could be required to prevent just these two: red and green, from covering the same surface all over and at the same time. To this attempted *reductio ad absurdum* of their argument the "naive" non-knowers of coins and their shapes could reply that a special reason like that *was* easily provided, namely, by pointing out that no surface is any two *different colours* at the same time and all over. (This sentence has all properties of a synap sentence itself, cf. Ayer, *Language, Truth and Logic,* p. 74.)

To sum up: according to my observations, synap sentences appear to be obviously true to all subjects (of average, or higher than average, intelligence, not intoxicated, not impaired etc.) who (1) are not bantering; (2) do not assume that only an instantiation of a tautology can seem to be obviously true; and (3) do not have any 'special information' pertaining to objects mentioned in those sentences, but at most a general familiarity with these objects.

Let us call such subjects '*normal subjects*'.

12 Now I am going to proceed to my first task: listing the contrasts which synap sentences have, with respect to the kind of obviousness they enjoy, to other sentences that are obvious, or at least highly plausible. I shall not argue for every sentence on our list from Section 6 separately that the contrasts ob- | tain for *it.* Since the list of synap sentences is open-ended, it does not make much difference if the contrasts listed here have been found to obtain for one more, or one less, synap sentence. Among the contrasts, several are such that their obtaining for a given sentence can be established easily, while others – those towards the end of the list – give rise to serious difficulties in this regard which cannot be dealt with except by doing substantial work for almost every synap sentence separately. As I go, however, I shall be arguing that the contrasts obtain at least for the considerably worn-out but robust example of sentence 7: "No surface, if it is red all over, is at the same time green all over". For a few other sentences I argue in the final sections of this book that the contrasts obtain for them, too. For other sentences on our list from Section 6 the obtaining of all contrasts listed will remain a hypothesis.

What, however, if for one or more from among synap sentences this hypothesis should prove false? In a case like that the sentences do not, appearances notwithstanding, present the problem of the synthetic a priori as construed in this work. Because however obvious they may appear, they belong to the same family as other sentences whose obviousness, or at least high plausibility, is better under-

stood. A sentence like that will, clearly, have to be regarded as 'synap' in the sense given in Section 4, but it may not need to be regarded as synthetic a priori in the sense of an improved definition of this category based on the results of this study.

This means that 'the problem of the synthetic a priori' as here conceived can be solved for all synap sentences "at one go" only in this sense: One can show how to deal with each synap sentence; namely, first check if the contrasts listed here obtain for it, and then explain why they do, if they do. Clearly, there are synap sentences that are sufficiently similar to each other to be dealt with, in the manner just described, in a similar way. The sentence "No surface, if it is yellow all over, is at the same time blue all over" will, probably, have to be dealt with in a way similar to that in which the sentence "No surface, if it is red all over, is at the same time green all over" will have been dealt with. But the treatment of neither will shed much light on how to deal with sentence 1: "Every colour is extended" or with sentence 12: "Every promise gives rise to – mutually correlated – claim and obligation". Such sentences require a separate study.

The contrasts are the following:

1. to sentences that are instantiations of tautologies. Because synap sentences are not tautologies, as a most cursory inspection will reveal; if they had been, they would rightly have to be considered more than just *seemingly* obviously true;

2. to such sentences as: "If Joan is playing the violin, she is playing the fiddle" or "If Peter has gorse in his garden, he has furze". These sentences are not instantiations of tautologies, but they can be turned into instantiations of tautologies by replacing one of their constituent expressions by another that is its perfect synonym. But synap sentences are not like this, as the most cursory inspection will show; again, if they had been, they would rightly have to be considered more than just *seemingly* obviously true;

3. to such sentences as "Every bachelor is unmarried" or "Every automobile is motor-driven". It could, perhaps, be said that certain extra-logical expressions of sentences like these have the relation of, not perfect, but partial, synonymy. However, the concept of synonymy – the concept that made Quine despair over the definability of the analytic – is difficult, and I have no need for it. It is better to say just this: The logical form of such sentences is "All *A*'s are *B*" – which is a property which sentences such as "Every bachelor is unmarried" share with synap sentences (see Section 7, item 3) – and the applicability of the predicate "*B*" is a necessary condition for the applicabil- | ity of the predicate "*A*". For this reason, such sentences are obviously true, and not just *seemingly* obviously true. So would have been synap sentences, too, if they had not had a contrast to the sentences of the family considered here. But they do, and the contrast is this: for synap sentences, the applicability of the predicate "*B*" *may,* but no more than just

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may, be a necessary condition for the applicability of the predicate "*A*", because 'normal subjects' do not know of any circumstances in which the second predicate would have been applicable *but for* the inapplicability of the second predicate, and do not even have slightest evidence to the effect that such circumstances might be found (because otherwise they would not be 'normal subjects'), whereas for such sentences as "Every bachelor is unmarried" there is a lot of evidence like that. To wit: there are men who satisfy all possible conditions necessary for being called "bachelors" (in the context of civil status) *except* that they are married. By contrast, 'normal subjects' know nothing about things that satisfy all conditions for being called "red all over" (say, are similar, in colour, to blood, rubies, sunsets, roof-tiles, and the like) *except* that they are green all over. For this reason, 'normal subjects' cannot say that the applicability of the predicate "…is green all over" is a necessary condition of the applicability of the predicate: "…is red all over". It may turn out to be, if suitable cases were available. But they are not. Moreover, synap sentences have, in the eyes of 'normal subjects', a contrast

4. to sentences believed by 'normal subjects' to be true but only either on authority of "specialists" or with appeal to some special information, such as an amount of empirical evidence, a proof, a theory that combines empirical evidence with reasoning. For instance, to sentences such as "No prehuman hominids have ever lived on the American continent", "It is not possible to divide an angle into three equal parts with a compass and a ruler only", "No body can travel faster than light travels in vacuum"; such sentences are not felt to be obviously true at all even if the subjects in question do not, in fact, have any evidence against them. By those who rely on the authority of the relevant specialists, however, sentences like these are felt to be highly plausible. But for synap sentences, there are no specialists, and no 'special information' to rely on: only general familiarity with familiar objects (Section 2, item 2), such as for instance with surfaces and the colours red and green in the case of the sentence "No surface, if it is red all over, is at the same time green all over".

It is very important to understand this point, because otherwise we might confuse the problem of the synthetic a priori as here conceived with what we, in each case, think is the right reason to consider one or another synap sentence true. The latter might be the right answer to a different question, namely to that of the justification of synap sentences. But the former is what we are interested in here. It might be true, for instance, that facts about wave-length and physiology of sight are responsible for the truth of sentence: "No surface, if it is red all over, is at the same time green all over", if it *is* true. But 'normal subjects' find this sentence obvious even before they have learnt about such facts. The situation here is unlike that with, for instance, various truths about | transfinite cardinals – for instance, that there are more than one of them – that we find obvious only after we have

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learnt set theory, or with truths about the Continental Drift, or the Law of Diminishing Returns, or others findings of science that subjects deprived of any 'special information' are hard put to believe if they do not trust the authorities who have such 'special information'. Far from having any use for authorities, however, to believe that synap sentences can be true, 'normal subjects' cannot think of how they could be *false*. That is to say, synap sentences have, in the eyes of 'normal subjects', a contrast

5. to sentences that – in 'normal subjects' ' opinion – may well be empirically true *or* false, their truth or falsity being a contingent matter; as for instance: "The number of gnus alive on January 1st, 1990, was odd" or: "No red thing in the study of Gottlob Frege was round" or: "All red things in the study of Gottlob Frege were round" or even: "All things in the study of Gottlob Frege were either red or round, but not both". The sentence "There have never been any elliptic coins" belongs here as well. Such sentences are not obvious in the eyes of 'normal subjects', though they may be highly plausible.

In these sentences, things of certain kinds are claimed to have properties of certain kinds, or relations of certain kinds to things of other kinds. The reason why 'normal subjects' will consider such sentences to be only empirically, if at all, true is – as I indicated in the above discussion of the example of elliptic coins (Section 11) – that 'normal subjects' have enough examples of things of similar kinds having, as well as not having, similar kinds of properties, or similar kinds of relations to things of other, similar, kinds. For instance, a 'normal subject' will believe that the sentence "The number of gnus alive on January 1st, 1990, was odd" is only contingently true, if at all, because he knows that there are examples of numbers of animals at a certain moment being odd, as well as examples of numbers of animals at a certain moment being even. But similarly, there are examples, known to 'normal subjects', of things of a certain colour in a certain location being or not being round, and so on. For this reason, a 'normal subject' need not have seen anyone's study in which all red things were, or were not, round. Because – to repeat – in order to believe that there can be such studies, the 'normal subject' believes – in the absence of any 'special information' (the absence of which makes him to a 'normal subject') – that these three properties: being in a study of a certain man, being of a certain colour, being of a certain shape, vary more or less freely, and there is no reason why these particular three: being in a study of Frege, being red, being round, should constrain one another in any way. Such reasons can, if available – maybe Frege was averse to things red and/or round? – be provided – exactly as they may be provided in the case of elliptic coins – but then the 'normal subject' in question will no longer be one.

Synap sentences, however, are of the sort that (1) either there are no sentences similar to them in the way in which the sentence "There are hexagonal coins" is

similar to the sentence "There are elliptic coins" or the sentence "All red objects here are round" is similar to the sentence "All green objects here are oblong"; (2) or, if there are such sentences, then there are no counterin- | stances to them. The sentence "Every colour is extended" (number 1 on our list) is an example of (1), and the sentence "no surface, if it is red all over, is at the same time green all over" is an example of (2). Had the sentence "Every tactile quality is bound up with the smell of musk" been similar enough to the sentence "Every colour is extended", we could have told a 'normal subject' that since the former happened to be false, so could the latter. But the similarities between these two sentences are not suffi- cient, and not at all of the same sort as those between "There are hexagonal coins" and "There are elliptic coins" or between "All green things here are oblong" and "All red things here are round". To mention just one major dissimilarity: colours are not just "bound up" with extensions: they are, much rather, qualities *of* ex- tensions. Or: had it be true that there are things that are both yellow and blue all over (at the same time), or both red and black all over (at the same time), or in general, things that are, at the same time, two different colours all over, we could have hypothesized about the existence of a counterinstance to the sentence "No surface, if it is red all over, is at the same time green all over", even though we have not heard of any. But there are no such things; and, consequently, there is no possibility to cast a shade of doubt on the latter sentence in this way.

