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WILFRID SELLARS ON JUSTIFYING EPISTEMIC PRINCIPLES

by

DAVID BRIAN MARTENS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

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Abstract

Whether or not one need be aware of epistemic principles to have justified beliefs, self-consciousness about the epistemic status of one's beliefs naturally leads one to reflect on the principles constraining the epistemic justifiedness of beliefs. Supposing one arrives at some explicit belief that such-and-such epistemic principles are true, the question arises of the epistemic justifiedness of **that** belief.

In his 1981 article 'More on Givenness and Explanatory Coherence' (31), Wilfrid Sellars offers an account of the epistemic justification of epistemic principles. After a discussion in chapter 1 of epistemological method and the nature of epistemic principles, Sellars' account is reconstructed in chapters 2 through 4 of this thesis, and is critically evaluated in chapter 5.

Sellars' strategy for justifying epistemic principles falls into a general class of such strategies. The defining characteristic of the members of this class is the claim that the proposition that certain epistemic principles are epistemically justified is a necessary truth. The members of this class differ as to the accounts they respectively give of the source of the necessity — the 'ontological foundations' of justification. Sellars' strategy falls into that subclass of this general class whose members find the ontological foundations of justification in analytic truths that give the meanings of epistemic terms. Specifically, Sellars analyzes epistemic evaluation in terms of induction, and induction in terms of practical reasoning and argues that the justifiedness of epistemic principles follows from certain analytic truths about the concepts of 'general welfare' and 'effective action'.

Criticism of Sellars' strategy takes place in two stages. First, it is argued that certain allegedly analytic truths critical to his argument are, in fact, false. That is, it is

argued that he has misdescribed the meanings of the key terms involved in both the reduction of epistemic evaluation to practical reasoning and the argument to justify epistemic principles. Second, it is argued that Sellars' argument to justify epistemic principles fails to address a problem confronting all the members of the general class of strategies to which it belongs, viz. how the particular account it gives of the ontological foundations of justification is itself epistemically justified.

Table of Contents

Chapter 1. The Nature of Epistemic Principles

This monograph is a reconstruction and critique of the central argument of Wilfrid Sellars' 'More on Givenness and Explanatory Coherence' (31). Since that argument concerns the justification of epistemic principles, it is appropriate to begin by saying what epistemic principles are and what motivation exists for concern about their justification.

Saying what epistemic principles are will require most of this chapter, owing to the reticence of epistemologists where their methodology is concerned. In part I, an attempt is made to characterize the concept of epistemic justification pre-analytically, and to distinguish it from other species of reason-giving. In part II, some 'quick and dirty' metaphilosophical ruminations on the nature of conceptual analysis arrive, somewhat stipulatively, at the conclusion that epistemic principles, in the relevant sense, are the base, recursive, and closure clauses of a normative, recursive specification of truth conditions for sentences containing the expression 'is epistemically justified'. In part III, the case is made that this view of epistemology-as-semantics provides a congenial framework for exegesis of Sellars' arguments. Finally, in part IV, three possible motives are identified for wanting to justify the choice of epistemic principles, and all three are attributed to Sellars.

I. Epistemic Justification

As an initial, and vague, characterization of epistemic principles, one may say that they are those principles (if there are such) that govern our use of epistemic concepts. At least since the time of Plato, epistemologists have been particularly concerned to construct an adequate analysis of the concept of epistemic justification, and the focus here will be on that epistemic concept. While most of this chapter will be devoted to

unpacking the relevant sense of 'principles', this section attempts to give some preliminary content to 'epistemic justification'. The words, at least, are technical, and the question 'What is epistemic justification?' invites the reply that it is that concept analyzed by epistemologists' theories of epistemic justification. But this would not be entirely fair, for the technical concepts articulated by those theories are grounded in strong intuitions about more ordinary concepts.

The concept of justification is generic, and relates to the practice of asking for and giving reasons. Within this genus, a number of species are easily distinguished. Consider a person who, though confined to a hospital bed, is optimistic that his convalescence will be short. Here are four replies this person might make to a visitor who asks, 'Why (for what reason) do you believe that you will recover so quickly?'

1. 'A positive attitude is good medicine.'

2. 'We are commanded to have faith in God.'

3. 'It wouldn't be right for me to doubt the word of my doctor.'

4. 'I have read of research showing that the drug I have been prescribed causes quick recovery in 98% of cases like mine.'

Each of these replies provides a reason for the patient's belief that he will recover quickly. Yet the replies are each logically independent of all the others: the truth value of no one of sentences 1 through 4 depends on the truth value of any of the other sentences; and, the patient may believe one or more of the sentences without thereby believing any of the others. One may say, therefore, that different concepts of reasons are involved.

Replies 1, 2, and 3 are of sorts *prima facie* appropriate to a request for reasons for performing an action (including deliberate adoption of a propositional attitude). The first reply implicitly refers to a desired end (early recovery) and offers as a reason for the belief in question that its adoption will likely be effective as a means to that end.

The second reply refers to a command of an authority (religious) to whom the patient owes allegiance, and states that adoption of the belief is required by that command. The third reply implicitly refers to a moral principle (perhaps: 'One ought to believe what others say, unless they give evidence of untrustworthiness'), and states that not to adopt the belief would be morally wrong in virtue of the principle referred to. In these replies can be identified the concepts of **instrumental** or **pragmatic justification**, **justification by authority**, and **moral justification**, respectively. Examples of other sorts of justification could, no doubt, easily be found.

On the face of it, reply 4 differs from the others in that it is of a sort which seems appropriate to a request for reasons for certain propositional attitudes, whether deliberately adopted or not. The reply cites evidence thought to bear on the truth value of the 'propositional content' of the belief. Now, the intuitive contrast between reply 4 and the other replies 'phenomenologically brackets' the concept of **epistemic justification** from the sorts of reason giving exemplified in the other replies. To give a precise account of the salient features of this concept is the aim of the analyses constructed by epistemologists.

II. Concepts, Analyses, and Epistemic Principles

Epistemologists are wont to give 'analyses' of epistemic concepts by offering 'principles' of the form, e.g., "S's belief that p is justified if and only if ..." But, rarely is it discussed how these principles are to be taken, or the import of the 'if and only if'. To enable ensuing argument to develop in an orderly manner, a methodological position will be sketched here. This position loosely construes epistemology as a branch of semantics, and is offered primarily as a framework within which discussion of Sellars' views can proceed. Accordingly, while it is hoped that the position will be found plausible, no attempt will be made either to construct or to defend it in detail. Sellars' arguments about epistemic principles no doubt could be discussed profitably within

other methodological frameworks.

Twentieth-century epistemology, as an independent area of enquiry, largely lies within the the so-called analytical tradition. Within this tradition, concepts have been associated with the meanings or senses of words, and understanding a concept equated with knowing the meanings of the words used to express that concept. Consequently, analysis of a concept, insofar as it aims at arriving at an understanding of the concept, has come to entail giving the meaning of the words used to express that concept. From this vaguely defined analytical viewpoint, it seems plausible that the above vague characterization of epistemic principles can be refined by understanding these principles as purportedly giving the meanings, in some sense, of the epistemic terms on the left sides of their respective 'if and only if's.

Much of the remaining vagueness of the preceding characterization of epistemic principles accrues from the word 'meaning'. If this vagueness cannot be removed here — it is raw material for that growth industry, philosophy of language — it might be made more palatable by appealing to some widely-bannered slogans. In this spirit, one may suppose that the meaning of an expression is what competent speakers of the relevant language know when they understand that expression; and, that what they know are rules governing the use of the expression.

Of course, one can do all sorts of things with words, so the meaning of any given expression may legitimately be thought to include many different kinds of rules. However, granting the priority of the **formation rules** for an expression, that define how that expression can be incorporated with others to form grammatical sentences, two sorts of things that one can do with words are of primary interest philosophically. If one is a competent speaker of the relevant language who understands a particular expression, then one is able, in the first place, to draw inferences among well-formed sentences containing that expression and, in the second place, to use well-formed

sentences containing that expression to express truths about the world. The rules that one knows in possessing the first ability are **rules of inference** for sentences containing the expression; those underlying the second ability are **truth conditions** for those sentences. Interest in these two components of the meanings of expressions results in philosophical analyses of concepts taking the form of either **syntactic analyses**, exhibiting the rules of inference for the relevant expressions,[1] or **semantic analyses**, exhibiting the corresponding truth conditions.[2] Whether an analysis focuses on rules of inference or on truth conditions depends partly on the antecedent goals of the analysis and partly on the ideological committments of the analyst. A compromise viewpoint is adopted here. While inference rules are more easily extracted from natural language data than are truth conditions, and so might reasonably constitute the starting point of a conceptual analysis, a giving of truth conditions is properly viewed as the completion of an analysis. This is because possession of truth conditions allows one to say why it is the inference rules postulated by the analysis are correct — given the structural features of the world that determine the truth or falsity of sentences containing the subject expression, the rules of inference are correct because they preserve truth.

Whether an analysis gives rules of inference or truth conditions, its *analysans* may diverge to a greater or lesser degree from the *analysans* of another analysis of the same expression. Two ways this can come about are particularly important. (1) The purpose of an analysis may be to describe the ordinary meaning of the relevant expression, regardless of whether or not the ordinary meaning is 'correct'. On the other hand, the analysis may be intended to offer the 'correct' meaning. Where the 'correct' and ordinary meanings diverge, accomplishing the latter aim will involve **regimentation, explication**, or **rational reconstruction** of the ordinary meaning, or even its replacement with a stipulated, and very different, surrogate. Philosophical interest is in correct understanding of concepts, and hence in normative analyses of the meanings

of the relevant linguistic expression. (One may, of course, believe that ordinary meaning **is** 'correct' meaning.) Interest in ordinary meaning for its own sake is characteristic of the science of linguistics.

(2) Regardless whether the aim is to give a descriptive analysis (whether out of purely linguistic interest, or because the ordinary meaning is thought to be 'correct'), or to give a 'revisionary' normative analysis, analyses may differ in the degree of detail with which they state the relevant rules. At one extreme, a **paradigm case analysis** of a concept will typically consist of one or more examples of correct use of the analysed expression, together with the rule 'correct (or ordinary) use is as in these examples'. At the other extreme, a **formal language analysis** will typically offer an axiomatic calculus and/or a formal semantic structure modelling correct (or ordinary) use or the analysed expression. Ideological committments are the main determinants of the degree of detail a given philosopher believes is desireable and possible in an analysis. It seems reasonable to hold that, other things being equal, greater clarity and detail are desirable features in an analysis. Nevertheless, prudence dictates avoiding committment to a view as to what is possible in an analysis, with respect to these features. On the one hand, early adoption of a potentially unwieldy formal apparatus seems unwise. The concept under analysis may turn out to be essentially 'fuzzy'. On the other hand, it is easier to specify the respects in which an overly detailed analysis misrepresents a concept that is 'fuzzy' than it is to say how a rough 'analysis' by cases obscures a complex conceptual reality. The position taken here is that, while a methodological bias in favour of formal models is reasonable, less formal statements of the 'necessary and sufficient conditions' variety are a necessary preliminary and offer a more flexible vehicle for analysis.

Summarizing the results of this section so far, epistemic principles are the truth conditions for sentences containing the expression 'is epistemically justified', as given by

a normative, 'semi-formal' analysis.[3] More specifically, epistemic principles are the base, recursive, and closure clauses of a recursive specification of truth conditions for the sentences in questions. For, having regard to the potential for future formalization of the analysis, it is both usual and convenient to specify truth conditions for a given class of sentences by first defining that class by means of a sentence schema, and then recursively specifying the truth conditions for the schema. In the case of the concept of epistemic justification, one is interested in the class of substitution instances of the schema "S's belief that p (at t, in w) is epistemically justified." That is, one wants to know the truth conditions for this sentence, given any person S, proposition p, time t, and possible world w. A classical account of this sort is as follows.

> D1 For all persons S, propositions p, times t, and possible worlds w, "S's belief that p (at t, in w) is epistemically justified" is true
>
> (.1) if it is intuitively obvious to S (at t, in w) that 'p' is true; or
>
> (.2) if S's belief that q (at t, in w) is epistemically justified, and 'q' logically implies 'p'; and
>
> (.3) is false otherwise.

Although the demerits of such 'Cartesian' accounts of epistemic justification are well known and will not be rehearsed here, D1 provides a useful example of a recursive specification of truth conditions for a class of sentences. D1.1 is a **base clause**, or generation principle. Characteristic of a base clause is the restriction that no instances of the 'defined' expression ('is epistemically justified'), or any related (i.e., epistemic) expression may occur in its antecedent.[4] Without at least one base clause, the account cannot be used to assign a truth value to even one sentence containing the defined expression, unless some such sentences receive truth values in some other way. But then the account does not fully specify truth conditions for those sentences. D1.2 is a **recursive** or induction **clause**, or transmission principle. A specification of truth conditions may include any number, $n \geq 0$, of recursive clauses and the defined

expression may appear in their antecedents. D1.3 is a **closure clause**, which asserts the joint necessity and sufficiency of D1.1 and D1.2 to determine truth conditions for the sentence schema.

III. Sellars and Truth Conditions

In Appendix I, the epistemology-as-semantics thesis is defended against the objection that it is biased in favour of epistemological naturalism. It ought also to be shown that adoption of that framework will not distort Sellars' epistemological views. After all, the framework has been sketched to provide a basis for exegesis of Sellars' views, and if it is uncongenial to those views it ought not to be so used. Textual evidence is at hand to provide a *prima facie* case for the compatibility of the epistemology-as-semantics thesis with Sellars' analytical methodology.

First, Sellars is clear that philosophy as he envisions it is not primarily aimed at giving a descriptive account of the meanings of epistemic expressions in ordinary usage, but at giving a **normative** account of the rules that **ought** to be followed in the use of those expressions. Sellars believes that one must 'construe the concepts of meaning, truth, and knowledge as metalinguistic concepts pertaining to linguistic behavior (and dispositions to behave)', and that this 'involves construing the latter as governed by **ought-to-be's** which are actualized as uniformities by the training that transmits language from generation to generation.' (21: 59) Sellars' Old Testament vision of philosophy follows directly, for

> if logical and (more broadly) epistemic categories express general features of the **ought-to-be's** (and corresponding uniformities) which are necessary to the functioning of language as a cognitive instrument, epistemology, in this context, becomes the theory of this functioning — in short **transcendental linguistics.** Transcendental linguistics differs from empirical linguistics in two ways: (1) it is concerned with language as conforming to epistemic norms which are themselves formulated in the language; (2) it is general in the sense in which what Carnap describes as 'general syntax' is general; i.e., it is not limited to the epistemic functioning of historical languages in the actual world. It attempts to delineate the

> general features that would be common to the epistemic functioning of any language in any possible world.... [E]pistemology...[is] the theory of what it is to be a language that is about a world in which it is used. (*ibid.*)

Second, philosophical method does not consist solely of the attempt 'to sketch the shifting surfaces of the functioning [conceptual] framework, [in the] hope that insight comes by pasting the sketches together.' (27: 296) Not only is one 'entitled to "regiment" discourse by constructing simple models' (27: 297), indeed,

> philosophical method insists of a diastole of confronting the infinite complexity of discourse with contrived models which we understand because we have made them in the hope of seeing likenesses, and a systole of grasping at these likenesses and reshaping our models to take their unlikenesses into account. All philosophers, however conscious of the contrast between the simplicity of philosophical formalisms and the intricacy of the forms of life we know so well until we are asked, sooner or later exhibit this pattern. Even long Austinian periods of 'collection' are followed by attempts at 'division'. (22: 158)

Third, these models, which philosophical analysis constructs, are essentially formal, for 'a language is essentially an axiomatic system' (3: 150), and a concept, a meaning, is defined by the rules of inference in which the predicates denoting it occur essentially. (4: 293) To those who balk at the former idea, Sellars replies that 'knowing a language is a knowing **how**....[B]oth you and I, as well as the theoretical physicist, can be said to manipulate an axiomatic system; but we are clearly at the duffer end of the spectrum.' (3: 151) Philosophers are 'formal scientists' who attempt to reconstruct language 'in accordance with the procedures and criteria of formal science.'(2: 180-181)

Fourth, since the essence of philosophy is the attempt 'to delineate the general features that would be common to the epistemic functioning of any language in any possible world', philosophers are particularly interested in semantics.