Another reason why 'normal subjects' will regard sentences like the sentence "The number of gnus alive on January 1st, 1990, was odd" as only empirically, if at all, true, is that they can imagine their counterinstances. This capability is not of a high epistemological value: we can imagine dragons, witches, spaceships travel- ling faster than light, spectres, gaseous Extraterrestrials, and a host of other things that cannot be, pending an invalidation of laws of nature. Yet still, to know that such things do contradict laws of nature, one has to know these laws well enough, and this, by definition, 'normal subjects' do not. Synap sentences, however, are such that, whatever their relations to laws of nature, 'normal subjects' cannot ima- gine counterinstances of these sentences. That is to say, synap sentences have a contrast

6. to sentences for which there is a great deal of empirical evidence, but that are still such that 'normal subjects' can at least imagine the instances that would falsify them. For example: "The Earth has only one moon", or "There are no apes in South America". Such sentences may enjoy a certain type of obviousness in the eyes of 'normal subjects', and yet this obviousness is of a different sort from that of synap sentences, because sentences like "The Earth has only one moon" are such that the 'normal subject' can at least imagine their counterinstances.

Some philosophers claim sometimes, on behalf of 'normal subjects', and rather in private communication than in writing, that although 'normal subjects' cannot

imagine counterinstances of synap sentences, this is "just" a deficiency of their imagination. In response to this, the following has to be said: There can be little doubt that the imaginative powers of most 'normal subjects', no less than those of other subjects, *are* very limited. But their inability to imagine counterinstances of synap sentences is due not only to the severe limitations of their imagination. For, when asked to imagine something, we | have at least to understand what we are asked to imagine, because otherwise we do not know how to set about imagining whatever we have been asked to imagine. (This sentence, I propose, is obvious in a way similar to that of synap sentences.) I may not be able to imagine a chiliagon, or even a hectagon, or even a trigon, but this need not be due to any deficiency of my imagination. I may simply not know what these words are supposed to mean. Synap sentences are of a slightly different sort: 'normal subjects' understand them linguistically, so they can easily set about imagining their counterinstances; but they quickly discover that their efforts are strangely frustrated. The explanation is not the deficiency of their imaginative powers alone, I contend, but the fact that synap sentences have a contrast

7. to sentences for which there is a great deal of empirical evidence, and that are such that 'normal subjects' cannot imagine instances that would make them false, but they still can 'conceive of' such instances in the following sense: They can describe such counterinstances in such a way that the description is not just a mere grammatical variation on the sentence whose counterinstance it describes, and yet it cannot be transformed into a self-contradictory descriptions by means of any sentences that the 'normal subject' who formulated it believes true, definitions he believes correct, or rules of inference he believes valid.[39]

This contrast is the crucial one for the problem of the synthetic a priori, but it is also the hardest to see that, and how, it should obtain. Let us first consider these two sentences that have a great deal of empirical evidence for them – evidence that is not outweighed by any other evidence in the minds of those who, like 'normal subjects', do not have any 'special information': "There are no hectagonal coins" and "The physical space is not curved". (Despite the empirical evidence in favour of these sentences, both may well be false, and the second probably is, but knowing this is a matter of having 'special information' which 'normal

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[39]Intuitively, this concept of 'conceiving of' is close to something like "making sense of" or "being able to tell a coherent story" about something, or, more precisely, being able to elaborate upon any account of something one judges correct without entangling oneself in contradictions.

In this sense of 'conceiving of' something, we can never be certain that we really can conceive of the thing in question, because we have never tried to elaborate upon *all* accounts of the thing in question in all possible ways. However, we can know that we cannot 'conceive of' something if we have ended up with a contradiction in the process of such an attempt. If you find this concept of 'conceiving something' too abstract or programmatic, see the articles "Necessity, Inconceivability and the *A Priori*", parts 1–2, by Nathan and Valberg, respectively. Valberg has something to say on what the principle of contradiction is such that its counterinstance is inconceivable (esp. pp. 141ff.)

subjects', by definition, do not have). Most 'normal subjects', having only general familiarity with coins, hectagons, and physical space, will find these sentences obvious, and will *not* be able – given the limitations of imaginative powers that they happen to have – to imagine their counterinstances. Yet they will also be able to 'conceive of' counterinstances of these sentences. A hectagonal coin is a coin with a hundred edges, and no description of a thing like that will produce a contradiction, or no more than a description of a coin with four or six edges. Curved space is more diffi- | cult, but even here comparisons with surfaces with bumps with one dimension added to them will do the job. No description of a hectagonal coin, or of curved space, will ever make these things imaginable for a 'normal subject' with his limited imagination, but this is not required. At least, on the basis of the non-contradictory descriptions of the things concerned the 'normal subject' will be in the position to imagine himself seeing a hectagonal coin and establishing that what he sees *is* a hectagonal coin, or manufacturing a hectagonal coin; or moving about in a curved space.[40]

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Now consider the sentence "No surface, if green all over, is at the same time red all over". Suppose that a normal subject has been asked to imagine a counterinstance to this sentence, i.e., a surface that is at the same time all red and all green. He will soon realize that he cannot imagine a thing like that. Just like in the case of hectagonal coins or curved space, however, he will try to go beyond the words in which the thing is described, and for this purpose he will have to reflect on what the surface in question, if it existed, would be like. He would soon realize this: A surface green all over and at the same time red all over would be, first of all, green all over. Such a surface may have various shades of green, but whatever shade of green it happens to have, it is more similar, in colour, to grass than to blood, since green and red are so crassly different colours. But the surface in question would also be red. A red surface may, again, have one of so many different shades of red, but whatever shade of red it happens to have, it is more similar, in colour, to blood than to grass. But the surface in question would not only be red, and not only green. It would be both. It would, therefore, be both more similar, in colour, to grass than to blood, and more similar, in colour, to blood than to grass.

Already this phrase: "A surface at once more similar, in colour, to grass than to blood, and more similar, in colour, to blood than to grass" would appear self-contradictory. Because the 'normal subject' will think that, quite generally, if x is more like b than like a, then x is *not* more like a than like b. More than that, it will seem to him that the same applies to "being more unlike than ...", "being more big (bigger) than ...", and so on, in short, "having one property more (to a larger

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[40]This kind of translation between conceivability and imaginability is postulated by Valberg in his "Necessity, Inconceivability and the *A Priori*", part 2, pp. 148ff.

extent) than some other." From the description "A surface at once more similar, in colour, to grass than to blood, and more similar, in colour, to blood than to grass" a contradictory description follows, namely, "A surface at once more similar, in colour, to grass than to blood, and more similar, in colour, to blood than to grass, and, therefore, *not* more similar, in colour, to grass than to blood".

But the 'normal subject' will not fail to notice that this rule: "If x has a property a to a larger degree than it has a property b, then it does *not* have the latter property to a larger degree than the former" is applicable only to cases where the two properties in question are thought to apply 'in the same respect'. For suppose that someone says: "John is more proficient at playing | the trombone than at playing the violin, but he is also more proficient at playing the violin than at playing the trombone". Although this sentence has an air of paradox about it, we can guess at what sort of a point the person who said that sentence wanted to make. The point may be, for instance, this: John plays better the trombone than he plays the violin when he is playing jazz, but he plays better the violin than the trombone when he is playing classical music. Or suppose someone says: "John is more talented than hardworking", whereupon someone else replies: "but he is also more hardworking than talented". What should we say about this reply? It seems reasonable to suppose that we should interpret it charitably and assume that the person who made it meant some other ways in which John is talented and/or hardworking – other than those meant by the first person: maybe another set of talents, or maybe the intensity of John's labour rather than the sheer amount of time spent on work, or vice versa. Quite generally, if someone says that a thing has one property to a larger degree than another *but also* vice versa, we can understand this as amounting to saying that there are two different 'respects' in which both properties are 'had' by the thing in question, and that in the first of these respects the first property is 'had' to a larger degree than the second, while in the second respect the second property is 'had' to a larger degree than the first.

Our 'normal subject' would, therefore try to 'conceive of' a surface that is more like blood than like grass, in colour, but also vice versa, by trying to find two different 'respects' such that the hypothetical surface would be more like blood than like grass, in colour, in one of them, and more like grass than like blood, in colour, in the other. If he succeeds, he will not be considered a 'normal subject' any longer, because such respects, if they exist, are not widely known. One could argue, it is true, that one and the same surface can be, at the same time, both red and green all over for different observers (whatever way the phrase "being red/green for a observer" was to be interpreted). However, understanding the sentence "No surface, if green all over, is at the same time red all over" in this way would certainly be unstandard. Other widely known 'respects' – such as the point of observation or illumination – are excluded here by the uniqueness of time and observer. Maybe there are some such two respects as to "separate"

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the greenness and redness of one and the same surface at the same time from each other. But knowing them is a piece of 'special information' that 'normal subjects', by definition, lack. The 'normal subject' will, consequently, have to say: "A surface more like blood than like grass, in colour, and more like grass than like blood, in colour, would be more like blood than like grass, in colour, in one respect, and the reverse, in another respect. But there are no such respects. Since there are no such respects, the surface would be more like blood than like grass, in colour, and, being also more like grass than like blood, in colour, it would not be more like blood than like grass, in colour; and this is a self-contradictory description".[41] |

13 These are, then, the contrasts that the kind of obviousness which is that of synap sentences has to the kinds of obviousness, or high plausibility, of other types of sentences. We are no longer left with the woolly assertion that synap sentences seem obviously true; we can, instead, say that they have the contrasts listed here. On the basis of this list, the reader may check if he, or she, finds synap sentences obvious; namely, by checking if for her, or him, all the contrasts listed here obtain.

It has to be noted, however, that contrasts 6 and 7 are such that no subject can know if they really obtain for him or her, or if they only seem to obtain. Because no (human) subject can exhaust all possible ways of imagining or describing a counterinstance of a sentence. A 'normal subject' who realized that he cannot 'conceive of' a counterinstance of a synap sentence by using one set of sentences that he accepts as true, definitions that he accepts as correct, and rules of inference that he accepts as valid can think that there is another such set that will do the job. In order to believe that there is no such set, he would need a survey of

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[41]The idea of this reasoning has been borrowed from two articles by Putnam: "Reds, Greens, and Logical Analysis" and "Red and Green All over Again: A Rejoinder to Arthur Pap"; in writing these articles, Putnam was engaged in a debate with Pap: see "Once More: Colors and the Synthetic A Priori" by Pap. An argument supporting Pap is supplied by Glassen in his "Reds, Greens, and the Synthetic A Priori". Stenius in his "Problem of Color Incompatibility" | (p. 262) comes close to the discovery we have just had our 'normal subject' make when he reasons thus: In order to grasp the difference between the meaning of "red" and the meaning of "green" we have to realize that red objects are in a characteristic way different from green objects, and that this difference is a difference in a certain respect (called "colour"). An object at the same time both red and green all over would, therefore, not have this difference to both objects that are only red (but not green) and to objects that are only green (but not red) all over. It would, therefore, be such as to discourage, by the way it looked, our calling it either "red" or "green". As a result, we should be strongly motivated to count it as neither, "however strange our color experiences [of this object] may be" (ibid.). What Stenius does not take into account here (because he considers this possibility too unconvincing, see op. cit., p. 259) is that there might be some two different respects such that a thing could be both different (in one of these respects) and not different (in the other), in colour, from another thing: see my examples with John the talented violin player in the text above.

all of them. But such a survey is difficult to provide, given that synap sentences, and, consequently, some of the sentences needed for describing their instances and counterinstances, are formulated in ordinary language, which cannot be logically regimented. But moreover, he would also need a survey of all discoveries and inventions to be made that would, if they were known in advance, supply reasons for the acceptance of new sentences, new definitions, and possibly even new rules of inference. And this appears impossible. The situation, however, in which a 'normal subject' ends up with a contradiction while trying to describe the counterinstance of a synap sentence in one way, but does not end up with a contradiction while trying to do that in another way, no matter how he varies the description, will suggest the question if the two descriptions: the one ending with a contradiction and the other one that does not so end, are equivalent. For instance, it can be questioned if all constituent expressions of the original sentence are taken "in the same sense" (whatever that means) for the first, and the second, description. However, there is no a priori answer to this question: it has to be asked and answered for each synap sentence separately.