> Out of all formally constructible systems, some involve structures of a type which we should characterize as synthetic propositions consisting of predicates and individual constants. Other and more complicated formal systems (semantic) exhibit such structures in wholes of which part mirrors part to clarify our notion of a language being about a world....(*ibid.*)

Fifth, in doing epistemology as **formal** semantics, one is vitally interested in giving truth conditions for sentences containing epistemic expressions. For an expression 'stands for a concept when there are good arguments in which it is involved' (20: 408), and 'the concept of a sound argument is that of an argument which is such that if its premises are true, its conclusion **must** be true.' (13: 417)

IV. Justification and Epistemic Principles

Having said that epistemic principles are truth conditions of a certain sort, and having attempted to make this claim plausible as a framework for considering Sellars' views, it remains to say why there should be interest in justifying epistemic principles. In this section, three possible motivations will be identified, and attributed to Sellars.

Identification of these motivations will be made easier if a notion of epistemic levels is developed first. In the schema "S's belief that 'p' is epistemically justified", 'p' may or may not contain an epistemic expression. Just in case it does not, S has a **first level belief.** Note that empirical propositions, including the propositions of science, together with propositions about the everyday world of medium-sized physical objects, are, if believed, first level beliefs. The principles stating truth conditions for the former schema, with the restriction that S's belief be a first level empirical belief, may be called **first level** epistemic principles. If S believes a first level epistemic principle, his belief is a **second level** belief. Higher epistemic levels of belief are defined by corresponding iteration of epistemic expressions in the propositional object of belief.

Now, there are alternatives with respect to first level epistemic principles. A great number of different sets of principles have been proposed by epistemologists to account for the truth conditions of attributions of epistemic justification to first level beliefs.[5] But consideration of the question which first level principles are correct will not be undertaken here. Of primary interest is rather the meta-question 'When is an answer

to the question "which first level epistemic principles are correct?" epistemically justified?' There are at least three possible motivations for interest in the answer.

First, as was noted above, the concept of justification relates to the practice of asking for and giving reasons. Some epistemologists have thought that it is of the nature of this practice that it is inadequate for the justification of a first level belief that there merely **be** reasons for that belief. Rather, in order for the subject to be justified in his belief, it is thought, he must be able to **give** reasons for the belief. In order to give reasons, he must first **have** (i.e., justifiably believe) them.[6] Now, in giving reasons for a first level belief, one appeals to first level principles, so the claim is that, if any first level beliefs are to be justified, some first level principles must also be justified. On this view, no account of how first level beliefs are justified (i.e., no set of first level epistemic principles) is complete unless it also specifies how first level **principles** are justified.[7]

Second, even if one can have justified first level beliefs without justifiably believing any first level principles, if one is interested in employing the fruits of epistemological research effectively to guide one's acquisition of first level beliefs, e.g., through scientific research, then one will be interested in knowing which epistemological theory is right, and consequently, in knowing which first level principles are justified.

The third possible motivation for interest in the justification of first level epistemic principles is that one desire to know the principles (if there are such) that permanently constrain the justifiedness of **all** beliefs.[8] This is the desire to provide a **complete** recursive account of truth conditions for the schema "S's belief that p (at t, in w) is epistemically justified". Since one can have beliefs **about** the epistemic (i.e., beliefs such that 'p' essentially contains epistemic expressions), a necessary condition for completing the account of truth conditions for this schema with a closure clause is the provision of base and/or recursive clauses that specify truth conditions for first level epistemic principles. Indeed, the necessary conditions are stronger yet: truth conditions

must be provided for beliefs of **any** epistemic level. At the limit, one will want to be able to justifiably believe 'p', where 'p' is the conjunction of the principles that permanently constrain the justifiedness of all beliefs.[9]

Of these three possible motivations, the first is most easily attributed to Sellars. Sellars is explicit that 'to be the expression of knowledge a report must not only **have** authority [i.e., be epistemically justified], this authority must **in some sense** be recognized by the person whose report it is.' (10: 168) For example, for the report '"This is green" to "express observational knowledge", not only must it be a **symptom or a sign** of a green object in standard conditions, but the perceiver must know that tokens of "This is green" are symptoms of green objects in conditions which are standard for visual perception.' (*ibid.*) The latter constraint amounts to the requirement that the perceiver justifiably believe the epistemic principle governing the justifiedness of perceptual beliefs.

Sellars also acknowledges the second motivation — that of wanting a set of justified first level epistemic principles so that one can be more effective in acquiring justified empirical beliefs. He recognizes that the absence of justification for first level epistemic principles 'would, on the face of it, bring to shipwreck the enterprise of making sense of the epistemic evaluation of empirical propositions.' (31: 176) This second motivation is characteristic of philosophy of science, and while Sellars is sympathetic, he sees that discipline as evidence of a wrong-headed specialization in philosophy. His sympathy stems from his recognition of the second motivation as part of the third, which he explicitly avows.

Sellars' acceptance of the third motivation for attempting to justify epistemic principles is entailed by his view, sketched above, that the goal of philosophy is an 'articulated vision of man-in-the-universe —or...discourse-about-man-in-all-discourse.' (10: 171-172) In the striving for this vision, epistemology 'attempts to delineate the

general features that would be common to the epistemic functioning of any language in any possible world.' (21: 59) Insofar as the epistemic concept of justification is concerned, this is an attempt to delineate the principles that permanently constrain the justifiedness of all beliefs (or, 'justified discourse about man-in-all-justified-discourse'). And, given the view of epistemology-as-semantics adopted here, this amounts to the desire to provide a complete recursive account of the truth conditions for the schema "S's belief that-p (at t, in w) is epistemically justified", where the epistemic level of 'p' is unrestricted.

Chapter 2. Sellars' Epistemic Principles

Sellars' first level epistemic principles are presented in part I of this chapter with little detailed detailed exegesis or discussion. The main focus of this chapter is on his analysis of the epistemic justifiedness of a proposition in terms of its probability (part II), and on his analysis of inductive inference as a species of deductive inference (part III).

I. Botanizing Sellars' Principles

In many respects, Wilfrid Sellars' approach to epistemology is unexceptional, even conservative. He accepts the traditional analysis of knowledge as justified true belief, notwithstanding that refinements are required on account of the Gettier problem. (27: 332-334) And, rather than clearly articulate a set of epistemic principles, he is content to allow that 'something like the epistemic principles so lovingly polished by Firth and Chisholm are true.' (31: 176) The following epistemic principles are readily extracted from Sellars' writings on epistemological topics.

> D2 For all persons S, propositions p, observation predicates ϕ , times t, and possible worlds w: '"p" is epistemically justified for S' is true at t, in w, if
>
> (.1) S believes that-q at t, in w, 'q' is epistemically justified for S at t, in w, and 'q' logically implies 'p';[1] or
>
> (.2) S believes that-q at t, in w, 'q' is epistemically justified for S at t, in w, and 'q' inductively implies 'p';[2] or
>
> (.3) 'p' is of the form ' ϕx', and S ostensibly perceives that-p (without ground for doubt) at t, in w;[3] or
>
> (.4) 'p' is of the form 'I (S) ostensibly perceived that- ϕx', and S ostensibly remembers that-p (without ground for doubt) at t, in w;[4] or
>
> (.5) 'p' is of one of the forms (i) 'I (S) sense ϕx-ishly', (ii) 'I (S) believe (think) that-q', or (iii) 'I (S) intend that-q', and S is ostensibly self-aware that-p (without ground for doubt) at t, in w.[5,6]

D2.3-.5 are base clauses, picking out ostensible perceptions, memories, and

introspections (i.e., observation reports) as epistemically justified. D2.1-.2 are recursive clauses, providing for the 'transmission' of epistemic justification by logical and inductive implication. (As will be shown later, however, D2.2 is actually a disguised base clause.)

The epistemological position represented by these epistemic principles may be classified as follows. D2 provides truth conditions for the schema '"p" is justified for S', not the schema 'S's belief that-p is justified'. That is, the objects of epistemic justification are propositions rather than belief states, and Sellars' epistemic principles are principles of propositional justification rather than doxastic justification.[7] Propositions justified by base clauses D2.3-.5 do not obtain their justification from inferential relationships with other justified propositions (or so it seems), so Sellars' first level epistemic principles, as reconstructed in D2, are those of a **substantive foundationalist**. The base clauses make no reference to 'self-presenting' states of affairs, and epistemically basic propositions are those that are believed in perception, memory, and self-awareness to be the case. That is, cognitive access to the world is always mediated by beliefs, and Sellars' foundationalism is **representationalist**. Moreover, because ostensible perceptions, memories, and intuitions may be mistaken, the justification of epistemically basic propositions is not incorrigible, so Sellars' foundationalism is **modest**. The phrase 'without ground for doubt' in clauses .3-.5 suggests that the corrigibility of observation reports has a structure and that Sellars would welcome analyses of this structure, of the sort pioneered by John Pollock (76). Although not explicit in D2, the corrigibility of observation reports is explained, on Sellars' view, in terms of the way the languages of perception, memory, and self-awareness are learned. The converse of the corrigibility of observation reports, in light of the nature of this learning process, is their reliability. Justification accrues to the propositions believed in perception, memory, and self-awareness because, for someone who knows the language, beliefs from those sources are likely to be true. Sellars'

epistemic principles are **reliabilist**. D2 has no closure clause, in recognition of Sellars' explicit repudiation of epistemological naturalism. (10: 161 and 169)

Although all of these characteristics of Sellars' first level epistemic principles are points of division between rival camps of epistemologists, and so present possibilities for critical discussion, they also represent a mid-point between various extremes of current epistemological opinion. In this respect, Sellars' epistemic principles simply reflect mainstream views. In any case, critical possibilities must remain unactualized here, for of more immediate interest is Sellars' strategy for justifying his first level principles. This will be reconstructed in the next chapter, after an examination of Sellars' view of the connection between epistemic justification and probability and of his analysis of induction.

II. Justification and Probability

As presented above, Sellars' first level epistemic principles are principles of propositional rather than doxastic justification. That is, the objects of epistemic justification are propositions, not belief states. Sellars construes epistemic justification in this way because of the close relationship he sees between the concepts of epistemic justification and probability.

With respect to the former concept, 'to be justified in believing something is to have good reasons for believing it' (27: 332) and one has good reasons for believing 'p' if and only if 'p' is reasonable for one. (27: 334-336) It is clear that Sellars accepts the following identities.

(a) "S's belief that-p is epistemically justified" = "S believes that-p and S has good reasons for believing that-p"

(b) "S's belief that-p is epistemically justified" = "S believes that-p and 'p' is reasonable for S (to believe)"

On the other hand, 'to say of a statement or proposition that it is probable is, in first approximation,...to say that relevant things considered there is good reason to accept it'. (17: 368) Moreover, '"it is probable that-p" [is] equivalent to "there is a good argument...for accepting that-p"'. (17: 374) And, as Sellars is using the term, acceptance is just belief.[8] So Sellars accepts the following identities.

(c) 'that-p is probable' = 'there are good reasons for believing that-p'

(d) 'that-p is probable' = 'there is a good argument for believing that-p'

Relating identities (a) and (b) to identities (c) and (d) to show the relation, for Sellars, between epistemic justification and probability involves saying what the relation is between 'S has good reasons for believing that-p' and 'there are good reasons for believing that-p', and between the latter and 'there is a good argument for believing that-p'.

As to the latter relation, Sellars is explicit that it is propositions that are probable; talk of the probability of beliefs is always elliptical for talk of the probability of their propositional contents. (17: 368; cf. also 11: 200, and 16: 313) The probability of a proposition is a function of the logical relation between that proposition and other propositions which are **evidence** for the first. Specifically, for 'p' to be probable, there must be a valid argument from 'q' (the total relevant evidence) to the conclusion 'I shall accept that-p'. (17, *passim*) In other words, 'q' must entail 'I shall accept that-p'. It seems plausible to suppose that the 'good reasons' of (c) are just the evidential premises, 'q', of the 'good argument' of (d).

What of the relation between there **being** good reasons for believing that-p and S's **having** good reasons for believing that-p? Sellars seems to equate 'S has good reasons for believing that-p' with 'S justifiably believes that-q, and "q" entails "I (S) shall accept that-q"'. He states that, in order for S's belief to be justified, S must know the relevant

principle that confers probability on that belief (10: 168), and S must know that the antecedent conditions required by that principle are satisfied. (6: 312; 27: 326)[9] (Note that the existence of the entailment in question is independent of anyone – including S – ever having instantiated it in a mental process of inference. Cf. 28, esp. p.193; also 11: 200, and 16: 313.) The following identity may thus be proposed.

> (d) "S's belief that-p is epistemically justified" = "S believes that-p, it is probable that-p on the basis of the total (available) relevant evidence 'q', and S justifiably believes that-q"[10]

It is unlikely that Sellars accepts (d), for it is a circular definition: 'is epistemically justified' occurs in both terms of the identity. If 'S justifiably believes that-q' is eliminated in favour of reference to relevant evidence 'r', which is justifiably believed by S, and which entails 'I (S) shall accept that-q', a regress is generated. The definition can be saved, however, by noting that, while the probability of a proposition requires that there be a good argument for its acceptance, not all good arguments are arguments from premises. Amended, the definition becomes (e), as follows.

> (e) "S's belief that-p is epistemically justified" = "S believes that-p, and either (i) 'q' is the total (available) evidence relevant to the truth of 'p', S justifiably believes 'q',and on the basis of 'q' it is probable that-p, or (ii) it is probable that-p on the basis of a categorically valid argument"

Now, since the entailment underlying the probability of the propositional component of a justified belief is independent of S's mental processes, the core concept in (e) is just Firth's concept of propositional justification. (Cf. note 7, above, and references given there.) Deleting from (e) 'S believes that-p', Sellars' basic definition of epistemic justification is obtained.[11]

> (f) "'p' is epistemically justified for S" = "Either (i) 'q' is the total (available) evidence relevant to the truth of 'p', S believes that 'q', and 'q' is epistemically justified for S, and 'q' entails 'it is probable that-p', or (ii) it is probable that-p on the basis of a categorically valid argument"

III. Inductive Inference

In this section, Sellars' views on probability and induction are explored. There are two reasons for doing so. First, the conclusion was reached in the previous section that Sellars characterizes the justifiedness of a belief in terms of the probability of its propositional component; in terms, that is, of the likelihood that the propositional component is true. In the course of reaching that conclusion, it was seen that, for Sellars, the probability of a proposition is a matter of there being a good argument for its acceptance. Now, all of this seems to blur the often-drawn distinction between frequency (non-epistemic) probability and inductive (epistemic) probability. The question arises as to Sellars' reasons for ignoring this distinction. Second, in his statement of principle D2.2, Sellars takes account of 'probabilistic' implication as a 'transmitter' of justification only 'with trepidation'. This suggests that there is considerable epistemic machinery underlying principle D2.2. The nature of this machinery will be crucial to the accurate reconstruction of Sellars' argument for justifying his epistemic principles.

Now, there short answers to both queries. First, on Sellars' view of probability, frequency probability (or, as he terms it, metrical probability) is just a special case of inductive probability. Second, on his view, there really is no such thing as probabilistic inference, distinct from deductive inference. Of course, satisfying answers are seldom short.

Recall that, for Sellars, a 'first level probability statement' of the form 'it is probable that-p' is equivalent to 'there is a good argument for accepting that-p'. First level probability statements are merely 'promissory notes', asserting the existence such arguments. (17: 374, and 379-380) Clues to the form of the arguments are given by 'second level probability statements' of the form 'e & R(p,e) makes that-p probable'. (17: 374-375, 380-381) Crucial to Sellars' view of induction is his contention that the force of 'makes' in these second level probability statements is 'logically implies' (17:

374); there is no such thing as probabilistic implication, distinct from deductive implication. (25, *passim*) This means that principle D2.2 unpacks as follows.

> D2.2 '"p" is epistemically justified for S' is true, if S believes that-(e & R(p,e)), '(e & R(p,e))' is epistemically justified for S, and 'e & R(p,e)' logically implies 'that-p is probable'.

Two things must be noted about D2.2. First, the nature of the relation R remains to be specified and, second, the entailment of 'that-p is probable' by 'e & R(p,e)' is an enthymeme and the suppressed premise(s) must be made explicit.

As to the nature of the relation R, on Sellars' account of induction, there are several distinct relations, each determining a different 'mode' of probability. Which relation is applicable in a given case depends on the kind of proposition, that-p, involved. (17: 369) Sellars distinguishes the probability of theories, of nomological statements, and of frequency statements. (17: 367-368) Within the latter 'mode' of probability, Sellars distinguishes four 'sub-modes'. (17: 368) The relation associated with the probability of theories includes that associated with nomologicals, which in turn includes the relation associated with frequency statements: the existence of probable theories presupposes that there are probable nomological statements, etc. (17: 367-368) The various relations are as follows.

> R1. 'p' is the conjunction of the statements of a theory, T, and 'e' = 'T is the simplest available framework that generates new testable law-like statements, generates acceptable approximations of nomologically probable law-like statements and generates no falsified law-like statements'. (17: 383)
>
> R2. 'p' is a universally quantified entailment of the form '(K)(that K is a finite unexamined class of As entails that approximately n/m Ks are B)',[12] and 'e' = 'n/m of all examined As are B'. (17: 394)
>
> R3. 'p' is of the form 'Fx', and 'e' = 'x is a random member of a finite set K,[13] and n/m>0.5 of K are F'. (17: 402)
>
> R4. 'p' is of the form 'n/m P are B', and 'e' = 'S is a sample of size m randomly selected from finite population P, and n/m S are B'. (17: 404)
>
> R5. 'p' is of the form 'n/m S are B', and 'e' = 'S is a sample selected randomly

from finite population P of size m, and n/m P are B'. (17: 407)

R6. 'p' is any proposition, and 'e' = 'n/m>0.5 logically possible states of the universe are those in which "p" is true'. (17: 410)

The suppressed premises which complete the entailment referred to in D2.2 are termed by Sellars 'major premises of first level probability arguments' (17: 380-381), and are of the form

$(\forall q)$(if $(\exists r)(r\&R(q,r))$, then that-q is probable),

where R is one of R1 through R6.

Now, according to principle D2.1, logical implication 'transmits reasonableness' from the premises to the conclusion of a good deductive argument. And, in D2.2, the premise 'e&R(p,e)' is required to be justified for S (to believe). What about the suppressed major premise? Definition (f) — Sellars' definition of epistemic justification — requires the suppressed premise to be probable if it is to be justified. Non-trivial universally quantified conditional propositions are typically shown to be probable by 'probabilistic' arguments from premises (i.e., evidence). But the propositions in question are part of the principle that defines what such 'probabilistic' arguments **are.** If circularity is to be avoided, the probability of the 'major premises of first level probability arguments' must be established *a priori* on the basis of categorically valid arguments, so that they may be epistemically justified under clause (ii) of definition (f). Indeed, these major premises are, for Sellars, necessary truths, and the source of their necessity will play a major role in the discussion of the next chapter.[14] Here the crucial thing to note is that the necessity of the 'major premises' underwrites Sellars' claim that there is no such thing as probabilistic or inductive inference, distinct from deductive inference. Induction is entirely a matter of **deduction**, where the deduction involved proceeds from one of the synthetic *a priori* premises referred to by D2.2.

Chapter 3. Reconstructing Sellars' Strategy (I)

Three ends are accomplished in this chapter. In part I, the historical roots of the argument of (31) are traced to (10), (27), and (30). In part II, Sellars' strategy is reconstructed as the claim that epistemic principles are justified as components of a certain theory that has *prima facie* justification *a priori*. The detailed argument for this claim involves an analysis of induction (and so, epistemic evaluation) as a species of practical reasoning. 'Practical reasoning', for Sellars, does not involve reasoning **about** means and ends, but reasoning **with** intentions, in a special 'practical logic'. This practical logic is described and discussed in part III, as a preliminary to a detailed reconstruction of Sellars' argument in the next chapter.

I. Historical Roots

Sellars has said that 'much of what I have thought and written since 1956 has been an unpacking and defence of one or another aspect of "Empiricism and the Philosophy of Mind"'[1] — and includes (31) in this category, offering it as providing 'some of the cash' for a 'promissory note' he gave in (10). (31: 181) In fact, earlier payments on this note had been made, in the form of (27) and (30). The final payment in (31) draws on a reserve of capital accumulated in (17) and (25).

The promissory note in question is Sellars' claim that 'if there is a logical dimension in which other empirical propositions rest on observation reports, there is another logical dimension in which the latter rest on the former.' (10: 170) If this statement is supposed to be relevant to the question of the justification of epistemic principles, then it implies that epistemic principles, including those on which observation reports depend for their authority, are themselves empirical propositions 'resting on' observation reports. The claim amounts to a 'promissory note' rather than a full

account for two reasons. First, the natures of the 'logical dimensions' of support between observation reports and 'other empirical propositions' are unspecified. Second, nothing is said to alleviate the impression that a sterile circularity is inevitable in this approach: the authority of a principle stating that observation reports are likely to be true must then, it seems, be based on its being arrived at by induction from observations of observation reports being true. As a 'payment', (31) is addressed primarily to these two concerns. The foundations for (31) were laid in (27) and (30), with preliminary statements there of Sellars' strategy for justifying epistemic principles.

In (27), Sellars distances himself from three traditional responses to the question of the justification of epistemic principles. These are that (1) unless epistemic principles were true, there could be no knowledge of the sort we ordinarily believe ourselves to have, (2) epistemic principles are synthetic truths knowable *a priori*, and (3) epistemic principles are self-evident truths. Sellars does not give reasons for his dissatisfaction with these traditional strategies, but proceeds to sketch his preferred approach. He confirms the suspicions aroused by his promissory note of (10) that he considers epistemic principles to be general empirical propositions. 'As I see it...these epistemic principles can be placed in a naturalistic setting and their authority construed in terms of the nature of concept formation and of the acquisition of relevant linguistic skills.' (27: 345)

Sellars acknowledges the impression of circularity in his strategy. 'But, surely, it will be urged, facts about learning languages and acquiring linguistic skills are themselves empirical **facts**; and to know these facts involves perception, memory, indeed all the epistemic activities the justification of which is at stake. Must we not conclude that any such account as I give of the principle that perceptual beliefs occurring in perceptual contexts are **likely to be true** is circular?' (*ibid.*) Sellars

repudiates the charge of circularity, saying 'we have to be in this framework to be thinking and perceiving beings at all.' (*ibid.*) Now, at first blush, this seems to amount to adoption of the 'this or nothing' strategy to which Sellars has intended to offer an alternative. But he notes that, in considering the general 'problem of how good reasons must be to justify believing that-p.... we are tempted to set apart a class of cases in which the reasons are not only good enough to justify believing that-p, but good enough to make it absurd not to believe that-p.' (27: 334) It seems that it is a necessary truth, the denial of which is absurd, that the 'framework' in question is epistemically justified.

Important questions remain after the discussion of epistemic principles in (27). What is the 'framework' in question? What ensures that epistemic principles are essential parts of the framework? Why must we be 'in' it in order to be thinking and perceiving beings at all? How does the latter fact render it absurd not to accept the framework?

In (30), Sellars provides hints as to his responses to these questions.[2] The framework involved is 'the conceptual framework that defines what it is to be a mind that gains knowledge of a world to which it belongs.' (30: 624) Given Sellars' analysis of thought in terms of language, this framework is just the theory which it is the goal of epistemology to construct. For Sellars views epistemology as 'transcendental linguistics', which 'attempts to delineate the general features that would be common to the epistemic functioning of any language in any possible world.... [and so, to construct] the theory of what it is to be a language that is about a world in which it is used.' (21: 59) Epistemic principles are 'warranted as...essential component[s]' of this theory (30: 624), and that they are essential components of the theory follows from the fact that epistemic principles 'cohere' with other elements of the framework. (*ibid.*)

The hints provided in (30) are thin. The nature of the 'coherence' relation that determines which elements of a theory are 'essential' is unspecified. Nothing is said of

the source of the necessity of the theory's authority.

II. Strategy

The denouement of these foreshadowings occurs in (31), where Sellars again takes up the question of the justification of epistemic principles. He first repeats his repudiation of the 'self-evidence' and 'this or nothing' strategies. (31: 176) And, he adds to his characterization of the theory within which epistemic principles find their justification (he calls this theory 'T'), referring to it as 'a theory of persons as representers of themselves-in-the-world' (31: 174), and as 'the conceptual framework which defines what it is to be a finite knower in a world one never made' (31: 179), so that 'to be one who makes epistemic appraisals is to be in this framework.' (31: 179) Moreover, 'as it exists at any one time, theory T is a complex which includes [epistemic principles] **and** attempts to explain **why** [observation reports] are likely to be true.' (31:181) Then Sellars affirms his strategy of justifying the acceptability on the basis of their being elements of theory T. (31: 179)

The 'coherence' that binds epistemic principles to theory T is 'explanatory coherence'. (31: 181) Now, the 'explanatory coherence' of a theory is a function of the ability of that theory to provide answers to questions that can meaningfully be asked (employing predicates that are meaningful within the theory) of objects in the domain of the theory. (20: 394)[3] Presumably, then, epistemic principles are 'essential components' of theory T because the 'question answering ability' of the theory is enhanced by the presence in it of the principles.

When it comes to answering the question of the justification of theory T, Sellars proposes that, if circularity is to be avoided, 'we must distinguish the question "How did we get into the framework?" from the question "Granted that we are in the framework, how can we justify accepting it?"' (31: 179-180)

> Presumably the question 'How did we get into the framework?' has a causal answer, a special application of evolutionary theory to the emergence of beings capable of conceptually representing the world of which they have come to be a part. As to the second question, the answer, according to the proposed strategy, lies in the necessary connection between being in the framework of epistemic evaluation and being agents. It is this connection which constitutes the objective ground for the reasonableness of accepting **something like** theory T. (31: 180)

Membership in theory T justifies epistemic principles, allowing them to provide justification for individual observation reports. Individual observation reports are justified by epistemic principles, and so are able to provide the basis for inductively justified explanations of how we got into the framework of theory T, and why these individual observation reports are likely to be true. The 'logical dimension' in which other empirical propositions 'rest' on observation reports is that in which the latter can serve as evidence for the former. The 'logical dimension' in which observation reports 'rest' on other empirical propositions is that in which the latter can provide explanations of why observation reports are likely to be true. Explanation and justification are different 'logical dimensions', so there is no circularity of support.

Justification for theory T comes, not from justified observation reports, but from the facts that (1) we have the end of 'being in a **general** position, so far as in us lies, to **act**, i.e., to bring about changes in ourselves and our environment in order to realize **specific** purposes or intentions' (31: 179); (2) 'agency, to be effective, involves having reliable cognitive maps of ourselves and of our environment' (31: 180); (3) this requires being in the framework of epistemic evaluation (*ibid.*), and 'espousal of certain patterns of reasoning, specifically those involved in the establishing of statistical hypotheses, laws, and theories [on the basis of observation reports]' (31: 179); and (4), the framework of epistemic evaluation is just theory T. (*ibid.*) The relation between the end specified in (1) and the means described in (2)-(4) is **deductive** (*ibid.*), so there is no circular appeal to inductively justified premises.

The reason can now be seen for Sellars' dissatisfaction with 'the picture of human knowledge as resting on a level of propositions — observation reports — which do not rest on other propositions in the same way as other propositions rest on them.' (10: 170) He had hinted at the reason: 'One seems forced to choose between the picture of an elephant which rests on a tortoise (What supports the tortoise?) and the picture of a great Hegelian serpent of knowledge with its tail in its mouth (Where did it begin?). Neither will do.' (*ibid.*) The structure which Sellars sees, as it has been sketched so far, is of a more complex topology.

Although this picture is immensely more detailed that the hints originally dropped in (10) as to Sellars' strategy for justifying epistemic principles, important questions remain. First, the justification of acceptance of theory T as a necessary means to the goal of being in a general position to act seems clearly to be a pragmatic or instrumental justification of the theory. As was seen in chapter 1, instrumental and epistemic justification seem, on the face of it, to be distinct modes of reason-giving. What, precisely, is the relationship between these two modes of justification, and just how does the alleged means-end relationship result in theory T being epistemically justified? Second, granting that justification does accrue to theory T in this way, how can this justification be categorical, or necessary, since ends are presumably always optional? Supposing one prefers indolence to action, how then, on this account, is theory T justified for one? In anticipation of these questions, Sellars draws on his earlier essays on induction, (17) and (25).

In (31) Sellars appeals to (17) and (17) for a strategy to justify acceptance of theory T, and so acceptance of epistemic principles, saying that the 'considerations of (31) are necessary to round out the arguments of those essays.' (31: 178) Alluding to the title of (17), he says that 'such an expanded account might well be called "Epistemic Evaluation as Vindication".' (31: 178-179) The title of the earlier essay is 'Induction as

Vindication', prompting recollection of Salmon's 'Vindication of Induction'. (81)[4] But notice the difference between Sellars' title and Salmon's. Salmon's title summarizes his strategy of vindicating inductive reasoning as a (logically necessary) means to our (epistemic) ends. Sellars' title suggests, rather, that inductive reasoning is itself a process of vindication – but of what? The title also hints at the fact that his primary concern in (17) and (25) is not "Hume's problem" of induction (How is inductive reasoning justified?) but "Goodman's problem" of induction (What are the principles of inductive reasoning?).[5] According to Sellars, the nature of induction is best discovered by analyzing the concept of probability. Sellars believes that this analysis will reveal that induction is a process of rational decision making about the acceptance of propositions; a process that essentially involves practical reasoning. (18: 365-366; 20: 409) That is, to establish by induction that a proposition is probable is to establish that acceptance or belief of that proposition is a logically necessary means to certain ends or goals. Sellars' analysis of the concept of probability proceeds in terms of his own system of practical logic. A reconstruction of the analysis will require a prior examination of that system of logic.

III. Practical Reasoning

An important aspect of Sellars' philosophical system is his refurbishing of the Kantian notion of an autonomous practical reason. It appears as the conviction that an adequate logical reconstruction of ordinary language must contain an object language that is bifurcated into a 'practical' logic and a 'theoretical' or 'factual' logic that are distinct and non-reducible.

1. Two Kinds of Logic

As to the more general concept of 'logic' unqualified, Sellars believes that the most important associated concept is that of validity.[6] A valid argument is one which is such that if its premises are true, it conclusion must also be true. A valid argument is also one in which the premises entail the conclusion, so that there is a rule of inference that authorizes the transition from the premises to the conclusion. Indeed, 'entailment is essentially truth-preservingness' (25: 430), and the 'right' rules of inference preserve truth.[7]

Now, in the primary sense, truth is predicated of propositions, as opposed to specific linguistic utterances or mental episodes. (11: 200; 16: 313) Therefore, in their character as being truth-preserving, rules of inference assert that certain relationships exist among **propositions**. But, for Sellars, propositions are **types** of linguistic utterance, when the latter have been sorted as to meaning. Reference to propositions, therefore, is a way of applying certain metalinguistic sortal predicates to linguistic utterances.[8] One would expect, then, that existence of relationships among propositions entails existence of certain underlying and ontologically more basic relationships among linguistic utterances.[9]

In the case of rules of inference, which assert the existence of entailment relationships among propositions, the underlying relationship among linguistic utterances (including 'inner' utterances – thoughts) is **causality**. '"p" entails "q"' is equivalent to 'tokens of .p. cause the occurrence (*ceteris paribus*) of tokens of .q.'.[10] Given this analysis of entailment, Sellars sees reasons as a species of cause.[11] In giving an argument for a proposition, one is giving reasons for it, and 'what is defended by the argument "q, because p and (p implies q)" is not the **telling someone that-q**...but rather the **thought** (expressed or unexpressed) that-q.' (13: 172) The conclusion is the thought that-q, rather than the assertion of 'q', because, in giving reasons for 'q',

one is providing normal causes for the thought.. If one's reasons are good, those reasons will cause (*ceteris paribus*) the thought 'q' in those who consider the argument.