A 'normal subject' who merely cannot imagine a counterinstance of a synap sentence is in a position different from that a subject who cannot 'conceive of' such a counterinstance. For the former, but not the latter, can always say: "It | is just that my imagination failed me each time I tried to imagine a counterinstance to the synap sentence. But maybe it won't fail me the next time". This confidence in the power of his imagination can go so far as to make him say: "I can imagine such a counterinstance". The "I can" here is to be taken not in the sense of "I have successfully tried it several times and (therefore it is to be concluded that) I shall do it if I decide to at a suitable moment in future" but in the sense of: "(Although I have not done it yet) I have the necessary abilities and capabilities". To this, it can be replied: "If you can imagine a counterinstance, you should also be able to describe it consistently".[42] By demonstrating that the subject in question is not able to describe a counterinstance to the given synap sentence consistently, it is possible to convince him that he cannot, in fact, imagine such a counterinstance.[43] But similarly, a subject might think that he can 'conceive of' a counterinstance of a synap sentence, because he has so far been able to describe a counterinstance to the sentence in question without contradiction. A philosopher,

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[42]The sentence "One cannot imagine what one cannot describe consistently" could have been put on our list of synap sentences because it shares all of their relevant properties.

[43]Sometimes it will be necessary, in order to convince him that he cannot describe a counterinstance to a synap sentence consistently, to give him some 'special information'. This is the point that Mulligan and Smith are making when they write: "[W]hat is materially [i.e. not on the basis of any formal laws alone] excluded in a given region is often perfectly well *imaginable,* by those who have taken no steps to familiarise themselves with the laws holding in that region" ("Pieces of a Theory", p. 101). As we shall see, 'special information' is sometimes instrumental in *supporting* the obviousness of a synap sentence: Section 15.

a scientist, a humanities scholar of the relevant discipline, a lexicographer, or just another 'normal subject', however, might show him that if he varies his description in a certain legitimate way, he will arrive at a contradiction. In this way, the 'normal subject' will realize that he has not, in fact, been able to 'conceive of' a counterinstance of the synap sentence at issue.

14 I now proceed to my *second* task, namely, to answering the question: *Why* should the contrasts listed in the preceding section obtain for synap sentences in the eyes of 'normal subjects'? The following answers can easily be found.

Regarding contrasts 1–2: synap sentences are not, as a matter of fact, instantiations of tautologies, nor are they such that they can be turned into instantiations of tautologies by replacing one of their constituent expressions by another.

Regarding contrast 3, synap sentences have it because their counterinstances are not only unmet-with and unheard-of, but also unimaginable; no opinion can, therefore, prevail as to whether the applicability of one of their predicates is a necessary condition of the applicability of others.

Regarding contrast 4: it obtains, for 'normal subjects', because, by hypothesis, they have no 'special information', not even information accepted on the authority of "specialists", with regard to synap sentences.

Regarding contrasts 5 to and including 7, it is easy to note that if the last of them (contrast 7) obtains for a subject, the preceding two will obtain, too, no matter what other reasons and causes for their obtaining there might be. | Because, if a subject cannot conceive the possibility of a sentence *not* being true, then he cannot either imagine it or consider the sentence as merely empirically true. (Although he can erroneously *believe* he can imagine the sentence true: see the last-but-one paragraph of the foregoing section.) It is, therefore, possible to concentrate on contrast 7 and ask why *it* should obtain.

To this question, there seems to be a plain answer: Contrast 7 obtains for 'normal subjects' because they cannot 'conceive of' counterinstances of synap sentence. That is, in trying to describe such counterinstances they end up with self-contradictory descriptions. Why should this be so?

Because they assume – in the course of their failing attempts to 'conceive of' a counterinstance of a synap sentence – certain sentences as true, certain definitions as correct, and certain rules of inference as valid.[44] The allegiance to

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[44]I speak here of definitions because I believe that there *are* definitions, *pace* Quine, Fodor (*The Language of Thought,* p. 154) *et alii*. Namely: in various branches of science and scholarship. If you do not share my belief, you may disregard my mention of definitions. The following has to be said about the relation between 'normal subjects' and science and scholarship. 'Normal subjects' lack, by hypothesis, all 'special information' about the subject matter of synap sentences of the sort that if they had it they would be in the position to believe synap sentences false; they may, however, have other pieces of knowledge borrowed from science and other realms of study. If we think of 'normal subjects' as of representatives of 'common sense' then we have to take into account that

such sentences, definitions, and rules of inference leads 'normal subjects' to self-contradictory descriptions of counterinstances of the synap sentence.

For instance, in the above attempt to describe an instance of a surface simultaneously red and green all over, we had a 'normal subject' assume that a surface red all over would be more similar, in colour, to blood than to grass; and we also had him assume that a surface green all over would be more similar, in colour, to grass than to blood. We had him assume, too, that if a sentence 'p' is true, and a sentence 'q' is true, then also the sentence 'p and q' is true. Furthermore, we had him assume that there were no two respects such that a surface might be more similar, in colour, to blood than to grass in one of these respects and, at the same time, more similar, in colour, to grass than to blood in the other. Finally, we had him assume that if anything is more like *a* than like *b,* then it is not, in the same respects, more like *b* than like *a*. These assumptions seem very *obvious,* but they *are* assumptions: If we wish to assess the 'epistemological value' of the sentence "No surface, if green all over, is at the same time red all over", we have to examine the correctness of these assumptions.

15 With the above answers to the question: "Why do contrasts between synap sentences and other obvious or highly plausible sentences obtain for 'normal subjects?", the problem of the synthetic a priori, as here conceived, is solved. | We now know what kind the apparent obviousness of synap sentences is: it is the obviousness of sentences whose counterinstance cannot be conceived.

What the sentences, definitions, and rules of reasoning that prevent 'normal subjects' from 'conceiving of' counterinstances of synap sentences are, cannot, clearly, be determined a priori and in all generality. This issue has to be studied and examined separately for each synap sentence. But we now know what sort of obviousness synap sentences enjoy, at least in the minds of 'normal subject': it is an obviousness similar to that of sentences whose counterinstances cannot be imagined, but stronger, because counterinstances of these sentence can, at least, be 'conceived of', whereas those of synap sentences cannot: All attempts to produce a non-self-contradictory description of a counterinstance of such a sentence fail.

Furthermore, we now know, at least generally, how to remove the spell of obviousness from a synap sentence: We should give 'special information' providing good reasons to believe that the sentences, definitions, and inference rules used by 'normal subjects' in their failing attempts to 'conceive of' a counterinstance of

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'common sense' is not a closed system, but is permeated with information stemming from outside itself (for instance, from science) and keeps absorbing such information. See Dummett, "Common Sense and Physics", pp. 17–21, in particular p. 18. Outside of science and scholarship, one can speak of definitions in the sense of formulas in which the accepted understanding of expressions is set forth ("unpacking the meaning of an expression" of "In Defense of an Old Dogma" by Żełaniec).

that sentence are, or at least may be, respectively, false, incorrect, and/or, invalid. For instance, we can show that the sentences in question are all merely empirically, if at all, true, and that their inductive support is weak. Once we have supplied evidence to this, or a similar, effect, the synap sentence in question will start losing its grip on the minds of 'normal subjects'. This will go on in the same way in which the obviousness of the thought that the inhabitants of the antipodes walk upside down loses its grip on the mind of a child who has been told about the size of the Earth and other relevant factors; just as the apparent obviousness of the fifth axiom of Euclid *as true at least about the visual space* begins to dissipate as soon as we have gone through the thought-experiments proposed by Hopkins in his article "Visual Geometry". And those from among 'normal subjects' who have taken in the evidence supplied by us will be no 'normal subjects' any longer. Eventually it may even turn out that what initially seemed obvious is, in fact, false.[45]

The evidence thus supplied will be exactly that 'special information' that the 'normal subjects' in question did not have. What in Section 11 appeared woolly (case 3) has now been made more precise.

It is instructive to see what happens once a subject has acquired 'special information' to the effect that a given synap, or otherwise highly plausible, sentence is false, and accepted it as a good reason to believe that the sentence *may* or even *is* false: A vague air of obviousness will still surround the sentence in the subject's mind for some time, but it will become just that: an air, │ something like a 'familiar ring' of an expression of a foreign language that fades gradually away once one has been told that the expression means something different from what it "rings" like.[46] For instance, when we start to think about such matters in childhood, we imagine that an infinity, whatever else it is, is so large that nothing can be larger, and in particular, that no infinity can be larger than any other infinity. Later, we are shown the diagonal proof and, as a result, realize that infinities can be larger or smaller than other infinities, and, as a further result, the sentence "No infinity can be larger than any other" loses its grip upon our minds. Something similar happens to other seemingly obvious sentences: that the Earth is flat, that people on the antipodes walk upside down, that velocities are additive, and others, all of

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[45]Von Wright observes (*The Logical Problem of Induction,* pp. 38f.) that the only way to guarantee the a priori truth of a general propositions – and all synap sentences *are* general proposition – is to make it 'analytic' by legislating upon the use of its constituent expressions in such a way as to make its negation contradictory. (One way of doing that would consist in taking the proposition itself as an 'implicit definition' of some of its constituent expressions – see Section 17, item 3.) It follows as a corollary that the "a priori" in the phrase "synthetic a priori" has to be understood – to speak with Barry Smith – fallibilistically. But I have no use for terminological considerations of this sort in this book.