If one holds a psychologistic view of logic, as Sellars does, salient features of one's philosophy of mind are likely to be reflected in the logical system(s) one advocates. In Sellars' case, cognitive mental episodes fall into two distinct types, each taking part in different mental processes. This distinction requires of Sellars two sets of rules of inference, two distinct 'logics'. The distinction between 'factual' and 'practical' propositions rests on an analogous distinction between two classes of thoughts. This latter distinction grows out of a prior three-fold distinction that Sellars draws between types of 'pattern governed linguistic behavior':

> (1) Language Entry Transitions: the speaker responds to objects in perceptual situations, and to certain states of himself, with appropriate linguistic conceptual episodes.
>
> (2) Intra-linguistic Moves: the speaker's linguistic conceptual episodes tend to occur in patterns of valid inference...and tend not to occur in patterns which violate logical principles.
>
> (3) Language Departure Transitions: the speaker responds to such linguistic conceptual episodes as 'I will now raise my hand' with an upward motion of the hand, etc. (29: 123)

The 'linguistic conceptual episodes', or thoughts, associated with 'language entry transitions' are expressions of ostensible observation reports. Thoughts associated with 'intra-linguistic moves' are those occurring as 'conclusions' of inferential mental processes. Thoughts associated with 'language departure transitions' are expressions of intentions (including volitions). Now, 'factual propositions' include ostensible observation reports, and those propositions occurring as conclusions of inferences from observation reports (directly or indirectly). 'Practical propositions' include expressions of intention and those propositions occurring as conclusions of inferences from intentions. 'Factual propositions' can take the semantic values True or False, and inferences among among factual propositions are governed by ordinary 'indicative' or 'assertoric logic'. 'Practical

propositions', on the other hand, cannot take the values True or False, and they obey the rules of inference of 'practical logic'.[12]

Assertoric logic is associated by Sellars with the familiar propositional, predicate, and modal calculi of mathematical logicians; but two qualifications to this must quickly be registered. First, Sellars does not say which (if any) of the various systems 'on the market' is correct in his view. He is, however, explicit that, in his view, 'entails' is not correctly modelled by 'strictly implies' or '(classically) logically implies', and suggests that perhaps 'relevantly entails' is more adequate.[13] For the most part, he is content to assume that we 'know our way around' the concept of entailment, without specifying in advance which system correctly prescribes rules of inference. (19: 111) Second, Sellars denies the so-called Law of Bivalence. (22: 115) While any factual proposition is capable, in some sense, of taking a value True or False, not every factual proposition actually takes a value.

Practical logic, on the other hand, has been unjustly ignored by logicians (in Sellars' opinion), owing to their preoccupation with the reasoning employed in science and mathematics, which proceeds in terms of factual propositions. Practical propositions are expressions of intentions, and paradigm cases of intentions are volitions.

> Volitions are conceptual episodes which we conceive on the analogy of such candid thinkings-out-loud as
>
> I shall **now** do A.
>
> Thus in one sense of 'manifest' a volition is the sort of episode which is manifested in candid overt speech by saying
>
> I shall **now** do A (e.g., raise my hand).
>
> In another sense, however, a volition is the sort of episode which is manifested, *ceteris paribus* (thus in the absence of paralysis and in the presence of favourable circumstances), by a doing of A, e.g., a raising of the hand. We could put this by saying that, *ceteris paribus*, volitions cause actions of the kinds involved in the description of these volitions.... (22: 177)

Propositions which express volitions are the 'mirror image' of those which express observations. (19: 104; 28: 205) A child has not learned the meaning of the observation predicate ' ϕ ' until he reliably responds to the presence of ϕ objects with utterances of ' ϕx'. Once he has acquired the requisite stimulus-response connection, an utterance of ' ϕx' in response to the presence of a ϕ object is **caused** by that object. Similarly, a child has not learned the meaning of 'I shall now do A' until he reliably does A upon uttering 'I shall now do A'. Once he has acquired the requisite stimulus-response connection, a doing of A upon an uttering of 'I shall now do A' is **caused** by the volition expressed by the utterance. The form 'I shall now do A' may be generalized to 'I shall do X by Y-ing at t', where t may denote any time, now or in the future.[14] The thoughts (episodes) expressed by utterances of this generalized form Sellars calls **intentions**. Practical propositions are those that express intentions, on an occasion of utterance.

2. Practical Logic: Syntax

Sellars has articulated the outlines of a formal logic of practical propositions and arguments. The materials he provides are far from complete, and it does not seem possible to render a consistent reconstruction of everything he says about practical logic. Nevertheless, what he does say about practical logic is collected in this and the next section. These materials provide formation and inference rules, but no object language axioms, so Sellars' practical logic is best viewed as a sketch of an entailment system whose zero-degree fragment is first order (assertoric) logic enriched with a number of operators that turn 'factual' propositions into 'practical' propositions. In reconstructing formation and inference rules for Sellars' practical logic, a number of distinctions drawn by him between various kinds of intentions must be noted.

(i) Sellars distinguishes expressions of intention from attributions of intention. The situation parallels that with belief, for one may infer that S believes 'p' if he says either

'p' or 'I believe that-p'. The former expresses S's belief (proximate propensity to say) that-p. It is a report by S of an ostensible self-awareness, and attributes to him a belief (proximate propensity to say) that-p. Similarly, one may infer that S intends to do A, if he says either 'I shall do A' or 'I intend to do A'. The former is an expression of S's intention to do A. The latter is a report by S of an ostensible self-awareness, and attributes to him an intention to do A (i.e., a propensity to do A and to say 'I shall do A'). Both expressions and attributions of beliefs are factual propositions. But, while attributions of intentions are factual propositions, their expressions are practical propositions. (13: 167-168; 22: 185)[15]

(ii) Sellars states that practical propositions must be distinguished fr factual propositions having a future tensed verb, e.g., 'I shall do A' as compared to 'I will do A'. The latter is equivalent to 'It will be the case that I do A', and, given the logical connection between intending to do A and the doing of A, 'I shall do A' entails '(*ceteris paribus*) It will be the case that I do A'. The converse is not true, for I might do A in the future, but not on account of a present intention. (13: 174-175; 19: 125-126, 128; 22: 179) 'I shall do A' also entails, but is not equivalent to, 'I believe that it will be the case that I do A'. (19: 126)

(iii) While one can intend to do something, one can also intend that something be the case. 'The latter, however, are **intentions**, practical commitments, only by virtue of their conceptual tie with intentions **to do**. Roughly, "It shall be the case that-p" has the sense, when made explicit, of "(*ceteris paribus*) I shall do that which is necessary to make it the case that-p".' (22: 183-184)

This last distinction is particularly important for the formation rules that Sellars gives for formalized practical propositions. He 'reconstruct[s] "shall" to be an operator which turns indicative statements into statements of intention' (22: 180), but admonishes that 'a careful distinction must be drawn between "shall" as an operator

which operates on action v[illegible] and "shall" in the sense, roughly, of "shall be the case" which operates on statements.' (22: 181) Sellars himself is not careful of the distinction, usually leaving it to the context to distinguish the two operators represented by 'shall'. Following Castañeda (43: 32), this distinction will be marked here by the use of two operators, 'SHALL', and 'shall'. Formation rules and axioms summarizing the discussion so far are as follows. (A list of symbols used is located in note.[16])

FR1. If 'p' is a factual proposition of the form ' Φ x', then 'SHALL[Fx]' is a practical proposition.

FR2. If 'p' is a factual proposition not of the form ' Φ x', then 'shall[Fp]' is a practical proposition.

A1. shall[Fp] $\leftrightarrow$ SHALL[(*ceteris paribus*)($\forall$x)((p $\supset$ Φ x) $\supset$ F Φ x)]

A2. SHALL[Fp] $\rightarrow$ (*ceteris paribus*) Fp

A3. SHALL[Fp] $\rightarrow$ BFp

(iv) Sellars identifies what he calls 'conditional' and 'general conditional' ('policy') intentions, and provides formation rules for those forms of expression. Conditional intentions are expressed in the forms 'If it is raining (at t), then I shall come in', and 'Tom shall make amends, if he is guilty (now)'. (17: 376-377; 22: 181) (General conditional intentions are of the form 'I shall do A whenever X obtains'. They will here be assumed to have the same logical form as conditional intentions, to avoid messy quantifications over temporal indices.) Formation rules and axiom for conditional intentions are as follows.

FR3. If 'p' is a factual proposition of the form ' Φ x' and 'q' is a factual proposition, then 'SHALL[q $\supset$ Fp]' is a practical proposition.

FR4. If 'p' is a factual proposition not of the form ' Φ x' and 'q' is a factual proposition, then 'shall[q $\supset$ Fp]' is a practical proposition.

A4. shall[q $\supset$ Fp] $\leftrightarrow$ SHALL[q $\supset$ (*ceteris paribus*)($\forall$x)((p $\supset$ Φ x) $\supset$ F Φ x)]

(v) Moreover, Sellars identifies what he calls 'community intentions', of the form

'We shall...', which 'are not just private intentions ("I shall...") which everybody has.' (12: 39-40) The logical relation between community and private intentions is not clear,[17] but Sellars introduces a separate operator for formal practical propositions expressing community intentions. (Though, again, he is not careful about using that operator when it is required by context.) (13: 203-204)

> FR5. If 'p' is a factual proposition of the form ' Ψ x', then 'SHALLwe[Fp]' is a practical proposition.
>
> FR6, 7, 8. As FR2, 3, 4, *mutatis mutandis*

Notice that the formation rules given above do not provide for the well-formedness of concatenations of practical propositions with sentential connectives or quantifiers.[18] In particular, Sellars is explicit that 'whereas ascriptions of intentions have proper negations, shall-statements do not.' (22: 185-188; cf. also 19: 112) This claim has important repercussions for inferences involving practical propositions.

Sellars claims that one rule of inference is adequate to account for all valid inferences involving practical propositions. This is a second degree entailment,

A5. $(p \rightarrow q) \rightarrow (\text{SHALL}[p] \rightarrow \text{SHALL}[q])$

(13: 178; 17: 377; 19: 111-115; 22: 179-182) The claim of uniqueness for this entailment will not be taken seriously, in view of the others to which Sellars is committed.

(Practical) entailment has some interesting properties. The absence of external negations for shall-statements means that contraposition fails. (19: 112)

$((\text{SHALL}[p] \rightarrow \text{SHALL}[q]) \& \neg \text{SHALL}[q]) \rightarrow \neg \text{SHALL}[p]$

is not even well-formed, let alone valid. Other intuitively plausible entailments are

malformed. For example, in

(SHALL[p] & SHALL[q]) → SHALL[p&q]

the left argument is an inadmissible concatenation of practical propositions. (19: 115) At the same time, the following entailment is valid. (19: 132)

A6. SHALL[p & q] → SHALL[p]

Somewhat paradoxically, Sellars claims[19] that the second degree entailment A5 'reduces' to the first degree entailment

A7. (SHALL[p ⊃ q] & p) → SHALL[q] (19: 112)

This last entailment provides an inference rule that is crucial in the practical arguments for which Sellars actually constructs derivations. (Specifically, it validates the inference from line 4 to line 5 in derivations 1 and 2, in chapter 4, below.

3. Practical Logic: Semantics

Sellars does not give a semantic interpretation for his practical logic. At the same time, he recognizes that if the concept of validity is to be applicable to practical arguments, practical propositions must take semantic values of some sort. (22: 198-222) He is explicit that practical propositions are as such neither true nor false (22: 188), so the nature of the semantic property preserved in valid practical arguments is problematic.

Now, Aune and Castañeda (*ops. cit.*). suggest that the semantically significant property of practical propositions is their being **realized** or not. 'SHALL[Fp]' is said to be realized if 'Fp' is true and unrealized if 'Fp' is false. The suggestion has the virtues that it makes practical semantics a simple matter and makes the validity of practical arguments dependent in a well-defined way on the validity of factual arguments. These virtues notwithstanding, this suggestion will not do as a semantic interpretation of

Sellars' practical logic. For, suppose that, on all valuations v, v(SHALL[Fp])=R iff v(Fp)=T and v(SHALL[Fp])=U iff v(Fp)=F. Then 'SHALL[Fp] ↔Fp' is valid and practical propositions are eliminable in favour of factual propositions, preserving positive semantic value. But Sellars repudiates the equation of 'I shall do A' with 'I will do A'. So 'realized' cannot be the positive semantic value preserved by valid practical arguments.

Rejecting 'true' and 'realized', Sellars uses the terms 'validity' and 'categorical validity' as place-holders for the positive semantic value, whatever it really is, that applies to practical propositions. However, the most substantial analysis he offers of this positive semantic value is in terms of 'the concept of an intention which one **has** or **accepts**.' (22: 198) Assuming that practical propositions can take a positive or negative semantic value (say, 1 or 0), Sellars' suggestion seems to be that on any valuation v, v(SHALL[I will do A])=1 iff v(I intend to do A)=T, and v(SHALL[I will do A])=0 iff v(I intend to do A)=F.

If this interpretation avoids semantically equating 'I shall do A' with 'I will do A', it does equate expressions of intentions with attributions of intentions, something which Sellars also disavows. Moreover, this semantic interpretation allows definition of an external negation operator for shall-statements. Where 'a' is a practical proposition, '-a' is also a practical proposition. Let v(-a)=1 iff v(a)=0 and v(-a)=0 iff v(a)=1. Then the following entailment is valid.

A8. SHALL[p] ↔ --SHALL[p]

Note that, if every practical proposition takes a value from {0,1}, on every valuation, then contraposition is valid for entailment and '-' (call this operator 's-not'). Sellars' denial of the validity of contraposition thus amounts to a denial that every practical proposition takes a semantic value.

A final note must be made in connection with the semantics of practical logic. The notion of a practical proposition that not only has positive semantic value but necessarily has positive semantic value will play a crucial role in the reconstruction of Sellars' strategy for justifying epistemic principles. (Cf. Line 0.1 of derivation 2 and line 1 of derivation 3, in chapter 4, below.) Sellars speaks of certain intentions as having 'intrinsic categorical reasonableness or validity'. (22: 218-222) To account for this notion in his practical logic, the operator ' ¤ ' (read 'it is s-necessary that') may be introduced as follows. Where 'a' is a practical proposition, ' ¤ a' is also a practical proposition. Let v(¤ a)=1 if v(a)=1 in all models on all valuations and v(¤ a)=0 otherwise. The following axioms may plausibly be supposed to govern this operator.

A9. ¤ a → a

A10. (¤ a → b) → ¤ b

A11. (-a → ⊥) → ¤ a

A12. (¤ a → p) → ■ p

A13. (■ p → a) → ¤ a

A14. ¤ SHALL[F Φx] ↔ ■ (IF Φx)

4. Practical Logic: Conclusions

Sellars' system of practical logic is idiosyncratic, incompletely developed and presented in fragments scattered throughout several papers and decades. The fact that his analysis of probability and his justification of epistemic principles take place in the medium of this system means that this analysis and argument are difficult to reconstruct in detail. Moreover, a number of problems with the Sellars' practical logic are evident. In chapter 5 it will be argued that these problems speak in favour of Sellars' abandoning the notion since, in the end, his analysis of probability and his argument for the justification of epistemic principles can be restated outside the context of a distinct practical logic.

First of all, motivation for a practical logic of the sort advocated by Sellars is uncertain.[20] Phenomenological evidence for the existence of 'practical' propositions is not offered by Sellars, and it is difficult to see where such evidence might be found. One can lie or joke with locutions such as 'I shall do A', suggesting the presence of truth values. In fact, most ordinary uses of 'I shall do A' seem to be roughly equivalent to one or the other of 'I intend to do A' or 'It will be the case that I do A' (said with conviction). Both of the latter are 'factual' propositions that take truth values. The most concrete motivation Sellars has for a practical logic lies in the connection between his theory of action, his philosophy of mind, and his philosophy of language. For, since reason can influence action, and the origin of action is in intentions, intentions must be in 'the cognitive order' (i.e., must be thoughts) alongside beliefs. But thoughts are propensities to utter tokens of propositions, and if there are two functionally distinct kinds of thoughts, there must be two kinds of propositions. The force of this motivation will be blunted if the argument of chapter 5 is sound, that Sellars' philosophy of mind can be modified to preserve as analytic the connection between reason and action, without doing violence to either the view of thought-as-language or the view that actions are caused by intentions, while denying that intentions are thoughts.