[46]As one might think that "deutsch" is German for "Dutch", which it is not – an error familiar to the "Pennsylvania Dutch".

which are sentences that seemed obvious in a way similar, if not identical, to that in which synap sentences do.[47]

For certain synap sentences, however, the 'special information' pertaining to objects, properties, and relations mentioned in them can help to underpin the obviousness of the sentences. Because – as we shall see in Section 19 – 'normal subjects' can invent thought-experiments which do not require any 'special information' and which can be taken to show that one can 'conceive of' counterinstances of certain synap sentences. For some of such synap sentences there can be 'special information' that constitutes evidence to the effect that such thought-experiments are based on false premises. In a case like that, the spell of obviousness enjoyed by the given synap sentence will not be removed, but, much rather, supported. More exactly, it will be turned into more than just a "spell".

What the evidence constituting the 'special information' can be is a problem for specialized areas of study, and it is not the role of philosophy to provide it. In the example discussed above – the one of the sentence "No surface, if green all over, is at the same time red all over" – a suitable piece of 'special information' would be the news that there are some two different respects such that a surface could be more like blood than like grass in colour in one of these respects, and more like grass than like blood in the other. We do not know (unless we do, but this is another piece of 'special information') what these respects could be, and we cannot anticipate this. The sentence "No surface, if red, is in the same respects green" may seem to encapsulate the information needed, and it is obvious in a way very much like that of a synap sentence, but on reflection we see that a great deal of very 'special information' about colours and surfaces is needed in order to exclude the possibility of its having a counterinstance: we cannot just stay content with a few 'respects' generally known: illumination, observer, and the like. We have to know what 'respects' there *can* be. Assuming that the generally known 'respects' are the only ones would be an act of unjustified faith. | 43|44

How does my solution of the problem of the synthetic a priori relate to that of Delius, the latest so far provided? Stripped of all unnecessary technicalities, Delius' solution is this: In synap sentences, the applicability of the predicate is not a necessary condition of the applicability of the subject term, but all objects by reference to which the subject term is definable are such that the predicate is true of them. For instance, all ways of defining the word "red" are, as a matter of fact, such that overtly or covertly a reference to an extension is made, so that the sentence "Everything red is extended" (cf. sentence 1 of Section 6: "Every colour is extended") cannot fail to come out true, although it is not warranted by the linguistic rules alone (Delius, *Untersuchungen zur Problematik der sogenann-*

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[47]Hayes mentions a number of such examples in his "The Second Naive Physics Manifesto", p. 26.

ten synthetischen Sätze apriori, pp. 271–286).[48] This thesis can be regarded as one possible answer to a question that arises if my solution of the problem of the synthetic a priori is accepted, namely, to the question of why sentences and definitions employed at arriving at a self-contradictory description of a synap sentence can be regarded as, respectively, true or correct. With Delius, we can say this: The sentences are *empirically* true (op. cit., p. 280), and the definitions are correct because they are everything we have by way of a definition for the expressions concerned. The correctness of this answer would have to be examined on a case-to-case basis.

16 What remains, however, is the 'concomitant question', that is, the question of the epistemological value of the apparent obviousness of synap sentences. Given the result just achieved, we can formulate this question in the following way: Are the sentences, definitions, and rules of inference used in arriving at a contradictory description of a counterinstance of a synap sentence, respectively, true, correct, and valid, or do they just *seem* to be so to 'normal subjects'?

Answering this question – something that can be done, again, only on the case-to-case basis – need not, and probably more often than not, will not be a business of philosophy.[49] It will be an examination falling within the scope of competence of various branches of science and scholarship; namely, of those branches whose respective subject matters include the object, properties, and relations, mentioned in sentences used by 'normal subjects' in their failing attempts at making sense of counterinstances of synap sentences. It will, also, be a business of linguistics, and of logic, as far as correctness of the definitions, and/or validity of the rules of inference involved is concerned. This is the moment where philosophy has to leave off.

But not quite. There is a *strange difficulty* here: Some of the sentences to be examined may turn out to be obvious – in exactly the same way in which synap sentences are. Some of the definitions might turn out to be obviously correct, and some of the rules of reference might turn out to be obviously valid | – the obviousness being, in both cases, similar to that of synap sentences. The same may prove to be the case with sentences *employed* in an examination of the sentences, definitions, and rules of inference just mentioned. The truth-value of such sentences might be "True" or "False", but, if they seem to be obviously true, the temptation will arise to assume that they are all true. If we succumb to this temptation, our

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[48]This solution works for certain synap sentences only; for others, such as for instance our sentence 7 of Section 6: "No surface, if it is red all over, is at the same time green all over", Delius advocates the idea that they do express a lingustic rule: op. cit., p. 284.

[49]Sometimes it will be a business of philosophy, however: see Chisholm's arguments against Reid's common-sense idea that a thing cannot cease to exist and then begin to exist again, in Chisholm, "Parts as Essential to Their Wholes", p. 599.

assessment of the 'epistemological value' of the apparent obviousness of the sentence we started with will be distorted. It is a role of philosophy to make us alert against this sort of temptation.[50]

For instance, in the above (final paragraphs of Section 12, item 7) treatment of the sentence "No surface, if red all over, is at the same time green all over", we assumed (with our hypothetical 'normal subject') that there are no two respects such that a surface could be more like blood than like grass, in colour, in one of these respects, and more like grass than like blood, in colour, in the other. This assumption seems to enjoy a kind of obviousness, pending 'special information' which 'normal subjects' do not have. But what kind of obviousness is it? The same remark, and the same question, could be made and asked with regard to the assumption that if something is more like *a* than like *b,* then it is not more like *b* than like *a:* What sort of obviousness does *this* sentence enjoy? An apparently easy answer to this question would be that the sentence in hand enjoys the obviousness of an easily demonstrable mathematical proposition, because asymmetry is a definitory property of the mathematical relation of 'being larger than ...' and that all relations of 'being more like *x* than like *y* in a respect' are cases of the relation of 'being larger than ...'. Certainly; but the piece of information expressed in this very sentence: "All relations of 'being more like *x* than like *y* in a respect' are cases of the relation of 'being larger than ...'" goes beyond mathematics: we must have acquired it in some other way; maybe by occupying ourselves, for some time, with a number of relations of 'being more like *x* than like *y* in a respect'. In a Wittgensteinian vein (cf. item 3 in Section 17) it could be proposed that the piece of information in question is derived from the 'grammar' of the word "more". But this is false, because, as we have seen, it is quite possible to say 'John is more skillful at playing the trombone than at playing the violin, but he is also more skillful at playing the violin than at playing the trombone' without offending against grammar.

Certainly, to make sense of the statement of the form "*i* is more *p* than *s*, but it is also more *s* than *p*" one needs the information that there are some two different 'respects' such that the object in question is more *p* than *s* in one of them and more *p* than *s* in the other. Our 'normal subject' has failed to find any such two respects for the hypothetical surface red and green all over. Such a surface is, therefore, not just unimaginable, but 'inconceivable' for him. But the sentence that he cannot help but assert: "There are no such two respects that a surface could be more like blood than like grass, in colour, in one of these respects, and more like grass than like blood, in colour, in the other" | is not exempt from the same sort of examination as the former ones. It, too, seems to be very obvious,   45|46

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[50]A similar difficulty with respect to 'a priori propositions' has been pointed out by Alston in his "Epistemic Circularity"; cf. also "The Justification of A Priori Intuitions" by Tidman.

but what kind of obviousness is this? It could turn out that it is exactly the same kind of obviousness as that of synap sentences. Consequently, we should have to examine this new sentence in the same way.

In the process of an examination like that, however, other, equally obvious sentences might turn up, and so on. Is there an end to this? We can, to be sure, never say "There is no end to this" before we have reached an end. This is because synap sentences are expressed in ordinary language, which cannot be regimented, and the sentences which, if assumed and made use of, lead to self-contradictory descriptions of counterinstances of synap sentences belong to the scope of 'common sense'; 'common sense', however, can hardly be disciplined in such a way as to make the question "Is there an end to synap sentences cropping up in the process of trying to describe counterinstances of other synap sentences?" decidable a priori.

The 'strange difficulty' is not characteristic exclusively of synap sentences as conceived here, i.e. ordinary-language sentences about objects of ordinary experience, and expressing pieces of 'common-sense' (cf. item 2 in Section 7). As Carnap showed[51] in his "Beobachtungssprache und theoretische Sprache", a similar difficulty arises with respect to 'meaning postulates' for technical terms of natural sciences, even though these postulates are 'analytic', i.e. true due to the meanings of their constituent terms alone (Carnap, op. cit., p. 244). The problem is this: Natural sciences contain a number of sentences whose constituent expressions are not defined on the basis of observation alone: they are 'theoretical terms'. Some of these sentences – for instance, Newton's laws – could be regarded as 'axioms' of the respective natural science, and, by the same token, 'meaning postulates' for their constituent 'theoretical terms' (*à la* Hilbert, cf. footnote 65). This, however, is counterintuitive, because they *not only* determine the meanings of their constituent expressions, but also contribute to the content of their respective natural science. To steer clear of this difficulty, Carnap proposed to regard as 'meaning postulates', not the sentences in question alone, but implications of the form "If R then T and C", where T are the sentences in question, C are sentences in which 'theoretical terms' occurring in T are connected with certain observation terms, and R are sentences which do not contain the 'theoretical terms' occurring in T and C, but maintain that there are objects of which both T and C are true. The truth of such implications is warranted by laws of logic alone, and their function as 'meaning postulates' is clear: they give the instruction to understand the 'theoretical terms' in question in such a way as to make T always true, *since* there are suitable objects that can serve as referents of the 'theoretical terms' occurring in T. The sentences R can then be regarded, not as 'meaning postulates',

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[51]In what Woleński (*Metamatematyka a epistemologia,* pp. 165f.) described as an attempt to define the analytic-synthetic distinction going in "the right direction".

but as axioms of the respective natural science (Carnap, op. cit., p. 246). They are "synthetically", i.e. non-analytically, true (ibid.). |

The difficulty is that that synthetic truth of *R* can, but need not, be empirical. How is its truth accounted for, then? How is its truth accounted for, then? This problem, which is just another form in which the 'strange difficulty' presents itself, troubles all accounts of the synthetic a priori that reduce synap sentences as sentences about ordinary objects to sentences about universals.[52] Because, had the objects the existence of which is affirmed in *R* been ordinary, individual objects, their existence could have been ascertained inductively. But often, the objects in question are universals (Carnap, op. cit., p. 237). Now, since universals are universal, a sentence about them does not need any inductive support; but, then, they cannot be seen, either (unless some sort of "intuition of essences" is granted): for this reason, the question why a sentence about universals appears obviously true cannot be answered: "Because we see that it's true".