Granting that Sellars may have some *bona fide* philosophical motivation for a practical logic, his system is presented in a radically incomplete state. Neither a comprehensive set of axioms nor a semantic interpretation are provided. No account is given of the logical connection, if any, between practical propositions expressing private and community intentions.

But the most serious difficulties are the inconsistencies that spring from Sellars' insistence that practical propositions are neither true nor false. (1) Practical propositions are said to play the roles of premises and conclusions in (practical) arguments. But, if there is a sound argument with a practical proposition as a

conclusion, then that practical proposition is **provable**. And provability in the axiomatic system that is a language is the heart of Sellars' analysis of truth as semantic assertability. (22: 101, 115) Sellars must clarify how it is that, while truth is semantic assertability, practical propositions can be semantically assertible and yet be neither true nor false. (2) Moreover, if the notion of a practical argument is to make sense, practical propositions must take **some** semantic values or other, lest the concept of a **valid** practical argument be inapplicable. If practical arguments do take semantic values, then it seems that an external negation operator can be defined. But Sellars insists that a consequence of practical propositions being neither true nor false is the absence of any such external negation operator. (3) That practical propositions are neither true nor false also means that concatenations of practical propositions with truth-functional connectives are semantically undefined. On the other hand, an entailment crucial to Sellars' employment of his practical logic depends on the meaningfulness of such concatenations.

These difficulties are compounded by the lack of clarity of Sellars' views on assertoric logic. That he repudiates classical entailment without committing himself to any alternative appears to leave him in the enviable position of being able to use whatever rules of inference he needs to derive conclusions he desires from premises that he accepts. Note that entailment is the core notion of Sellars' epistemic principle D2.1 (his sole transmission principle), and that if his views on entailment are not well-defined then neither are his first level epistemic principles.

Chapter 4. Reconstructing Sellars' Strategy (II)

Sellars' strategy for justifying epistemic principles, roughly sketched in the previous chapter, is reconstructed in detail in this chapter. In chapter 3 it was noted that Sellars sees his strategy as an extension of his analysis of induction, and that he sees induction as a species of practical reasoning. In part I of this chapter, the details of his reduction of induction to practical reasoning are examined. The close relationship Sellars sees between the concepts of probability and epistemic justifiedness results in the problem of justifying epistemic principles being identified with that of showing that the principles of induction are likely to be true (the problem of induction). In part II, Sellars' argument for the justification of epistemic principles is finally reconstructed as a categorical argument in practical logic. In part III, the relationship between epistemic justifica and explanatory coherence is explored.

I. The Structure of Induction

1. How Induction Vindicates

In chapter 2 it was seen that Sellars identifies a proposition's being probable with there being a good argument for accepting (believing) that proposition. The lower level 'arguments for acceptance' were not examined. Rather, it was seen that, in general, the existence of such arguments is established indirectly, by 'first level probability arguments' that have conclusions of the form 'that-p is probable' (i.e., 'there is a good argument for accepting that-p'). These first level probability arguments were seen to depend on major premises of the form '$(\forall q)$(if$(\exists r)(r\&R(q,r))$, then that-q is probable)', where R is one of R1-R6.

Not examined in chapter 2 was how Sellars arrives at the major premises he does. In (17), he gives derivations showing that, for an arbitrary proposition 'q', if $(\exists r)(r\&R(q,r))$, where R is one of R1-R6, then there is a lower level argument for the acceptance of 'q'. Since 'q' is arbitrary, the quantified expressions that are the requisite major premises follow by universal generalization. Moreover, the lower level arguments have conclusions, not of the form 'q', but of the form 'I shall accept that-q'. That is, the lower level arguments underpinning the probability of propositions are practical arguments, and the first level probability arguments establishing the existence of these practical arguments are, therefore, metapractical arguments. Sellars' derivation is as follows.

Derivation 1

1. shall[E]; ?

2. $E \rightarrow (\forall q)((\exists r)(r\&R(q,r)) \supset FBq)$, where R is one of R1-R6; ?

3. $(\exists r)(r\&R(u,r))$, where R is one of R1-R6, and 'u' is an arbitrary factual proposition; hypothesis

4. shall$[(\forall q)((\exists r)(r\&R(q,r)) \supset FBq)]$; 1, 2, reiteration, A5

5. shall[FBu]; 3, 4, A7

The practical arguments which 'vindicate' our inductive acceptance of propositions are of the above form. Rarely are these arguments ever constructed to justify acceptance of a particular proposition. Instead, first level probability arguments (metapractical) are used to establish the **availability** of a practical argument, and so establish the acceptability of a proposition **indirectly**. The form of the major premises of these metapractical arguments is easily discovered by continuing Derivation 1.

Derivation 1 (cont'd)

6. $(\exists r)(r\&R(u,r)) \rightarrow$ shall[FBu]; 3-5, conditional proof

7. $(\exists r)(r\&R(u,r)) \supset ((\exists r)(r\&R(u,r)) \rightarrow$ shall[FBu]; 6, propositional logic – $(p \rightarrow (q \supset p))$

8. (∃r)(r&R(u,r)) ⊃Pu; 7, definition of 'probable'

9. (∀q)((∃r)(r&R(q,r)) ⊃Pq); 8, universal generalization

Line 9 is precisely the form of the major premises of first level probability arguments. These major premises represent the larger part of Sellars' answer to "Goodman's problem" of induction. They are, for Sellars, the backbone of the structure of induction.

2. Epistemic Ends

There are important questions to be asked about Derivation 1. Specifically, what is the factual proposition 'E' in lines 1 and 2, and where do these lines come from? Clearly, the derivation of line 5 in Derivation 1 is subject to lines 1 and 2, since the deduction of line 5 depends essentially on those lines. As the factual 'core' of a practical proposition at line 1, it seems that 'E' is a goal or end of some sort. Line 2 appears to state that if that end obtains, then the state of affairs also obtains that I will accept all propositions 'q' that stand in certain relations to other propositions 'r'.

Sellars identifies three ends (call them E1, E2, and E3) which underpin acceptance of theories, nomological statements, and frequency statements, respectively. These are as follows.

> E1 'I am in the state of possessing (i.e., accepting, believing) the simplest available framework which generates new testable law-like statements, generates acceptable approximations of nomologically probable law-like statements, and generates no falsified law-like statements.' (17: 384)

According to Sellars, E1 'simply unpacks the concept of being able to give non-trivial explanatory accounts of established laws.' (*ibid.*)

> E2 'I am in the state of being able to draw inferences concerning the composition with respect to a given property Y of unexamined finite samples (ΔK) of a kind, X, in a way which also provides an explanatory account of the composition with respect to Y of the total unexamined sample, K, of X.' (17: 392)

According to Sellars, the intention to bring about E2 is 'constitutive of the scientific enterprise.' (17: 395) It is not the end of being in possession of empirical truth, 'but the realizing of a logically necessary condition of being in the very framework of explanation and prediction; i.e., being able to draw inferences concerning the unknown and give explanatory accounts of the known.' (17: 397)

> E3 'I know where I stand with respect to the truth or falsity of my answers to questions of certain kinds.'

E3 is the end of being in possession of empirical truth. The question classes are the forms of 'q' in R3-R6. If E3 obtains, then it also obtains that I accept all propositions 'q' that satisfy R3-R6. For example, consider R3. The question class here is comprised of all questions of the form 'Fx?', where x is a random member of a finite set K, and n/m of K are known to be F. By answering all such questions in the affirmative (i.e., accepting all propositions of the form 'Fx'), I know that n/m of my answers are correct. (17: 399-410)

The factual proposition E is, therefore, an epistemic end, of the form 'It will be the case that-(E1&E2&E3)'. This latter proposition may be abbreviated to 'It will be the case that the set of propositions that I accept has maximal explanatory coherence'. From this point of view, the justification for line 2 in derivation 1 is that it is a necessary truth that acceptance of propositions that stand in relation R1 V... V R6 to the relevant evidence will increase the explanatory coherence of my belief set.

But, while the nature of the end E has been clarified, doubts remain about the fact that line 10 is conditional on lines 1 and 2. Sellars feels the doubts, and asks, 'can we remain satisfied with the idea that the reasonableness of accepting law-like statements, theories, singular statements, etc., is simply a function of an end one **happens** to have? Thus, suppose I simply **like** promoting the truth.' (25: 436-437) To answer 'yes' to Sellars' question would be to admit that the probability of propositions is, in an

unpalatable sense, subjective. 'Probable' would then be elliptical for 'probable-for-S', and a given proposition might be probable (for S_1) and not probable (for S_2) at the same time. The alternatives seem to be either abandonment of the attempt to analyze probability in terms of practical reasoning or alteration of derivation 1 so that line 5 is unconditional. Sellars opts for the latter course, and suggests that the objectivity of probability is to be found in intersubjectivity.

> There are two considerations which lead me to suppose that **wanting** to promote truth cannot be the end of the story. In the first place, probability statements are **intersubjective.** If Jones says to Smith, 'It is probable that p' and Smith agrees, they are agreeing about the same thing. This suggests that
>
> It is probable that p
>
> has something like the sense of
>
> It is e-reasonable (for **us**, now) to accept 'p'.
>
> In the second place whenever a person acts on a probability, he regards the kind of action he decides to do as **reasonable** because he thinks that a substantial series of such actions in the kind of circumstance in which the contingency may or may not occur would probably maximize relevant values or utilities. But, as Peirce pointed out, we regard such actions as reasonable even when we know that we **as individuals** will not be in that kind of circumstance often enough to make this consideration relevant and, to put an extreme case, we regard such actions as reasonable **even when we know that we are about to die.** Peirce concludes, correctly, I think, that in thinking and acting in terms of probability, we are, in a certain sense, identifying ourselves with a continuing community. (25: 437)

The thrust of this seems to be that the practical propositions of derivation 1 are expressions, not of private intentions, but of community intentions, expressed by shallwe-statements. If it is now asked how derivation 1, thus construed, is a categorical derivation of line 5, Sellars replies that derivation 1 is still incomplete. E, the epistemic end of lines 1 and 2 of derivation 1, is entailed by the more dominant end of 'securing the common good'. (25: 437-438) And, the intention to secure the latter end not only has positive semantic value, but **necessarily** has positive semantic value. (22: 218-222. Sellars' phrase is 'intrinsically categorically reasonable or valid'.) Letting GW

be the proposition 'It will be the case that our welfare is maximized', derivation 1 can be unfolded, in light of the foregoing, as derivation 2.

Derivation 2

0.1 ¤ shallwe[GW]; ?

0.2 GW → E; ?

0.3 shallwe[GW]; 0.1, A9

1. shallwe[E]; 0.2, 0.3, A5

2. E → (∀ q)((∃r)(r&R(q,r)) ⊃F*B*q), where R is one of R1-R6; as discussed

3. (∃r)(r&R(u,r)); hypothesis

4. shallwe[(∀q)((∃r)(r&R(u,r)) ⊃F*B*q)]; 1, 2 reiteration, A5

5. shallwe[F*B* u]; 3, 4, A7

6. (∃r)(r&R(u,r)) → shallwe[F*B*u]; 3-5, conditional proof

7. (∃r)(r&R(u,r)) ⊃ ((∃r)(r&R(u,r)) → shallwe[F*B*u]); 6, propositional logic – (p → (q ⊃p))

8. (∃r)(r&R(u,r)) ⊃Pu; 7, definition 'probable'

9. (∀q)((∃r)(r&R(q,r)) ⊃Pq); 8, universal generalization

Derivation 2 differs from derivation 1 solely in the addition to the former of lines 0.1-0.3 and the substitution of the operator 'shallwe' for 'shall' and the operator 'we believe that' (*B*) for the operator 'I believe that' (B). The origin of line 1 is clarified: the epistemic end E is entailed by the dominant end of the general welfare, GW. Since the proposition at line 0.1 is s-necessary, and since any proposition entailed by an s-necessary proposition is also s-necessary (by A10), both line 1 (epistemic ends) and line 5 (vindication of probable proposition) are s-necessary (subject to the hypothesis at line 3). So, induction, on Sellars' account, is not merely a procedure for showing there to be a good reason to accept a proposition, if one has certain epistemic ends. Rather, if a proposition is probable, there is good reason, without qualification, to accept that proposition.

Two things must be noted about derivation 2. First, the origin of lines 0.1 and 0.2 remains obscure. Why is a proposition expressing the community intention to further the general welfare s-necessary? And, why is the search for truth requisite to the attainment of general welfare? Second, note that the move from line 7 to line 8 requires that Sellars' definition of 'that-q is probable' be altered from 'there is good reason for me to accept that-q' to 'there is good reason for us to accept that-q'. To say of a proposition that it is probable is to say that its acceptance is a necessary means to an epistemic end of the community.

3. The Structure of Induction

Passing by, for the moment, the questions raised by the obscurity of the origins of lines 0.1 and 0.2, note that the proposition at line 9 of derivation 2 is precisely the form of the major premises of first level probability arguments. As already noted above, these major premises represent the larger part of Sellars' answer to "Goodman's problem" of induction, and are, for him, the backbone of the structure of induction. But a backbone does not a functional skeleton make, and the probability of propositions whose probability is established by detachment from the major premises of first level probability arguments is determined by the probability of the evidential propositions in the minor premises of those arguments. Unless probability arises somehow by spontaneous generation,[1] some propositions must obtain probability other than by first level probability arguments, in order to serve as evidence for those that do. Plainly, the concern here is with the probability of observation propositions.

The probability of observation reports is not dealt with in (17) or (25), so the explication of induction undertaken there is incomplete. In this respect, the considerations of (31) are necessary to complete the argument of those earlier essays.

> [In (17) and (25)], I had nothing to say about the probability of observation statements — though it is obvious that the probability of an inductive

> hypothesis is a function of the probability of the observational premises which are mustered to support it. In the language of the present essay [i.e., (31)], I had nothing to say about the probability which attaches to ostensible introspections, perceptions and memories (IPM judgments). If challenged, I would have appealed to something like PJ_1, PJ_3, and PJ_4 and argued that they are true. (31: 179)

Note that PJ_1, PJ_3, and PJ_4, together with the major premises of first level probability arguments (call the latter jointly PJ_0), constitute Sellars' full reconstruction of the skeleton of induction and his answer to "Goodman's problem" of induction.

> PJ_0 $(\forall p)((\exists r)(r\&(R1(p,r) \vee \ldots \vee R6(p,r))) \supset$ it is probable that-p)
>
> PJ_1 $(\forall p)((\exists S)$('p' is of one of the forms 'I sense ϕx-ishly', 'I believe (think) that-q', or 'I intend that-q' & S is ostensibly self-aware that-p) $\supset$ it is probable that-p)
>
> PJ_3 $(\forall p)((\exists S)$('p' is of the form 'ϕx' & S ostensibly perceives that-p) $\supset$ it is probable that-p)
>
> PJ_4 $(\forall p)((\exists S)$('p' is of the form 'I ostensibly perceived that-ϕx' & S ostensibly remembers that-p) $\supset$ it is probable that-p)

PJ_1, PJ_3, and PJ_4 jointly ensure that observation reports are *prima facie* probable. PJ_0 ensures that propositions confirmed by the relevant evidence are *prima facie* probable.[2]

II. Justifying Epistemic Principles

At the end of part II of chapter 3, three questions were raised about Sellars' strategy for justifying epistemic principles, as roughly reconstructed there. Questions were raised about (1) the relationship between pragmatic and epistemic justification, (2) how the alleged means-end relationship results in theory T being epistemically justified, and (3) how such justification could be categorical. In part I of this chapter, Sellars' analysis of induction was reconstructed in some detail. In view of definition (f), this analysis can be taken as Sellars' reply to question (1), above. The epistemic justifiedness of a proposition is a function of its probability, so to epistemically evaluate a proposition is to vindicate it with respect to community epistemic ends. Epistemic

justification is a species of pragmatic justification.