For instance, suppose that *p* a sentence involving the 'theoretical term' "temperature". There is another sentence that connects "temperature" with the 'observation term' "warmth"; for instance: "All bodies with different warmth have different temperature". These two are the only items in *T* and *C*, respectively. The corresponding *R* sentence is: "There is a property *x* such that all bodies with different warmth have different *x*; and *p*" (taking into account that all occurrences of "temperature" in *p* have been replaced by occurrences of "*x*".) Now – here enters the 'strange difficulty' – is this sentence obviously true, and if not, why should it be accepted as an axiom of any theory? If it is, what is the nature of this obviousness? Is it, in particular, inconceivable that there should be exactly *two* properties, *x* and *y*, such that all bodies with the same *x* or the same *y* should have the same warmth, *p* being still true of *x* or *y?* If it is, why? If it is not, how can we 'conceive of' a possibility like that? And can we just as easily 'conceive of' a possibility of there being exactly three, or a million, of such properties? If not, why not? All such questions would have to be answered in due course.

17 There is one more difficulty to discuss. I have listed contrasts which synap sentences have, for 'normal subjects', to other categories of sentences. A characteristic feature of those other categories of sentences was, however, that they were obvious in some "legitimate" way, namely, because there was evidence, or there were arguments, in their favour. But there seem to be categories of sentences which are obvious, in various ways, to 'normal subjects' as well as to other subjects, *not* because there are arguments speaking for them, but for other reasons. These are:

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[52]A theory like that is implied in, or suggested by, accounts like that of Cohen ("Analyticity and Real Essences") and of De Jong ("Opnieuw: attributen, propria en het synthetisch apriori"). Reinhardt Grossmann of Indiana University holds a theory like that (oral communication).

1. Frequently repeated maxims of "conventional wisdom", proverbs, and the like;

2. Sentences that occupy central places in our belief systems and are such that we are prepared to defend them against "recalcitrant experience" as far as it goes (see Quine, "Two Dogmas of Empiricism"); │

3. Sentences that are express (a) grammatical rules or (b) semantic rules of the language in which they are formulated.

Before I go on, however, I shall clear up the issue of the very *distinction* between grammatical and semantic rules.

This distinction is not at all easy to make, although there is a rough consensus about it. As a most perfunctory acquaintance with grammar textbooks would suffice to establish, grammatical rules pertain to the way in which sentences are constructed, whereas semantic rules pertain to what expressions mean. No-one who is at least vaguely familiar with what has traditionally passed as grammar or semantics will look for an explanation of the way the word "snake" is used in an English grammar textbook, or for rules of the use of tenses in an English dictionary. There are numerous border cases, however: an explanation of how the word "the" is used might be looked for in both an English grammar textbook and in a dictionary, and in both cases turn out to be insatisfactory. Difficult as the matter is, however, it is not hopelessly vague or intractable. Cruse in his *Lexical Semantics* has offered two criteria for distinguish grammatical rules from semantic rules (pp. 1–8), and the less technical of the two says that a sentence, or sentence-like concatenation of expressions, offends against a semantic, but not a grammatical rule, if it is odd, but can be made non-odd by being embedded into a context. For instance, the sentence "The table saw Arthur" can be made non-odd if embedded into the context of a mention of Arthur's paranoiac obsessions. By contrast, a sentence like "The cake was baken" cannot be made non-odd by any such embedding, except when it is a direct quotation of a person of whom no perfect mastery of English can be expected; for instance "As my two-year-old son said yesterday, 'The cake was baken'" (both examples by Cruse). No negation of a synap sentence quoted in Section 6 comes out, on this criterion, as offending against a grammatical rule, because for every one of them there is a context in which they appear non-odd, namely: "It is obviously false that . . . ".

A major philosopher who seems to have believed that at least certain synap sentences offend against rules of what he called "grammar" was Wittgenstein. I cannot go into any exegetical questions here, but it seems to me that "grammar" in the Wittgensteinian sense was closer to "semantics" in the (now) received sense

than to "grammar" in the received sense.[53] | There is also evidence to believe that Kant's account of the synthetic a priori involves reference to semantic rules.[54] In the present context, a relevant thing about semantic rules is that they can be of two kinds. The *first* kind are those that forbid us to say certain things not because it would be illogical or false to say them, but because we are simply not supposed to say them. For instance, in English we do not apply the expression "to kick the bucket" to anything but humans, not because "to kick the bucket" means "to die in a characteristically human way", but because we simply do not.[55] The sentence "My parrot has kicked the bucket" is not false or illogical: it is just odd, because we simply do not say such things. We could, now, form a sentence like "Only human beings can kick the bucket", offer it as an example of the synthetic a priori, and subsequently explain its *seemingly* obvious truthfulness by appeal to the rule in question, of which the sentence is, in fact, nothing but an expression.

Another example is the sentence "No surface, if red all over, is at the same time blue all over". In English, as in many other languages, there seems to be a rule that forbids us to apply two major colour words to the same shade at the same time. Now there are shades of blue that can be regarded as shades of red, and vice versa, red and blue being adjacent colours. What this rule does is to keep us from calling such shades red and blue at once. We are free to choose either, but not

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[53]More accurately, Wittgenstein's "grammar" encompassed both grammar and semantics; see Aidun, "Wittgenstein on Grammatical Propositions", p. 142. It is impossible to set out any coherent and rounded-off doctrine of "grammar" in the Wittgensteinian sense. There are speculations as to where Wittgenstein got his concept of grammar from: Ogden and Richards, or Anton Marty: Gier, *Wittgenstein and Phenomenology,* pp. 98f. Here are, however, some hints that might shed some light on it: *Philosophische Bemerkungen,* section 178: the axioms of the Euclidean geometry are rules of syntax in disguise. According to Wittgenstein, if "[g]rammar describes the use of words in the language," (*Philosophical Grammar,* section 23.) then "[t]he words shape' and 'colour' . . . determine the *kind of use* of the word, and therefore what one may call the *parts of speech.*" (*Philosophical Grammar*, section 61). A sentence like "red is a colour" does not make sense, or rather, it does not make *that* sort of sense that saying "phosphorus is a poison" does (ibid.); it is an observation about the grammar of the word "red," just like saying, of a person who was supposed to understand a word: "Whether he understood, is | something he knows which we cannot *know* but only guess" (*Philosophical Grammar*, section 40).

For an interesting attempt to stylize the Wittgensteinian theory of "grammar" in such a way as make it look more similar to grammar in the traditional sense, and to show that it would still solve the problem of the synthetic a priori, see: F. Waismann, *Verifiability,* p. 138. For an outline of a theory of the analytic based on the Wittgensteinian conception of "grammar" see "Analycity And Grammar" by Garver.

[54]Butts, "Kant's Schemata As Semantic Rules", where semantic rules come out as something similar to 'correspondence rules' in the sense of Carnap's "Beobachtungssprache und theoretische Sprache", p. 293. Cf. Allison, "Transcendental Schematism and the Problem of the Synthetic A-Priori" Allison, "Transcendental Schematism and the Problem of the Synthetic A-Priori" and Pendlebury, "Making Sense of Kant's Schematism".

[55]Cruse, *Lexical Semantics,* p. 279.

both at once. Saying of an expanse with a shade like that: "This is red and blue all over" or "This blue and red surface is ..." is not false or illogical, it is just something that we do not say. For this reason, the sentence "No surface, if red all over, is at the same time blue all over" can *seem* obviously true, for reasons similar to those for which the sentence "Only human beings can kick the bucket" can.

The *other* kind of a semantic rule are those rules that partly define the meaning of some of their constituent expressions. The idea that rules of this sort may be involved in making synap sentences seemingly obvious is particularly attractive inasmuch as synap sentences contain (as we saw in Section 6, property 3) two or more extra-logical expressions which *may* have interesting meaning-relations to one another, relations due to semantic rules of the sort here at issue. Such rules make *by themselves* the negations of the sentences in which they are expressed false. All definitions belong here, but synap sentences are not 'explicit definitions' (with the *definiendum* on one side of an expression for equivalence and the *definiens* on the other), and neither do they | conform to other patterns of "well-behaved" definitions, such as for instance 'reductive definitions' *à la* Carnap. Synap sentences, therefore, if they are expressions of semantic rules of this second kind, can be only 'implicit definitions', or concealed 'meaning postulates'.[56] It is difficult

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[56]The concept of an 'implicit definition' stems from Gergonne's "Essai sur la théorie des definitions", p. 23; it was only Hilbert, however, who in his *Foundations of Geometry* gave it the form now considered standard. (On Hilbert's role in this see the article "Frege, Hilbert, and the Conceptual Structure of Model Theory" by Demopoulos. On various vicissitudes that the Hilbertian concept of 'implicit definition' has experienced at the hands of Schlick (see his *Allgemeine Erkenntnislehre,* pp. 49ff., 90f.) and his followers – vicissitudes that were partly responsible for what now is considered the standard concept of 'implicit definition' and attributed to Hilbert without ceremony – see "Geometry, Intuition and Experience: From Kant to Husserl" by Majer and *Neopositivismus* by Haller, pp. 112f.) In the context of the synthetic a priori it comes into focus in among others "Is There a Synthetic A Priori?" by Sellars. Other references useful to some extent for the problem of the synthetic a priori include "Implicit Definition Sustained" by Quine and "Implicit Definition Once Again" by Wilson. A conception very close to that of an 'implicit definition' is advanced by Ajdukiewicz in his "Sprache und Sinn" (p. 114) and "Das Weltbild und die Begriffsapparatur" (p. 261), namely, that of an 'axiomatic rule of sense' that require anyone who wishes to employ words of a certain language that he should accept certain sentences containing these words unconditionally. In "Sprache und Sinn" Ajdukiewicz even says on p. 14 that axiomatic rules of sense are the key to the puzzle of the "so-called a priori evident sentences". Without using the expression, Edidin in his "Language-Learning and A Priori Knowledge" comes quite close to describing 'implicit definition' when he says on p. 387 that "[i]f a sentence is such that coming to believe it played an essential role in one's learning of some word, then one will be justified a priori in believing that sentence" except that 'implicit definitions' are assumed to work the other way around: they are first believed a priori, and only on this basis can they play a role in one's learning – usually, modifying what one has already learnt – a word. For 'meaning postulates' see "Meaning Postulates" by Carnap, and *Logika teorii empirycznych* by Przełęcki, chap. 4. A sentence that could be on our list in Section 6 is quoted by Hayes in his "The Second Naive Physics Manifesto": "Two bodies can touch, and when they do, there is no space between them", with the comment:

to find convincing examples of 'implicit definitions' within ordinary language, but an example that illustrates this concept as well as the way in which being an 'implicit definition' can help a sentence to become apparently obviously true is this: The expression "South America" used to have some fairly clearly defined geographical sense. But since some time ago, many people have taken to asserting sentences like "Mexico is part of South America", or sentences containing parts like "Mexico, as a South-American country ...", accepting such sentences as premises in their reasonings, using descriptions like "the northernmost South American country" with reference, not to Colombia, but to Mexico, and the like. According to that former geographical sense of the expression "South America", such sentences were, far from being obvious, quite clearly false. Yet they have been asserted blindly, and they have not sprung from, nor have they given rise to, any false ideas as to where Mexico is (such as that it is between Argentina and Paraguay, for instance). Their function was to redefine "South America", in such a way as to make it applicable to Mexico. Once this | has been accomplished, it is now obvious that Mexico is in South America[57]. This is due, not to any mysterious link between Mexico and South America (in that older, geographical, sense of the expression "South America"), but because "Mexico is in South-America" is an 'implicit definition' of "South America", or expresses a semantic rule which makes its negation false.

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Other examples are sentences like "Monday immediately precedes Tuesday", "Friday immediately follows Thursday" and the like, a proper subset of which can be regarded as a collective 'implicit definition' of the names of the days of the week.[58]

Yet another example is the French nursery rhyme: "*Quand trois poules vont au champ, la première va devant ...*". When three hens are marching in the fields, the first one is walking ahead of the others in the sense that we should not call it "the first" if it were not. This character of 'implicit definition' that the rhyme gives to "*la première*" and other ordinal numerals occurring in it is what constitutes the element of humour in the rhyme.

An example that would have seemed to be more closely related to the problem of the synthetic a priori if it had not been so debatable is provided by Specht in his article "Wie sind synthetische Urteile a priori möglich?": Sentences of the form "If $a=b$ then $b=a$" are, according to Specht, 'implicit definitions' of "=", because

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"[T]his could even be a definition of touching" (p. 26). A contemporary author who professes an 'implicit-definition' or 'meaning-postulate' theory of the synthetic a priori is Wolniewicz (see his "On the Synthetic A Priori").

[57]At least according to the new sense of "South America", as the old, geographical sense, has not yet been withdrawn from circulation. The two senses live on alongside each other.

[58]This example is discussed in great detail by Delius in his *Untersuchungen zur Problematik der sogenannten synthetischen Sätze apriori,* pp. 43ff.

cases where *a* and *b* are first equal and later not equal are counted as cases when either *a* or *b* has changed in the meantime (pp. 539f.). One has to object, however, that the sentence in question is usually interpreted with a *fixed* temporal parameter.

Why should the obviousness of sentences of these categories be "illegitimate"? Because (1) frequently repeated maxims can be false, regardless of how often they are repeated and how well entrenched they are in the minds of the subjects who repeat them; and being well-entrenched and frequently repeated is no argument at all. Because (2) sentences that occupy central places in our belief systems can do so not because there are so many good arguments in their favour, but because they are simpler, or richer in consequences than other sentences, or maybe they have other epistemological or methodological merits of this sort, or maybe because they are maxims of conventional wisdom. Because (3) rules of language, as all rules, are neither true nor false, (only, and at most, correct or uncorrect); it is only after we have forgotten that they are rules that they can they start seeming true.

18 Synap sentences have a contrast, for 'normal subjects', to each of the three categories of sentences mentioned in the previous section, too.

1. Synap sentences are not frequently repeated by 'normal subjects', and it is difficult to say if they are repeated by subjects of any general category at all. Neither are they frequently reflected upon or given any thought at all. They may sometimes be used as examples of obvious sentences, with the purpose of making clear that there are some such truths, after all (as when someone says: "After all, black is not white"), but this use of synap sentences is clearly parasitic upon their obviousness, so even if it makes this obviousness, or the grip it has upon the minds of 'normal subjects', firmer, it cannot explain it.[59]

2. Synap sentences contrast with sentences defended against "recalcitrant experience" simply because, even if there is any such experience, 'normal subjects' know nothing about it and find it impossible, as we saw earlier on, to 'conceive of' it (cf. a similar argument under item 3 in Section 12). In general, it is impossible to say if a subject is ready to do such-and-such under certain circumstances, if the circumstances in question are not at all available and have never been. In the few cases where recalcitrant experience for something that might have looked like a synap sentence: for instance, the fifth axiom of Euclid, or the principle of additivity of velocities, has been found and widely publicized, many 'normal subjects' readily absorbed the information (thereby ceasing to be 'normal subjects' with respect to these sentences) and educated their minds in such a way as not to find these sentences obvious any longer.

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[59]See Schlick, "Gibt es ein materiales Apriori?", p. 26.

 3. Negations of synap sentences contrast, for 'normal subjects' as well as for other kinds of subjects, with sentences that offend against (a) grammatical rules or (b) semantic rules:

ad a. Negations of synap sentences contrast, for 'normal subjects', with sentences that express grammatical rules in that 'normal subjects' are unable to quote any grammatical rules that negations of synap sentences might be suspected of being expressions of. The information as to where such rules are to be found is a piece of 'special information' whose possession would make every 'normal subject' to a non-'normal subject'. Moreover, an argument can be provided to the effect that such rules may not be to be found at all: Grammatical rules are usually valid for whole classes of expressions belonging to the same grammatical category; synap sentences, however, are such that replacing its expressions with other expressions of the same grammatical category turns them into sentences that cannot be suspected of being an expression of a grammatical rule, because they are empirically true or false. For instance, the sentence "There is a surface red all over that is at the same time green all over" can, in this way, be turned into the sentence "There is a surface red all over that is at the same time smooth all over", and the latter is empirically true, as a furtive look at a ripe tomato will suffice to establish with a reasonable degree of moral certainty.

ad b. For 'normal subjects', synap sentences contrast with sentences which express semantic rules in the following way. For the rules of the first kind I described above – rules that forbid us to say "My parrot kicked the bucket last week" when my parrot died last week, or "This expanse is both red and blue all over" when this expanse has a shade intermediary between red and blue all over, a 'normal subject' will have to say that synap sentences *qua* such rules would be idle, since there are no cases in which they would find application. Parrots die, and expanses have shades intermediary between red and blue, oc- | casionally, and had it not been for both of the above semantic rules, we could be tempted to say "My parrot has kicked the bucket" or "This expanse is both blue and red all over". In such cases, the rules do find application. But for synap sentences *as* semantic rules of this kind, no such temptation could ever arise. Ayer is wrong, for instance, to claim that the sentence "Nothing can be coloured in different ways at the same time with respect to the same part of itself" reflects "our determination to call a colour expanse which differs in quality from a neighbouring colour expanse a different part of a given thing" (*Language, Truth and Logic*, p. 74[60]) because, once the meanings of such terms have been (at least partly) laid down in other ways, there is no room for determining oneself in a way like that.[61] Moreover, as the

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[60]Cf. a similar idea in "Analyticity, Informativeness, and the Incompatibility of Colors" by Beard.

[61]For the same reason there is no room for making a decision *à la* Carnap who says in his "Meaning Postulates" that an author who wishes some two predicates to designate the properties

above examples show, in the case of a genuine semantic rule of the sort here un-der discussion, we can always outwit it, and identify situations in which we could say things that the rule has us *not* say (dying parrots, expanses of a shade inter-mediary between red and blue); but in the case of synap sentences, we cannot, nor can we imagine or as little as 'conceive of' such situations.

About semantic rules of the second kind – 'implicit definitions' or 'meaning postulates' – a 'normal subject' will have to say that synap sentences contrast with these in that the meanings of all constituent expressions of synap sentences are known to him to the extent where he cannot 'conceive of' counterinstances of these sentences even before he has adopted the latter as 'implicit definitions' of their constituent expressions. The function of 'implicit definitions' is to make meanings more precise if not to constitute them from scratch,[62] but in the case of synap sentences the meanings involved are, if anything, *too* precise: there is no vagueness left for making their counterinstances as little as conceivable.

What this claim of a 'normal subject' amounts to is this: If the subject sets out to describe a counterinstance to a synap sentence, and ends up with a contradic-tion, without having made use of that very synap sentence itself, then, even if the sentence is a definition, implicit or otherwise, of some of its constituent expres-sions, this fact has no role to play in rendering the counterinstances of the sentence inconceivable.

A partisan of the view that a synap sentence is nothing but an 'implicit defini-tion' of some of its constituent expressions may protest that a 'normal sub- | ject' who arrived at a contradiction while trying to describe a counterinstance to the synap sentence has, in fact, made use of that sentence as an 'implicit definition' except that he did so covertly. But if so, it rests with the partisan of this view to show where, exactly, the synap sentence was made use of as an 'implicit defini-tion'. And even if this can be done, the 'normal subject' can demonstrate that on other routes, where the synap sentence is definitely *not* made use of as an 'implicit definition' (let alone an explicit definition) he arrives at a contradiction, too.

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To make things simpler, let us suppose that a synap sentence is used as an 'im-plicit definition' of one of its constituent expressions quite overtly. For instance: Trying to describe a counterinstance of the sentence "No surface, if red all over, is at the same time green all over" a 'normal subject' might proceed like this: A

Bachelor and Married, respectively, does not have to *know* that these properties are incompatible because "[t]his is not a matter of knowledge but of decision" (p. 225). Except that the applicability of Unmarried is a necessary condition for the applicability of Bachelor, whereas the applicability of Not Red is not a necessary condition for the applicability of Green.

[62]On this role of 'implicit definitions' in Hilbert see a clear statement by Hallett in his "David Hilbert" p. 355. On the role of conventions and definitions in eliminating "zones of linguistic inde-terminacy" of the sort described in the main text, see Hao Wang, *From Mathematics to Philosophy,* p. 277. Insights on vagueness relevant in the present context are also provided by Khatchadourian in his "Vagueness, Meaning, and Absurdity" and by Machina in his "Vague Predicates".

surface red all over, would, first of all, not be green all over. But it would, at the same time, be green all over; and this is a self-contradictory description. Here, the very sentence under discussion is presupposed and quite overtly made use of as an 'implicit definition' of "red". But the 'normal subject' would realize that while this definition allows him to arrive at a contradiction quickly, it also begs the question of the very possibility of a surface that is at the same time red and green all over, and it is not very virtuous with respect to uses to which definitions are usually put. For he might imagine that he is struck with momentary blindness, but wants to establish the colour of some object which he suspects is red by asking a person who can see it but who, for some reason, does not know the word "red". Using the sentence "No surface, if red all over, is at the same time green all over" as an 'implicit definition' of "red" he can keep asking questions like "Is it green?", "Is it blue?" and hope he will get the answer "no" each time. But a far more efficient method of confirming his guess that the object in question is red would be to ask a question like "Is it similar, in colour, to blood?" In case the object in question is just red the answer will be "yes", but it *could* be "yes" even in the improbable case that the object is red *and* green all over. On the (implicit) definition of "red" employed initially, the answer in this latter case would have to be "no". Thus the definition of "red" expressed in the sentence "Red is the colour of blood" has the double merit of serving as a better aid to detect red objects and of not prejudging the question of the possibility of red and green surfaces. And yet, as we have seen, it also – no less unfailingly than the sentence "No surface, if red all over, is at the same time green all over" employed as an 'implicit definition' – leads to a contradiction in the attempt to describe such a double-coloured surface.