The discussion of part I has also provided the materials for a detailed reconstruction of the strategy sketched in chapter 3 and Sellars' replies to the other two questions raised above. The outlines of Sellars' answers to these questions are easily discerned. If acceptance of theory T is entailed by the epistemic ends of the community, then there is an argument for acceptance of theory T, and so theory T is probable. Since the community epistemic ends are entailed by the dominant end of the general welfare, the intention to achieve those epistemic ends is s-necessary. Therefore, the argument for acceptance of theory T is categorical, and it is epistemically justified by (f)(ii).

The development in detail of the justification of Sellars' epistemic principles requires that the close relationship between those epistemic principles (D2.2-.5) and his principles of induction ($PJ_{0\text{-}4}$) be noted. A proposition is epistemically justified for S if it is probable on the basis of evidence that S justifiably believes. Definitional circularity is avoided by (f)(ii), which allows that a proposition is justified if its probability is established *a priori* (i.e., the relevant evidence is the empty set). Given this relationship, the task of justifying Sellars' epistemic principles 'reduces' to that of giving an argument for acceptance of $PJ_{0\text{-}4}$, his principles of induction. That is, on Sellars' account, the justification of epistemic principles requires a justification of induction, an answer to "Hume's problem".

Now, Sellars' remarks about the 'absurdity' of Humean doubts about induction suggest that, in his view, the acceptability of his inductive principles is a necessary truth. In any case, he is explicit that their probability, like that of the propositions found to be probable by application of those principles, rests on practical reasoning, for 'a set of theoretical first principles is **vindicated** by giving a successful rational defense of the decision to espouse it.' (20: 407) That is to say, a practical argument is needed

which has the conclusion 'shallwe[F*B* q]', where 'q' is the conjunction of PJ_0, PJ_1, PJ_3, and PJ_4. And this conclusion must be s-necessary.

The argument of (31) is thus required to round out that of (17) and (25) for two reasons. The first has already been noted: the earlier explication of the concept of induction does not take account of the probability of the observation reports on which the probability of theories, law-like statements, and statistical hypotheses rests. The second reason is that, while the argument of (17) and (25) shows how the structure of induction is a process of vindication, it does not show how the principles of induction are themselves vindicated, and, therefore, probable. The central argument of (31) is to show that there is reason for accepting $PJ_{0\text{-}4}$ (i.e., that they are probable), and so, that acceptance of the principles of induction is justified. Given that Sellars understands epistemic justification in terms of probability, a justification of $PJ_{0\text{-}4}$ will also be a justification of D2.2-.5, Sellars' epistemic principles.

Earlier in this chapter, Sellars' strategy for justifying $PJ_{0\text{-}4}$ was seen to involve showing these principles to be essential components of a theory (T), which theory is necessarily justified *a priori*. Successful execution of this strategy entails giving a practical argument with the conclusion '¤ shallwe[F*B* T]'.

The argument of (31), recall, depends on the facts that (1) 'we have the end of being in a general position, so far as in us lies, to act, i.e., to bring about changes in ourselves and our environment in order to realize specific purposes or intentions' (31: 170); (2) 'agency, to be effective, involves having reliable maps of ourselves and our environment' (31: 180); (3) this requires being in the framework of epistemic evaluation (*ibid.*), and 'espousal of certain patterns of reasoning, specifically those involved in the establishing of statistical hypotheses, laws, and theories [on the basis of observation reports]' (31: 179); and (4), the framework of epistemic evaluation is just theory T.(*ibid.*)

In view of Sellars' analysis of probability, it may be surmised that the tacit major premise of this argument is a practical proposition expressing a community intention to further the general welfare. The skeletal structure of the formal argument is then as follows.

1. GW → 'we will be in a general position to act effectively' (EA)

2. EA → 'we will possess reliable cognitive maps' (RM; this is the epistemic end, E)

3. RM → 'we will be in the framework of epistemic evaluation' (FE)

4. FE → 'we will accept theory T' (F*B* T)

5. F*B* T → 'we will accept PJ_{0-4}'

The rationale for each of these five entailments is easily seen. (1) If one intends that a certain state of affairs obtain (e.g., the general welfare), then one will intend to do (*ceteris paribus*) whatever is necessary to bring that state of affairs about. That one is able to do so requires that one is in a position to act effectively. Otherwise, even if what one does results in the primary goal being attained, one will not have attained that goal by intentional action, but as a result of fortuitous circumstances. (2) & (3) One's specific intentions to act are formed on the basis of one's beliefs about oneself and one's environment. If one's intentions are to be realized consistently, those beliefs must be true more often than not. That is, if one is to be in a position to act effectively, one must have reliable cognitive maps — one must believe theories, laws, and statistical hypotheses that are probable. This is just the epistemic end E of derivation 2. (4) If one is to have reliable cognitive maps then one must be critical in one's acquisition of theories, laws, and statistical hypotheses. One must be in the framework of epistemic evaluation. But this framework is just theory T. (5) Theory T contains PJ_{0-4} as essential components. These are the principles of induction that provide the criteria needed for evaluating the probability of theories, laws, and statistical hypotheses.

The central argument of (22) may now be reconstructed, as follows.

Derivation 3

1. ▫ shallwe[GW]; ?
2. GW → EA; as discussed
3. EA → E; as discussed
4. E → F*B* T; as discussed
5. F*B* T → F*B* (PJ_{0-4}); Sellars' analysis of induction
6. GW → F*B* (PJ_{0-4}); 2-5, transitivity of entailment
7. ▫ shallwe-[F*B* (PJ_{0-4})]; 1, A9, 6, A5, A10
8. ■ P(PJ_{0-4}); 1-7 def'n 'probable', A12
9. ■ (∀S)('PJ_{0-4}' is epistemically justified for S); 8, D2(ii), A12

Derivation 3, from line 1 to line 7, is Sellars' answer to "Hume's problem" of induction, allegedly constituting a sound argument for accepting the principles of induction and the policies of reasoning entailed by those principles. Line 7 of the argument is s-necessary, so (line 9) the principles of induction are epistemically justified for S, by (f)(ii). The connection between probability and epistemic justification established by (f) also ensures that, since PJ_{0-4} are epistemically justified, so are D2.2-.5.

III. Epistemic Principles and Explanatory Coherence

The concept of explanatory coherence plays an important role in Sellars' philosophical system, as 'the ultimate criterion of truth'. The justification of epistemic principles, on Sellars' view, hinges on their being bound to theory T by explanatory coherence. This relationship between epistemic principles and explanatory coherence needs to be made more perspicuous.

Explanation consists essentially of answering the question 'Why?', and a useful point of departure here is that question asked about the major premise of derivation 2 and 3, ' ▫ shallwe[GW]'. Why is it that, in all possible worlds, the practical proposition expressing the community intention to further the general welfare has positive semantic value? In other words, what is the justification for writing (a token of) that proposition as a line in those derivations? The brief answer is that it is analytic that 'shallwe[GW]' is s-necessary in all languages. If an axiomatic system does not contain that proposition as a theorem, it is not a language.

The complete answer begins by reiterating that, for Sellars, 'to say that man is a rational animal is to say that man is a creature not of **habits** but of rules.' (3: 138) Of particular importance is that rule-governed behaviour called language. 'A language is a system of expressions, the use of which is subject to certain rules.' (4: 321)

Now, 'a rule is roughly a general "ought" statement (23: 94), and, more specifically, 'a rule is always a rule for **doing** something.' (6: 237) The rules that govern language are intersubjective, in the sense that they do not refer to any particular language user, but specify the correct use of a given expression for any language user. (12: 17) The rules that govern a language are in fact the material and formal entailments that define the allowable transformations within the language. (24: 199) In general, then, the rules of a language have the form

$$O(p \supset \Psi x),$$

where 'O' is the operator 'it ought to be the case that', and ' Ψx' means 'we do (one does) x by y-ing'. In the case of entailments, 'p entails q' is equivalent to 'it ought to be the case that, if one says "p", then one says "q"'. (22: 117)[3]

'It ought to be the case that-p' is analyzed by Sellars as being equivalent to '"shallwe[p]" is entailed by "shallwe[GW]"'. (Cf. 5 and 13, *passim*, and 22, ch. 7) The

rationale behind this analysis is as follows. First, the relevance of obligation to action can be accounted for, Sellars believes, only if the connection between obligation and intention is analytic (for the connection between intention and action is analytic). Ought-statements are disguised metapractical propositions. Second, Sellars believes that ought-statements are objective and that this objectivity can be accounted for only if the intentions involved in the entailments underlying ought-statements are intersubjective. Ought-statements are disguised entailments between practical propositions expressing community intentions, i.e., shallwe-propositions. Third, 'it is a conceptual fact that people constitute a community, a **we**, by virtue of thinking of each other as **one of us**, and by willing the common good **not** under the species of benevolence – but by willing it as one of us, or from a moral point of view.' (22: 222) The antecedent practical proposition in the entailments underlying ought-statements is 'shallwe[GW]', for, by definition, every community intends that the general welfare of its members be maximized.

Thus, 'shallwe[GW]' has positive semantic value at all possible worlds (i.e., is s-necessary) because that proposition is essential to the rules (entailments) without which there would be no language.

If the rationality of persons consists in their behaviour being rule-governed, rules also play a crucial role in determining the rationality of theories. (20: 394) This role is defined by the close relationship among the concepts of truth, explanation, and rules. Truth, for Sellars, is 'semantic assertability'. (22: 101) This amounts, roughly, to provability in the axiomatic system that is a language. (22: 115) The truth of empirical propositions is determined by the adequacy of the representation of the world offered by the empirical propositions of the language that are assertible at a given time. The criterion of adequacy of representation is explanatory coherence – question answering ability. The question answering ability of the set of assertible propositions of a

language at a given time is a function of the coherence, or interconnectedness, of the entailments that define the predicates of that language at that time. Ideally, for any predicate 'F', any question of the form 'why is x an F?' should be answerable with an argument of the form

1. Gx
2. $Gx \rightarrow Fx$
3. $\therefore Fx$

where 'G' is also a predicate of the language. In other words, for any assertible proposition 'Fx' there should be another assertible proposition 'Gx' and a rule of inference '$Gx \rightarrow Fx$', so that the set of assertible propositions is bound together by a network of valid inferences.

Because of epistemic ends E1, E2, and E3, a set of observation statements, statistical hypotheses, law-like statements, and theories accepted in accordance with the policies underlying $PJ_{0\text{-}4}$ necessarily is explanatorily coherent to the greatest degree possible. But, $PJ_{0\text{-}4}$ are also explicative of the concept of probability, so propositions that are members of a set having maximal explanatory coherence are likely to be true. Since, by definition (f), the epistemic justifiedness of a proposition is a function of its probability, empirical propositions that are members of a set having maximal explanatory coherence are epistemically justified.

The foregoing accounts for the connection between probability, epistemic justification, and explanatory coherence insofar as singular propositions of the form 'Fx' are concerned. But, epistemic principles are not of this form, so if explanatory coherence is to be relevant to them, the account must be extended. The key fact is that, for Sellars, explanatory coherence has a structure. A necessary condition is that the set contain something like theory T, which 'delineates the general features that would

be common to the epistemic functioning of any language in any world', and 'defines what it is to be a mind that gains knowledge of a world to which it belongs'. This is so for two reasons. First, questions can arise of the form 'Why is "p" likely to be true?'. If answers to such questions are to be found within the given set of propositions, that set must contain entailments of the form 'C → it is probable that-p'. These entailments are just the principles of induction, $PJ_{0\text{-}4}$. The antecedent condition is of the form '"p" is an observation statement, or "p" is confirmed by the relevant evidence'. Second, questions can arise of the form 'Why are observation statements and propositions confirmed by the relevant evidence likely to be true?'. Answering these questions requires that the given set of propositions contain an entailment of the form 'C → $PJ_{0\text{-}4}$ are likely to be true'. The antecedent of this entailment is the conjunction of various scientific theories attributing to human beings certain perceptual and cognitive abilities and locating the genesis of those abilities in certain evolutionary processes.[4] Third, the question can arise 'What reason is there to accept $PJ_{0\text{-}4}$?'. If 'objective ungroundedness' is to be avoided, the set of propositions in question must provide 'a way in which it could be **independently** reasonable to accept [$PJ_{0\text{-}4}$] in spite of the fact that a ground for accepting them is the fact that they belong to T, which we suppose to be an empirically well-confirmed theory.' (31: 178) If this question is to be answered, theory T must provide for the rational agency of 'finite knowers'. Theory T can then account for its own acceptability as a logical consequence of an axiom of practical logic.[5]

Chapter 5. Critical Evaluation

As reconstructed in the previous two chapters, Sellars' strategy involves three major steps. (1) The problem of justifying epistemic principles is identified with that of justifying induction ("[illegible]oblem"). (2) Probability (and so epistemic justification) is 'reduced' to pragm[illegible]mental justification. (3) It is argued that acceptance of epistemic principles is required by a necessary practical proposition, so it is a necessary truth that epistemic principles are epistemically justified.

The first of these steps passes unchallenged here. In part I, Sellars' notion of practical logic is criticized and a variation of his theory of intentions is offered that allows his practical logic to be dispensed with, while preserving the connection that he sees between reason and action. In part II, it is argued that Sellars' reduction of induction and epistemic evaluation to practical reasoning is faulty, and that, in any case, the practical argument purportedly justifying acceptance of epistemic principles suffers from a false premise. In part III, the defects in Sellars' reduction of epistemic evaluation to practical reasoning are traced to his failure to clearly relate two distinct concepts of probability which he holds, reflecting respectively his pragmatism and his holism. His argument for the justification of epistemic principles is recast in terms of explanatory coherence, in order to highlight the failure of that strategy to address the question of the ontological foundations of justification. A summary and final morals are offered in part IV.

I. Practical Reasoning

Sellars develops his distinctive brand of pragmatism in the medium of his idiosyncratic practical logic. It is difficult to determine whether or not he intends the autonomy of practical logic to play a crucial role in his analysis of epistemic justification and

probability. Because of the problems raised at the end of chapter 3 regarding Sellars' practical logic, matters would be improved if those analyses could be executed without appeal to more than 'regular' logic. Perhaps Sellars will be able to resolve those difficulties in a more rigorous development of his practical logic. However, it seems likely that his philosophical system would enjoy an increase in overall coherence if the idea of a distinct practical logic were dispensed with.

As was seen in chapter 3, the perceived need for an independent practical logic stems from Sellars' philosophy of mind. For Sellars, intentions are in the 'cognitive order' and, like beliefs, are a species of thoughts. Thoughts, as mental states, are dispositions to say things, and since there are two sorts of thoughts (beliefs and intentions) there must be two sorts of propositions. Practical propositions are the propositional contents of intention-states, in the same way that factual propositions are the propositional contents of belief-states. Now, if intentions were not in the cognitive order, they would not have propositional contents, and there would be no need to postulate the existence of practical propositions with a special logic. In fact, symmetry in Sellars' account of 'pattern governed linguistic behavior' would be enhanced if intentions were not cognitive states, or at least, not purely cognitive. As Sellars gives his account, 'language entry transitions' (observations, perceptions) consist of conditioned connections between non-cognitive mental states (sensations) and cognitive mental states (beliefs, judgments). On the other hand, 'language exit transitions' (intentions, volitions) are wholly cognitive states. A pleasing symmetry might be attained by revising Sellars' account of intention to be more accurately the mirror image of perception, as follows.[1]

Perception

'I (ostensibly) perceive that- ϕx' is essentially equivalent to 'I believe that- ϕx, and I sense ϕx-ishly', and reports the occurrence of a belief state with a propositional content 'ϕx' and a ϕx-ish sense impression.

The perception is expressible by utterances of tokens of the propositional content of the belief component. The sense impression component has no propositional content and, as such, is not expressible linguistically.

The sense impression is understood by analogy with its normal cause, as an 'inner replica'. It is a functional state of the sensory nervous system that is isomorphic in relevant respects to its normal external cause.

Intention$_1$

'I intend$_1$ to do A' is essentially equivalent to 'I believe that it will be the case that I do A, and I intend$_2$ doing-A-ly', and reports the occurrence of a belief state with a propositional content 'It will be the case that I do A' and a doing-A-ish intention$_2$.