One reason to think that synap sentences are 'implicit definitions' of their constituent expressions is the fact that the way in which a given subject understands the constituent terms of a sentence is such that the sentence *could* be an 'implicit definition' of some of them. This is the case with the names of the days of the week: Someone might argue that for him the sentence "Monday follows Sunday" is not an 'implicit definition' of either "Monday" or "Sunday", because the sentences he has always used as definitions, e.g. in explain-|ing the names of the days of the week to his children and the like were only these: "Monday precedes Tuesday", "Tuesday precedes Wednesday" ... "Saturday precedes Sunday" and "And those are all days of the week there are". In response, we should say that although his 'implicit definitions' are quite correct, an equivalent system could be devised in which the sentence "Monday follows Sunday" *would be* an 'implicit definition' of either "Monday" or "Sunday"; for instance this: "Monday follows Sunday", "Tuesday follows Monday" ... "And those are all days of the week there are". In this sense, the sentence "Monday follows Sunday" *is* an 'implicit definition' of either "Monday" or "Sunday". The trouble with synap sentences, however, is that

it is difficult to substantiate a similar claim in a similar fashion for *them*. Because the meanings of their constituent expressions are not fixed by what can easily be captured in a neatly demarcated system of 'implicit definitions', or not by sentences belonging to a system like that alone, but also, by ostensive definitions or other, non-definitory, means (such as those listed by Edidin on pp. 386f. of his "Language-Learning and A Priori Knowledge").[63] Sentences expressing these other means tend, however, to render synap sentences redundant as parts of a system of sentences that defines some of their extralogical constituent expressions implicitly. |

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For instance, the sentence "No surface, if red all over is at the same time green all over" will not, all by itself, do as an 'implicit definition' of any of its terms. A system of sentences, of which this sentence is a member, would have to be found. A possible candidate would be a system of sentences describing other relations between colours and surfaces, for instance: "There can be surfaces such that one part of them is yellow and another orange without any sharp border between them". But even a most comprehensive system of sentences of this sort alone will not do for defining colour words (or the word "surface"): we should have to add some other sentences that would link colour words with visual phenomena, such as "Orange is the colour of ripe oranges", "Yellow is the colour of the sun at noon" and the like. As soon as such examples have been added, however, the sentences of the former kind will start appearing obviously true and, for this very reason, quite idle as 'implicit definitions'.[64] Because, as remarked above, the meaning of the colour words is *too precisely* determined by these other sentences that link them to visual phenomena rather than to other colour words. Nothing like this, however, is the case with the sentence "Monday follows Sunday" as part of the above-described system of sentences defining the names of the days of the week implicitly.

It is impossible to say a priori if a system of sentences of which a given synap sentence is a part and which does define some of this sentence's constituent expressions implicitly can, or cannot, ultimately be found. This has to be investigated on a case-to-case basis. But for as long as this has not yet actually been done, we are not allowed to take seriously the assertion that the given synap sentence

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[63]This point is made by Przełęcki in his *Logika teorii empirycznych*, chap. 4.

[64]A similar point is made by Ewing in his "Linguistic Theory of *A Priori* Propositions", p. 219. On p. 232 he concedes that "the truth of an *a priori* proposition [by which he means a synap sentence] 'depends wholly on the meaning of the terms used'" but asks whether the dependence in question is "on the meaning of the terms in the sense of being a necessary consequence of the nature of the characteristics for which the terms stand or [...] not on the objective nature of what they mean but on arbitrary rules of language which forbid us to combine certain words". However, 'implicit definitions' fix the meanings of terms exactly to the extent to which these meanings have *not* been fixed by any "necessary consequence of the nature of the characteristics for which the terms stand".

is "nothing but" an 'implicit definition' of any of its terms, however solemn an assertion like that might sound.

Furthermore, even assuming that a given synap sentence has proved to be an 'implicit definition' of some of its extralogical constituent expressions, or a member of a system of sentences that jointly 'implicitly define' some of their extralogical constituent expressions, the following would still be true: The referents of the expressions thus 'implicitly defined' have to be such as to satisfy certain constraints put on them by the 'implicit definitions' in question.[65] For instance, if among 'implicit definitions' of colour words there are these two: "There is a colour intermediate between red and blue, namely violet", and "There is no colour intermediate between red and green", then red and green (or green and red), but *not* red and blue, can be picked out as referents of "red" and "green", respectively.

Now the fact that the referents here involved *do* satisfy such constraints is something that makes the 'implicit definitions' at all possible, and it can be expressed in a conjunction of sentences. But some from among such sentences might turn out to have all properties of synap sentences. The difficulty set forth in Section 16 would, thereby, reappear: Despite the "safe" status of the original synap sentence as an 'implicit definition', we should not know if it is applicable to the objects we normally think of it as applicable to – to its | 'intended model' – *before* we have examined the 'epistemological value' of other synap sentences.

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[65] See what Hilbert has to say about 'implicit definitions' as he is defending this concept against Frege who had pointed out that such definitions do not fix the meanings of the expressions involved univocally: In a letter of December 29 1899 to Frege Hilbert says:"Sie sagen meine Begriffe z.B. 'Punkt,' 'zwischen' seien nicht eindeutig festgelegt; z.B. S. 20 sei 'zwischen' anders gefasst und dort sei der Punkt ein Zahlenpaar. –Ja, es ist doch selbstverständlich eine jede Theorie nur ein Fachwerk oder Schema von Begriffen nebst ihren nothwendigen Beziehungen zu einander, und die Grundelemente können in beliebiger Weise gedacht werden. Wenn ich unter meinen Punkten irgendwelche Systeme von Dingen, z.B. das System: Liebe, Gesetz, Schornsteinfeger . . . denke und dann nur meine sämmtlichen Axiome als Beziehungen zwischen diesen Dingen annehme, so gelten meine Sätze, z.B. der Pythagoras, auch von diesen Dingen. Mit anderen Worten: eine jede Theorie kann stets auf unendliche viele Systeme von Grundelementen angewandt werden . . . . Die sämmtlichen Aussagen einer Electricitätstheorie gelten natürlich auch von jedem andern System von Dingen, welche man an Stelle der Begriffe Magnetismus, Electricität [. . .] substituiert, *wenn nur die geforderten Axiome erfüllt sind.*" (Emphasis by W. Ż.) Gabriel, Kambartel, Thiel (eds.), *Gottlob Freges Briefwechsel mit D. Hilbert, E. Husserl, B. Russell, sowie ausgewählte Einzelbriefe Freges.* There is ample room for choice of referents of expressions defined implicitly, and for "point", "straight line", and "plane" could stand for love, law, and chimney-sweeper, as long as these three satisfy the constraints that the Hilbertian axioms of geometry put on whatever "point", "straight line", and "plane" should stand for. But we have to make sure that the objects picked out as referents of these three terms actually *do* have the properties and relations prescribed by the axioms, or (which amounts to the same) that they satisfy the conjunction of R sentences in the sense of Carnap's "Beobachtungssprache und theoretische Sprache" (see page 49); this conjunction, however, is not a definition, nor is it analytically true (if it is true at all).

19 In this section and the remaining ones I shall illustrate how my solution of the problem of the synthetic a priori works for various synap sentences. I shall not exhaust my list from Section 6; this would have little point, since there exists no complete list of synap sentences, let alone of sentences that *could* be quoted as examples of the synthetic a priori. The things that I am going to say will, however, help to appreciate the virtues and demerits, if any, of my solution of the problem of the synthetic a priori as well as the 'strange difficulty' described in the final paragraphs of Section 16.

Let us start from sentence 4 from Section 6: "Everything red is coloured". A 'normal subject' might say that the obviousness of this sentence is, in fact, spurious, because the sentence is itself a definition – implicit or otherwise – of "coloured", so that its counterinstance could be described as an "object that is red and not coloured, although everything red is, by definition, coloured" from which a contradiction can easily be derived. Let us, for the sake of argument, grant him this point. But is the definition of "coloured" expressed in the sentence "Everything red is coloured" correct? Does it express (a part of) what is normally understood by "coloured"? Since "coloured" is not a term of art of any science or branch of scholarship, there is no "authority of the relevant specialists" to invoke, and the authority of a lexicographer is, as Quine remarked, too shaky. The 'normal subject' has no 'special information' derived from extensive polls taken among speakers of most major varieties of English, either, so he cannot say that he has empirically established the correctness of the definition in question. The idea that the definition in question might *not* be correct is not purely theoretical or far-fetched, either, since the most superficial familiarity with the common usage suffices to realize that sentences like "Everything green/yellow/ultramarine is coloured" would have an equal right to be called "definitions" of "coloured".

Now the 'normal subject' may employ this latter fact to support the assumption that the definition of "coloured" he has employed *is*, after all, correct. He may say that although people call red things "coloured" with no more or no less confidence that they do so call things that are green, blue, yellow or pink, "coloured" is not just a label put on things having one of these properties in a purely arbitrary fashion. He may explain that the linguistic convention of calling things that are red as well as green or pink "coloured" is clearly different from many other conventions that *are* arbitrary: for instance that governing the US American racist terminology employed by US bureaucrats of various sorts that has them call "white" all persons of European or Middle-Eastern extraction (no matter what skin colour they actually have) except when their mother tongue is Spanish (even though the skin of a person of that latter sort might be of the palest shade of white). The 'normal subject' may explain that in contradistinction to the latter, the former linguistic convention is based on an insight: namely, on the insight that all things red, green, pink, ultramarine, orange etc. have something in common, something

that sets them apart from such | things as, for instance, transparent glass or clear water. The 'normal subject' may, too, point out that such things have a number of higher-order properties in common, for instance the property of having only one colour-property all over at a time. The 'normal subject' may, furthermore, observe that as long as these insights are generally shared by most speakers of English, the convention of having and using a common word, namely, "coloured", for all things that are red *or* green *or* yellow etc. is bound to remain stable.

This may all be correct, but let us reflect on the sentence just employed: "All things red, green, yellow... etc. have something in common that sets them apart from things like transparent glass or clear water". This sentence appears to be true, indeed obviously true. But of what nature is this seeming obviousness, and what is its epistemological value? Could this sentence not prove to have all contrasts that synap sentences have? The 'strange difficulty' of Section 16 reappears.

20 Sentence 10: "Man acts". As we saw in Section 11, there are various senses, or "definitions" of "act", and some of them can make this sentence false. Buddhists, for instance, do not act, if "act" is taken to mean: "deliberately interfere with the course of things". I shall refer to this sense of "act" as "act_1". There is, however, a sense of "act" on which the given sentence does, indeed, appear obviously true, namely the one that can be formulated as "belong to the same animal (or any other) species whose healthy and not disabled members have all abilities requisite for $acting_1$". Given this understanding of "act", a 'normal subject' might try to describe a counterinstance to the sentence in hand by saying that a counterinstance would be someone who is a man, i.e. a member of the species whose healthy and not disabled members have all abilities requisite for $acting_1$ and who is *not* a member of a species whose healthy and not disabled members have all abilities requisite for $acting_1$. This, however, is a self-contradictory description.

The correctness of this contradictory description *qua* a description of a man who does not act hinges, however, on the premise that healthy and not disabled members of the species called "man" have all abilities requisite for $acting_1$. This premise seems to be obviously true, but what kind of obviousness and truth (if the premise *is* true) is that? One answer that suggests itself easily is that the sentence in question is but an 'implicit definition' of "healthy and not disabled": if someone has all mental and physical abilities *except* those that are necessary for $acting_1$, then we do not call this person "healthy and not disabled". But do we not, really? This can only be established on the basis of a great deal of empirical research in various fields of medicine, especially forensic medicine. The problem is that in most cases where a given person is unable to act_1, the person is also disabled in other ways. Cases of persons whose mental and/or physical powers are not in good order *precisely* to the extent where the persons cannot act_1 (but can deal with reality in other ways, e.g. acquire beliefs about it, delight in it or take

disgust for it, etc.) are not frequent and not widely known. But precisely for this reason it is also impossible to assert that the sentence "Healthy and not disabled members of the species called 'man' | have all abilities requisite for acting$_1$" is an 'implicit definition' of "healthy and not disabled": maybe only in the idiolects of those who know of those rare cases just described. So what is the status of the sentence "Healthy and not disabled members of the species called 'man' have all abilities requisite for acting$_1$"? Is it a natural law? It remains to be hoped that it is something like that, otherwise the sentence could turn out to share all the contrasts that synap sentences have to other obvious or highly plausible sentences. And this would mean that the 'strange difficulty' of Section 16 has reappeared again.

21 Sentence 5: "Every three tones are ordered linearly with regard to their pitch".

In the case of this sentence, a 'normal subject' who tried to describe its counterinstance, would quite soon reach a self-contradictory description if he replaced "tone" by what he assumed was a correct partial definition of this word, namely, with something like "acoustic phenomenon identical with one of the twelve tones of the musical scale or being either lower or higher than one of these twelve tones", because tones in this sense *are* linearly ordered. But would a definition like that be correct? Would it not be too restrictive? A 'normal subject' as such, i.e. without any 'special information' to go by, would easily notice that a counterinstance to the sentence in question can not only be easily described or imagined, but even actually produced, if only a different, more tolerant, definition of "tone" is worked with: Suppose, for instance, that we have the tone *c* and the tone *g* of the same octave, and then produce these two tones simultaneously. The resulting sound is different from both *c* and *g*, and yet it is not either higher or lower than either. It is, as it were, outside of the linear order in which both *c* and *g* are.[66] We do not, in fact, even need to carry out this experiment, because we know – with an obviousness quite similar to that of the sentence under discussion itself – that two distinct musical tones, when produced together, do not yield a sound that is half-way between them, let alone higher or lower than either of them.

But do we really know that? We do – as long as we are 'normal subjects', and have, therefore, no information about what trained musicians actually hear in a situation like that. Musicians, however, tend to maintain that in a situation like that they hear two sounds, (in our case: *c* and *g,)* not in temporal succession, and not alternately, but simultaneously.[67] They even cannot help hearing such sounds the way they hear them.[68]

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[66]This experience is described in Stumpf's *Tonpsychologie.* Vol. 2, pp. 9ff.

[67]"Musiker dagegen behaupten meist eine Mehrheit von Tönen wirklich zu hören, und zwar nicht etwa abwechselnd bald den einen bald den anderen, sondern streng gleichzeitig", Stumpf, *Tonpsychologie.* Vol. 2, p. 9ff.

[68]This information is provided by Stumpf, *Tonpsychologie.* Vol. 2, pp. 9–85.

Such musicians will, therefore, say that the assumption made by the 'normal subject', namely, that *c* and *g* produced together would be *one* tone that was neither lower nor higher than either of its components, is false.

It can, however, be asked: If an alleged counterinstance to the sentence in question is so easily found, where, then, does the apparent obviousness of the sentence derive from? It derives, clearly, from the fact that a 'normal subject' who has only a basic knowledge of acoustics relied on the definition of | "tone" quoted above (or an equivalent one). The question of the correctness of this definition cannot be decided just by saying that "that is what musicians mean by 'tone' ", because why should two tones produced simultaneously not be called *one* tone despite what musicians say? The reason why they should not is not given by recourse to any arbitrary decision of a lexicographico-musicologist authority, but by pointing out that a trained ear simply does not hear two tones produced simultaneously as *one*. In this case, 'special information' serves to support the apparent obviousness of a synap sentence, and to make it more than just apparent (see my remarks towards the end of Section 15).

22 Sentence 12: "Every promise gives rise to, mutually correlated, claim and obligation". We can, without any loss of generality, consider it in a shortened version: "Every promise gives rise to an obligation". A 'normal subject' asked to describe a counterin- | stance of this sentence, could start from observing that "promises count as acts giving rise to obligations" so that a promise that would not give rise to an obligation could not be a genuine promise, but only a defective one, for instance, one given in a state of intoxication or the like; thereby, however, it would not be a promise. In short, a counterinstance to the sentence at issue would be a promise that was not a promise, which cannot be true of any object at all. Along these lines, a counterinstance to the sentence at issue cannot, thus, be 'conceived of' at all.

Let us now examine the sentence used in the above reasoning: "Promises count as acts giving rise to obligations". It seems obviously true, but with what right and on what grounds? To begin with: *Whose* counting promises as acts giving rise to obligations is relevant for their being so counted? Only of those who know something about the institution of promise. Others – e.g., small children, or the mentally handicapped – may do so too, but this is irrelevant: they do it, at best, as an imitation of what the former ones do. Now, given that there is something to be known about the institution of promise, is there nothing to be known about the institution of obligation? Is it just the case that whenever there is a promise we say "Ah, so there is an obligation too" as if "promise" and "obligation" were synonyms, or as if there were a ritual of obscure, or none at all, significance, of proclaiming the coming into existence of a thing called "obligation" to be performed on every occurrence of a promise? Plainly not: obligation is quite

a powerful social institution and promises are but one among a number of ways in which obligations come into being.[69] But if both promises and obligations are social institutions in their own right, in what way can one of them be "counted" as giving rise to the other? If this is done whimsically, then the sentence "Promises count as acts giving rise to obligations" can just as well be false, because people might stop counting promises in this way at any moment. In a case like that, a counterinstance to the sentence "Every promise gives rise to an obligation" will not only become conceivable, but also come into being, and the obviousness which the sentence has hitherto enjoyed will dissipate. But maybe promises are counted as origins on obligations not quite whimsically, but because they have certain properties that make them good candidates for being so counted? If so, then the sentence "Promises count as acts giving rise to obligations" is not likely to become false at any moment, thereby rendering the sentence "Every promise gives rise to an obligation" not only conceivably, but also actually false.

However, the sentence "Promises are good candidates for being counted as origins of obligations" turns out to be quite pivotal here, so *its* title to truth has to be investigated. It looks like a weaker version of the sentence we started with: "Every promise gives rise to an obligation" – or maybe just like a humorously understated version of this sentence – and, by an *ad maiorem* argument, one should expect that it, too, seems obviously true. But if it does, what sort of seeming obviousness is it? The 'strange difficulty' of Section 16 reappears here once again.

As the reader will realize on a short reflection, the same difficulty would arise if the 'normal subject' started his failed attempt to describe a counterinstance to the sentence have under discussion from a premise like "Obligations are counted as arising, among others, from promises", "Promises are constituted as acts giving rise to obligations", or "Obligations are constituted as arising from, among others, promises".

23 It is time for a conclusion. The problem of the synthetic a priori was formulated (in Section 8) and solved (in Section 15). The 'concomitant question' was seen to fall within the respective domains of various specialized fields of study, namely those that concern themselves with the subject matter of a given synap sentence (Sections 16 and 19–22). However, it was also shown (in the same sections) that in some cases the answering of the 'concomitant question' for a given synap sentence involves examining sentences that participate in all contrasts characteristic for synap sentences, and answering the 'concomitant question' for *them*. It is a role

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[69]On the complexity of, not the institutions of promise and obligation themselves, but the meaning of the sentence "*A* has promised *b* to …" see "An Analysis of Promise" by Bogusławski. For a more detailed exposition of the argument presented here see "Fathers, Kings, and Promises: Husserl and Reinach on the A Priori" by Żełaniec, pp. 160–72. See also "L'*a priori* della promessa in Adolf Reinach" by Stella.

of philosophy, and it has been the role of this book, to alert to this fact all those who for any reasons take the seeming obviousness of synap sentences seriously, and answer the attendant 'concomitant question' one way or another – especially if they do so on the basis of evidence provided by those specialized fields of study alone.

It appears to me, however, that there is a danger much more serious than that of accepting the evidence provided by specialized areas of study naively. It is the danger inherent in the belief that the question if a definition is correct does not arise at all because a definition is just a matter of decision, and in the attendant practice of putting home-spun definitions into circulation. Especially, if the definitions in question are "implicit" in the sense that they are not flagged as definitions.[70] Why, however, should there be any danger here │ at all? Because not all definitions "fit" reality, and the contrasts (see Preface, p. 10) that obtain within it, equally well. There are, it is true, no "natural" meanings of words, and we may define, for instance, our colour words any way we please, but if we end up with a colour vocabulary that does not allow us to say that no surface can, at the same time, be all red and all green, then something has gone seriously wrong. Because, although the truth of the sentence "No surface can, at the same time, be all red and all green" does depend on how the words "red" and "green" have been defined, the fact that no surface can, at the same time, be all red and all green does *not*.[71] And something would be even more seriously amiss if we, as a result of a similar reform of definitions, should become unable to say that man acts, and that every action has consequences for which the agent can be made responsible (see note 27). Because, no matter what way words should happen to be defined, man acts, and is responsible for whatever has become of his action. │

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[70]For instance, Ayer's definition of "analytic-synthetic" (Ayer, *Language, Truth and Logic,* p. 73), which prejudges on, and preempts, important questions, has had considerable influence on common language (see "Ayer's Influence on the Lexicographers" by Williams).

[71]On the difference between the truth conditions of a declarative sentence *p* and those of the sentence "It is true that *p*" see "Are There Analytic Propositions?" by Jackson, pp. 190ff.

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Index

The following index contains only the few technical, or semi-technical, terms employed in this book. Page numbers that are *italicized* refer to locations where the respective term is defined or explained. Under " 'the synthetic' " only those occurrences of "synthetic" or related terms are listed that are *not,* at the same time, occurrences of "synthetic a priori" or a related term. " 'Synap sentence' " has only one page number, namely, the one referring to the location where it is defined, because it occurs *passim.*