The intention$_1$ is expressible by utterances of tokens of the propositional content of the belief component. The intention$_2$ component has no propositional content and, as such, is not expressible linguistically.

The intention$_s$ is understood by analogy with its normal effect, as an 'inner replica'. It is a functional state of the motor nervous system that is isomorphic in relevant respects to its normal external effect (action).

Note the following points about this proposal. (1) The subscripting of the term 'intention' marks a 'philosophical' distinction parallel to that between 'perception' and 'sensation', a distinction at best 'latent' in ordinary language. Like a perception, an intention$_1$ is a composite mental state, comprised of a cognitive and a non-cognitive component. Like a sensation, an intention$_2$ is a (functionally) non-composite, non-cognitive mental state. (2) On this account, 'I shall do A' may considered to be ambiguous between 'I intend$_1$ to do A' and 'It will be the case that I do A'. In either case, 'I shall do A' is a 'factual' proposition. On this account, there are no such things as 'practical' propositions, or shall-statements. (3) This account leaves Sellars with the resources to explain how reasoning influences action. In the case of perception, the connection between ϕ objects and utterances of 'ϕx' is causally mediated by ϕx-ish sense impressions. Similarly, in the case of intention$_1$, the connection between propensities to say 'It will be the case that I do A now' and doings of A is causally mediated by doing-A-ish intentions$_2$. One has not learned the meaning of 'doing A' until one reliably does A upon saying 'It will be the case that I do A now', and one knows

that one is reliable in this respect. This being so, it is analytic that mental processes that terminate in a belief 'It will be the case that I do A now' will, *ceteris paribus*, be followed by my doing A.

There is neither space nor need to develop this revision of Sellars' theory of intentions in detail here. Its function will be fulfilled if it makes plausible the claim that Sellars' practical logic probably serves no useful purpose. However, since induction and epistemic evaluation are analyzed by Sellars as forms of practical reasoning which take place from the point of view of a continuing community, some discussion of community intentions is required. Despite their importance in his philosophical system, Sellars has remarkably little to say about community or we-intentions. He acknowledges that, given materialist assumptions, groups do not literally have intentions. (13: 203-204) Rather, a community has intentions if its members intend in a certain 'mode' (*'sub species communitatis'),* in addition to having private intentions (intending in the mode *'sub species individualitatis'*). Having postulated these two modes of intending, Sellars labels them with his operators 'shall' and 'shallwe', but says nothing to shed light on the nature of the distinction.

Sellars gives as his reason for postulating two modes of intending the need to account for the objectivity of locutions such as 'We intend that-p'. (13: 178f) This objectivity cannot be accounted for by construing that locution as a logical function of the private intentions of the members of the relevant community. '"We intend..." is clearly not the logical sum of "Tom intends...", "Dick intends...", "Harry intends...", etc.' (13: 203) The reason why the logical sum doesn't capture the meaning is that 'Tom (who is one of us) does not intend that-p' does not contradict 'We intend that-p'. (*ibid.*) This seems doubtful. If the group involved is small, the conjunction of 'We do...' with 'Tom (one of us) doesn't...' seems strained. More plausible locutions in such a circumstance are 'We, except for Tom over there,...' or, said by Tom, 'Most of us do,

but I don't,...' In any case, if Sellars provides weak phenomenological evidence for his claim that 'We intend...' is not a logical function of 'I intend...', his attempt to account for the objectivity of group intentions is not obviously successful.

The truth of 'Community C intends that-p' cannot simply lie in the fact that some member or other of the community intends *sub species communitatis* 'We intend that-p'. Perhaps most of his fellows intend 'We intend that-not-p'. Nor can it be required that all of the community members intend 'We intend that-p', for then internal dissent about community goals would be logically impossible. Sellars recognizes the problem: "The fewer the people in the group who believe that p or intend that X do A, the less defensible becomes the statement that the group believes that p or intends that X do A.' (13: 203) Clearly, what is missing from Sellars' analysis is some concept or other of a **consensus**. Merely postulating a second mode by which individuals can intend does not account for the objectivity of group intentions. Sellars must say something like: the truth of 'Community C intends that-p' requires that a majority of the community members intend (*sub species communitatis*) that-p. But if the objectivity of group intentions lies in consensus, the second mode of intending seems otiose. Why not simply analyze group intentions in terms of consensus among the private intentions of community members (or, perhaps, some subclass of private intentions)? That a community member may not share the intentions of the group merely reflects the fact that consensus does not require unanimity.

On the basis of these considerations, it seems reasonable to propose that when one says 'We perceive/believe/intend that-x', or 'Community C perceives/believes/intends that-x', one makes implicit reference to some function or other that operates on the set of values taken by y in 'I perceive/believe/intend that-y', as the referent of 'I' varies across the membership of the relevant community, to give a value for x. This function will usually be discernible from the context, but will often be only vaguely defined. 'We

intend that-p' usually has no more precise sense than 'Most of us intend that-p'. On occasion, the function may be more precisely specifiable, as with communities governed by a constitution which specifies a voting procedure for determining group intentions on the basis of individual preferences.

Now, if the foregoing account of the objectivity of group intentions in terms of consensus is roughly correct, then a problem arises for Sellars' argument for the justification of epistemic principles. On the theory of intention sketched above, 'practical' reasoning is a species of 'theoretical' reasoning — reasoning **about** means and ends, not reasoning **in** intentions. Taken out of the context of an autonomous practical reason, Sellars' justification of epistemic principles has the following form.

> 1. By definition, the report 'We intend$_1$ that it will be the case that our welfare is maximized' is true for every community.
>
> 2. This entails 'We intend$_1$ to do whatever is necessary to make it the case that our welfare is maximized'.
>
> 3. That we are able to do whatever is necessary to make it the case that our welfare is maximized entails that we are in a general position to act effectively.
>
> 4. That we are in a general position to act effectively entails that we have 'reliable cognitive maps' of ourselves and our environment.
>
> 5. That we have reliable cognitive maps of ourselves and our environment entails that we are 'in the framework of epistemic evaluation' (i.e., that we accept theory T).
>
> 6. If one is perfectly rational, one intends the entailments of all of one's intentions. (22: 183)
>
> 7. Therefore, the report 'We intend$_1$ that it will be the case that we accept theory T (and so $PJ_{0\text{-}4}$)' is true for every (perfectly rational) community.

Premise 3 is the entailment 'GW → EA'. The antecedent has the force of 'It will be the case that our desires are satisfied', or '...what we intend comes to pass'. Evaluation of the entailment requires consideration of the referring expressions 'what we desire' and 'what we intend'. The necessary conditions for maximizing the general welfare of a community depend on **what** will make the members of that community happy. Now, on

the proposed analysis of group intention, what a group intends or wants is some function of what its members intend or want. Suppose that 'what we want' means, in a particular case, 'what most of us want'. Then it may come about that there is no consensus, so that there is no referent for 'what we want' or for 'what we intend'. The community can exist without this consensus, as long as there is consensus that the general welfare (whatever it consists in) be maximized, and as long as consensus as to the content of the general welfare is not excluded in principle. If the members of the community simply can't, as a matter of fact, agree upon what they want, then there are no necessary conditions for maximizing the general welfare, since the referent of the latter expression is undefined. In particular, there is, during the period of lack of consensus, no necessity for effective action, for no end has yet been set for action. If there is no necessity for effective action, then there is not necessarily a practical argument for acceptance of the framework of epistemic evaluation. The most that could be said is that, if there **were** a consensus, then there **would be** practical arguments for being in a position for effective action and for being in the framework of epistemic evaluation.

Perhaps it will be thought that the problem lies in the vagueness of the aggregation function, and that a careful analysis of the concept of group preference will reveal an aggregation function that is not partial, that yields a value for the group intention for any community and any set of individual intentions. This possibility cannot be excluded, but such a function has proved elusive. Kenneth Arrow, in his classic work of mathematical economics, ***Social Choice and Individual Values*** (32), proves (set-theoretically) that there is no non-partial aggregation function that satisfies a set of weak and intuitively plausible assumptions about the nature of social rationality and equity. Now, a detailed discussion of the problem of preference aggregation would be out of place here. It suffices to say that Arrow's General Impossibility Theorem has generated a voluminous literature, from which no consensus has emerged, and that, as

a result, any **philosophical** analysis that makes essential reference in its *analysans* to community intentions or ends may well have an *analysans* that is at least as unclear as its *analysandum*. Sellars, in particular, depends on the existence of a non-partial aggregation function for the soundness of his justification of epistemic principles, and it seems fair to say that the onus is on him to specify one.[2]

II. Pragmatism and Epistemic Evaluation

If the account of practical reasoning underlying Sellars' analyses of epistemic justification and probability is less than satisfactory, his 'reduction' of those two concepts to practical reasoning is not more adequate. Nor does his pragmatic justification of induction (and so epistemic principles) bear up under close examination.

For Sellars, the epistemic justifiedness of a proposition is a function of its probability. The probability of a proposition is identical with there being a sound practical argument for its acceptance. On the other hand, 'probable' is synonymous with 'likely to be true', and Sellars states that the ultimate criterion of truth is explanatory coherence. So, Sellars links probability with both instrumental efficacy and explanatory coherence and appears to think that the three concepts are coextensive, although he provides no detailed analysis of how this is so.

In fact, it is clear that the link between probability and instrumental efficacy cannot be made as closely as Sellars wishes. Difficulties were foreshadowed by a circularity in Sellars' description of how induction vindicates acceptance of propositions. Induction establishes that there is a practical argument, of a certain form, for the acceptance of a proposition. The form of the practical argument is that set out in derivation 2 of the previous chapter. But that practical argument has essentially the form 'We intend$_1$ to accept probable propositions (i.e., to possess reliable cognitive maps), and this proposition is probable, so we intend$_1$ to accept this proposition'.

one must know that a proposition is probable before one can show inductively that it is probable.

It is relatively easy to concoct counterfactual counterexamples in which there exist sound practical arguments for accepting certain propositions that are known to be false. One class of such examples consists of those in which the long run happiness of the members of some community in some possible world is maximized by their believing certain falsehoods, and they know it.

> A mysterious virus arrives on Earth with a meteor. The virus spreads rapidly across the planet, attacking human nervous systems and people begin to die, after long periods of painful illness. Medical investigators soon establish two facts. First, the disease will wipe out almost all of the human species long before researchers will be able to develop a medical cure. Second, the only people not affected by the virus are a handful of crackpot mathematicians who believe (a) that it is possible to trisect an angle with a straight-edge and a compass, and (b) the tenets of an obscure religion, to the effect that medical research is proscribed as an affront to the Fates. Moreover, it is revealed that the CIA possesses a brainwashing technique that is 100% effective in altering a person's beliefs. (It involves a drug that was developed at a Montreal psychiatric hospital during the 50's.) An Albertan millionaire is willing to finance the brainwashing of the entire population of the Earth — this will require squadrons of B-52's spraying the drug over the globe — to believe propositions (a) and (b). Now, (1) if the mass brainwashing is not carried out, the general level of happiness will fall from its pre-virus level to that defined by the happiness of the handful of crackpot mathematicians who will survive. On the other hand, (2) if the brainwashing is carried out, the general welfare will fall from its pre-virus level (false mathematical beliefs will affect the efficiency of the world economy), but will be higher than under option (1) by at least the amount of the happiness of the survivors who were not crackpot mathematicians prior to the brainwashing.

Because 'We intend$_1$ GW' is analytic, there is, in such cases, a sound practical argument with the conclusion 'We intend$_1$ F*B*a'. By Sellars' definition, 'a' is probable in such cases. But 'a' is also false, and is known by the community to be false. It is absurd to suppose that a proposition may be said to be probable when it is known to be false, so the analysis of probability must be faulty. In other words, that the general welfare might depend on self-deception precludes an inference from 'acceptance of "p" is necessary for the general welfare' to '"p" is probable'.

Sellars' argument of (17) and (25) gives no hint of how he might accomodate the possibility that happiness might lie in self-deception while retaining his analysis of probability. The argument of those papers aimed at showing that, if a proposition is probable (i.e., satisfies the antecedent of PJ_{0-4}, Sellars' principles of induction), then there is a practical argument for the acceptance of that proposition. The converse, that if there is a practical argument for the acceptance of a proposition, then it is probable (i.e., satisfies PJ_{0-4}), is not argued by Sellars. Yet both conditionals must be established if the probability of a proposition is to be identified with there being a sound practical argument for its acceptance.

Nor is it clear that the argument of (13) and (17) is adequate to establish even the one-way conditional, that if a proposition is probable, then there is an argument for its acceptance. As was seen in the previous chapter, the practical arguments that Sellars finds for the acceptance of propositions satisfying PJ_{0-4} depend on the necessity of possession of 'reliable cognitive maps' for effective action to maximize the general welfare. But, with a particular community in a particular possible world, maximizing the general welfare will involve **particular** actions on the part of community members. Carrying out these particular actions will require that community members have reliable cognitive maps of that part of their environment **relevant to their actions.** The need for effective action will not provide pragmatic grounds for acceptance of probable propositions that are irrelevant to carrying out the particular actions necessary to maximize the general welfare. This being so, it is conceivable that a proposition might satisfy PJ_{0-4}, and so be probable, without there being a practical argument for its acceptance.

> Let p = 'There are two E. Coli bacteria in D. Martens' digestive tract which are daughters of a parent bacterium that divided sometime between 5 and 6 PM on August 27, 1984'. Even though the digestive tract in question was not under observation at the time specified, there is evidence relevant to an assessment of the truth or falsity of 'p' (e.g., existing knowledge of typical E. Coli populations in human digestive tracts, typical frequency of division for E. Coli in such

environments, etc.). Therefore some probability or other can be assigned to 'p'. Suppose this probability is greater than 0.5. Sellars' analysis of probability notwithstanding, there are many communities for which acceptance of 'p' will not further the general welfare. For example, the general welfare of the community comprised of those people in the world who actively oppose apartheid in South Africa will be maximized just in case racial justice is achieved there. But acceptance of 'p' is irrelevant to the attainment of that end. Therefore, there is no practical argument for the acceptance of 'p' by members of that community.

It might be thought that the foregoing arguments would be blocked if the probability of a proposition were identified with there being a particular **kind** of practical argument for its acceptance. Specifically, it might be said, by way of amendment of Sellars' analysis, that a proposition is probable iff there is a sound practical argument for its acceptance being a logically necessary means to the community epistemic end, E. Since the epistemic end, E, is possession of a set of propositions with maximum explanatory coherence, acceptance of a proposition known to be false is never a means to that end, and there is no probable proposition whose acceptance is irrelevant. This response does not block the foregoing counter-examples, but merely redirects their force. The effect of those arguments is now to block the inferences required to show that 'We intend$_1$ that-E' is an analytic truth. In virtue of the proposed amendment to Sellars' analysis of probability in terms of practical reasoning, the reasonableness of accepting a probable proposition depends on whether or not being in the framework of epistemic evaluation is relevant to a goal one has or that one's community has. But Sellars does not accept that probability is subjective in this way.

Given the foregoing arguments, it seems unlikely that the concepts of probability, instrumental efficacy, and explanatory coherence can be made to stick as closely together as is required for the coherence of Sellars' analysis. The force of those arguments is against the identification of the probability of a proposition with there being a practical argument for its acceptance. If this identification is given up, Sellars is left with the concept of explanatory coherence to provide an analysis of the concept of

probability. The adequacy of that analysis will not be questioned here, but the effects of the collapse of the three-way identification of probability, instrumental efficacy, and explanatory coherence on Sellars' argument for the justification of epistemic principles are considerable and must be developed.

The failure of Sellars' attempt to reduce induction to practical reasoning, and the resulting ambiguity of 'reasonable acceptance' between 'pragmatically reasonable' and 'epistemically reasonable', are crippling to Sellars' strategy for the justification of epistemic principles. That strategy essentially involves arguing that acceptance of theory T (and so epistemic principles) is entailed by the community intention to further the general welfare. At most, this argument can establish only that acceptance of epistemic principles is pragmatically reasonable in all possible worlds, and so, is morally obligatory. In fact, Sellars' strategy for justifying epistemic principles cannot establish even the pragmatic reasonableness of their acceptance; so that even if the analysis of induction in terms of practical reasoning were to succeed, the strategy would not show the principles of induction to be probable or epistemic principles to be justified.

The crucial premise of Sellars' argument is that effective action and possession of reliable cognitive maps are logically necessary for the attainment of any end whatsoever. This being so, acceptance of theory T will be required of every community in every possible world, no matter in what particular state of affairs its general welfare consists. But, 'GW $\rightarrow$EA' is not a valid entailment, for most ends can be attained otherwise than by action. For example, suppose that Smith's happiness would be maximized if an oak tree were to grow in his back yard. That Smith's happiness is maximized will be true if an acorn falls by chance and grows in his back yard, or if he plants an acorn deliberately. Effective action is sufficient but not necessary for the maximizing of Smith's happiness. The same may be true for a community. Consider the community of those who oppose apartheid, referred to above. If mysterious rays of

cosmic origin were to affect the white population of South Africa so that their attitudes changed appropriately and racial justice came about, the general welfare of the anti-apartheid community would be maximized independ of any action of their part. Effective action is sufficient but not necessary for the maximizing of the general welfare of that community.

Stronger examples can be contrived in which there are ends for which intentional action is not even a sufficient means. Consider a possible world w and a community C in w, such that the causal laws of w result in the following being true: for any agent S in C, and any proposition 'p' of the form 'x is a means for S to further the general welfare of C', 'p' is false when 'S believes that-p' is true, and 'p' is true otherwise. That is, the environment is sensitive to the belief states of agents in a way that results in all beliefs of a certain class being false. The general welfare of C cannot be maximized by intentional action on the part of community members, though it might be maximized 'by accident' or by the intervention of someone outside the community. Since effective action is irrelevant to the general welfare of C, there is not necessarily a practical argument for acceptance by community members of the framework of epistemic evaluation. Their beliefs don't matter to their happiness.

In an attempt to show that 'GW → EA' is valid, one might respond to the above line of argument with the suggestion that the proposition GW be modified to GW*: 'It will be the case that our welfare is maximized to the greatest degree possible by intentional action on our part.' This move validates 'GW* → EA, but at the cost of falsifying the major premise of the argument, which must now be 'We intend$_1$ that-GW*'. Sellars' analysis of the concept of a community as that of a group of beings who intend that their collective happiness be maximized may be plausible. But it is false that every community is a group of beings who intend that their collective happiness be maximized through their own efforts. For there are communities of people who believe that they,

like community C in possible world w, are situated in a world where their actions are irrelevant to their happiness. One such community might consist of religious people who believe that their general welfare would be maximized by communion with God. They believe that this blessed state is, however, attained only by the grace of God, who bestows it without regard for any actions of the people. This community believes that no actions are effective to maximize their collective welfare, so they naturally see no point in 'being in the framework of epistemic evaluation', preferring to spend their time expressing their awe of the Almighty through perpetual worship.

If effective action (and so, acceptance of theory T) is irrelevant to maximizing the general welfare of some community in some possible world, then 'GW $\rightarrow F_B$ T' is not a valid entailment. If 'GW $\rightarrow F_B$ T' is valid, then 'We intend$_1$ that-GW' is not analytic. In either case, it is not a necessary truth that acceptance of epistemic principles is pragmatically reasonable, nor is their acceptance morally obligatory.[3]

III. Ontological Foundations

In the course of the argument of the previous section, it was noted that Sellars has not one, but two analyses of the concept of probability, reflecting respectively his pragmatism and his holism. His strategy for justifying epistemic principles can be resolved into two distinct arguments that differ as to the analysis of probability that is employed. The first strand is salient argument, that acceptance of epistemic principles is a logically necessary means to the end of furthering the general welfare, so acceptance of epistemic principles is necessarily pragmatically reasonable and morally obligatory. Arguments aimed at undermining the soundness of this argument were presented in the previous section. But Sellars' strategy for justifying epistemic principles fails to deal with a deeper issue, one that can best be brought out by attending to the second strand of the argument.

The second strand that can be teased out from Sellars' strategy centers on the analysis of probability and epistemic justifiedness in terms of explanatory coherence.

1. A proposition is probable iff it is a member of a set of propositions having maximal explanatory coherence.

2. A set of propositions has maximal explanatory coherence iff its elements jointly satisfy $PJ_{0\text{-}4}$, i.e., iff each is either an observation report or is confirmed by the relevant evidence.

3. The preceding two biconditionals are analytic, definitional of the concepts of probability and explanatory coherence.

4. As such, they satisfy R6 of PJ_0 and are probable in all possible worlds, i.e., are members of every set of propositions that has maximal explanatory coherence.

5. Because of the link between the concepts of probability and epistemic justification, and between $PJ_{0\text{-}4}$ and D2.2-.5, it follows that [illegible] is epistemically justified in all possible worlds.

Note that premise 4 renders circular the argument, which is to the effect that the principles of induction are inductively established to be true, and that the principles of epistemic justification are epistemically justified by the criterion they themselves constitute. Now, if one holds that the confirmation and/or justification relations cannot be reflexive (as Sellars does: 31: 179), then advancing the above argument will render one's overall position inconsistent. But the crucial objection is, rather, a request for the source of the probability/justification of premise 3. It is a simple matter to construct and propose as analytic criteria of probability/justification any number of propositions that are probable/justified by the criteria they lay down. For example: a proposition is epistemically justified iff a token of it appears in D. Martens' MA thesis. Each of these propositions might be an essential part of a framework that defines what it is to be a finite knower in a world one didn't make. Each such framework is a .T.. (They might be given individual subscripted designations.) The question then is, which .T. are we epistemically justified in accepting?

A number of responses to this question are possible.

(1) We are epistemically justified in accepting the .T. containing D2 because that's what we mean by 'epistemically justified'.

(2) The choice of frameworks should be made pragmatically. That .T. should be accepted the acceptance of which will result in the greatest happiness in the community.

(3) The .T.s are all isomorphic in relevant respects and so are intertranslatable frameworks.

(4) The question 'Which .T. are we justified in accepting?' is non-sensical since a request for justification is well-formed only with respect to a criterion of justification. The criteria of justification are internal to the various .T.s, *ex hypothesis*, so there is no external criterion with respect to which a request for external justification can make sense.

The issue that has been raised here is, of course, that of the correct response to a request for justification for a proposed account of the ontological foundations of justification. This issue faces any attempt to justify epistemic principles with the claim that it is a necessary truth that they are justified. The purpose here is not to make a detailed investigation of the issue or the relative merits of the various responses that might be made to it. Rather, the purpose is to point out that, while Sellars recognizes the issue, he takes no consistent stance toward it. Consequently, his attempt to provide epistemic justification for epistemic principles is incomplete.

In various places, Sellars explicitly or implicitly adopts all of the four positions sketched above. (1) is implicit in his view that the goal of philosophy is the reduction of cognitive anxiety by logically reconstructing ordinary language to provide a framework within which we would 'be at home' because, having made the framework, we would fully understand it. (12: 1; 27: 295-296)

(2) That choices among alternative frameworks are to be justified pragmatically is perhaps Sellars' favorite position on the question of ontological foundations. Representative passages are 1: 25-26; 13: 206; and 20: 409. The following is explicit.

> Our thesis, in short, turns out, as we have developed it, to be quite unlike the dogmatic rationalism of Metaphysicus. For whereas he speaks of the conceptual frame, the system of formal and material rules of inference, we recognize that there are an indefinite number of possible conceptual structures (languages) or systems of formal and material rules, each one of which can be regarded as a candidate for adoption by the animal which recognizes rules, and no one of which has an intuitable hallmark of royalty. They must compete in the marketplace of practice - employment by language users, and be content to be adopted haltingly and schematically. (6: 285)

(3) That there 'really' is only one linguistic framework seems to be entailed by Sellars' functional account of meaning, taken in combination with his neo-Peircian account of truth. The range of functions that a linguistic function can fulfil is, at bottom, a metaphysical question, and, for Sellars, reality is as it will be described in the belief-set of the scientific community at the Peircian end-point of enquiry. Part of the reality so described will be the possible functional roles of linguistic expressions. The linguistic framework of end-point community of enquirers thus defines the 'absolute' meanings with respect to which all actual languages can be commensurated. (Sellars at times speaks of 'Human Language'. Cf., e.g., 15: 239.)

(4) But Sellars is also explicit that requests for justification make sense only with respect to a criterion (8: 356-357), and criteria are, as linguistic entities, 10internal' to linguistic frameworks. Thus, requests for external justification of a framework, and its criteria for justification, are ill-formed.

The most significant inconsistency is Sellars' vacillation between response (3), which does not brook talk of alternative frameworks, and the other responses, which admit such talk. This vacillation reflects a deep structural tension in Sellars' philosophy, between his philosophy of language and his theory of truth. But even when Sellars is in a Wittgensteinian mood to contemplate the multiplicity of language-games, he cannot seem to find a consistent approach to the question of ontological foundations that satisfies him. The following passage is his most sustained discussion of the problem

of justifying a choice among competing linguistic frameworks, and reflects indecision.

> The question arises...'Why one set of rules rather than another? How is the adoption of a set of rules itself to be justified?' I should like to be able to say that one justifies the adoption of rules pragmatically, and, indeed, this would be at least a first approximation to the truth. The kinship of my views with the more sophisticated forms of pragmatism is obvious. Yet I should like to close on a note of caution. The more I brood on rules, the more I think that Wittgenstein was right in finding an ineffable in the linguistic situation, something which can be **shared** but not **communicated**. We saw that a rule, properly speaking, isn't a rule unless it **lives** in behavior, rule-regulating behavior, even rule-violating behavior. To **talk about** rules is to move **outside** the talked-about rules **into** another framework of living rules.... In attempting to grasp rules **as rules** from without, we are trying to have our cake and eat it. To **describe** rules is to describe the **skeletons** of rules. A rule is **lived**, not **described**. Thus, what we justify is never a rule, but behavior and dispositions to behave. The 'ought' eludes us and we are left with 'is'. The skeletons of rules can be given a pragmatic or instrumentalist justification. this justification operates within a set of living rules. The death of one rule is the life of another. Even one and the same rule may be both living as justificans and dead as justificandum, as when we justify a rule of logic. Indeed, can the attempt to justify rules, from left to right, be anything but an exhibition of these rules from right to left? To learn new rules is to change one's mind. Is there a rational way of losing one's reason? Is not the final wisdom the way of the amoeba in the ooze, the rat in the maze, the burnt child with fire? The convert can describe what he was. Can he understand what he was? But here we are on Wittgenstein's ladder, and it is time to throw it away. (3: 155)

The argument of this passage seems to be as follows. There are various linguistic frameworks, and choices may be made as to their acceptance. It seems plausible that such choices can be justified pragmatically. But this is not so. Epistemic justification is a discursive affair, involving the reasonableness of acceptance of propositions. If a framework is specified, and its justification by argument attempted, that framework is not, then, the framework accepted, but an object in the domain of the framework actually accepted. One has moved up a level in the heirarchy of meta-languages. (This seems to have the consequence that one cannot know what rules one accepts, for knowledge of them would require linguistic specification of the rules. But Sellars requires that, to have any knowlege at all, one must know the rules governing the

linguistic expressions one uses. The only knowledge possible of 'living rules' is 'knowing how', which cannot underpin knowing **that** a particular rule of inference is valid.) This means that no non-circular justification can be given of a choice of linguistic framework. (But Sellars also believes that epistemic justification is not a reflexive relation, and that theory T must be epistemically justified 'if empirical knowledge is not to be put in a box with rumours and hoaxes'.)

The force of the foregoing observations is to suggest that there are deep-rooted inconsistencies in Sellars' metaphysics that surface in his epistemology in the form of two incompatible accounts of probability and epistemic justifie and are responsible for his inability to articulate a coherent account of the foundations of epistemic justification.

IV. Summary

Sellars' strategy for justifying epistemic principles falls into a general class of such strategies. The defining characteristic of the members of this class is the claim that the proposition that certain epistemic principles are epistemically justified is a necessary truth. The members of this class differ as to the accounts they respectively give of the source of the necessity — the 'ontological foundations' of justification.

Sellars' strategy falls into that subclass of this general class whose members find the ontological foundations of justification in analytic truths that give the meanings of epistemic terms. Specifically, Sellars analyzes epistemic evaluation in terms of induction, and induction in terms of practical reasoning and argues that the justifiedness of epistemic principles follows from certain analytic truths about the concepts of 'general welfare' and 'effective action'.

Criticism of Sellars' strategy in this chapter took place in two stages. First, it was argued, by way of a number of counter-examples, that certain allegedly analytic truths

critical to Sellars' argument are, in fact, false. That is, it was argued that Sellars has mis-described the meanings of the key terms involved in both the reduction of epistemic evaluation to practical reasoning and the argument to justify epistemic principles. Second, it was argued that Sellars' argument to justify epistemic principles fails to address a problem confronting all the members of the general class of strategies to which it belongs. That problem concerns the fact that such a strategy is open to the question how the particular account it gives of the ontological foundations of justification is itself epistemically justified. The subclass that appeals to analytic truths must make some reply to the claim that alternative linguistic frameworks are possible and that this subverts any attempt to place fixed boundaries on the justifiedness of beliefs. It was suggested that, to the extent that Sellars is aware of this problem, he takes no clear cut position with respect to it, and that his inability to do so is possibly the result of structural inconsistency within his metaphysics.

Notes

Chapter 1

[1] In syntactic analyses, the force of 'if and only if' is to assert a necessary material equivalence (or, what is the same thing from the point of view of classical logic, mutual entailment) between *analysandum* and *analysans*. A non-necessary equivalence, even if true, would be inadequate to a normative analysis. To be informative in the latter respect, the equivalence must be true in all counterfactual situations (possible worlds). If epistemologists were not considering necessary equivalences, the counterfactual nature of the hypothetical cases they consider would render those examples irrelevant.

[2] Where an analysis is semantic, a principle of the form 'Fx if and only if C' has the force of 'for all objects x (of the relevant sort) and all (accessible) possible worlds w, "Fx" is true in w if and only if C'. That is, a semantic analysis gives truth conditions for its *analysandum*.

If it is objected that truth conditions do not give meanings, perhaps on the grounds that what language users know when they understand an expression is not a set of truth conditions for sentences containing that expression, the point need not be argued. Whether or not truth conditions are meanings, if a language is to be used to talk about the world, it must have truth conditions. The reasons for interest in truth conditions do not change with a more restricted understanding of 'meaning'.

[3] It should be noted that any view of epistemology as an attempt to state substantive conditions for, e.g., knowledge or justified belief, can be mapped into an isomorphic semantic analysis by a process of 'semantic ascent'. So, for example, instead of saying that knowledge requires true belief, one would say that if 'S knows that-p is true', then S believes that-p and 'p' is true.

[4] Epistemological intuitionism is the view that no non-trivial truth conditions can be given for sentences containing epistemic expressions. This is the claim that all base clauses for such truth conditions have the form

> "S's belief that-p is epistemically justified" is true iff S's belief that-p is epistemically justified. (Cf. Appendix I)

[5] Attempts to botanize these sets of principles may be found in (47), (55), and (77). Two sorts of theory seem to dominate discussion. According to accounts of the first sort, justified first level beliefs (or, at least, first level empirical beliefs) are always justifiable by linear inference from certain 'basic' or 'foundational' beliefs. Base clauses are provided to pick out the latter (usually, beliefs pertaining to the deliverances of sense perception, memory, and self-awareness), and recursive clauses specify the means of support provided by the foundational beliefs to other beliefs (usually, at least deductive and inductive inference). Accounts of the first sort characterize the epistemological position of **substantive foundationalism**. (The term is due to Ernest Sosa, (84).)

Proponents of accounts of the second sort, expressing **substantive coherentism**, take as their point of departure the claim of many early substantive foundationalists that justified foundational beliefs are incorrigible. Believing, on the contrary, that any

belief might turn out to be unjustified, substantive coherentists are characterized by their denial that there are any foundational beliefs. As an alternative account of the truth conditions of attributions of justification to first level beliefs, they offer a single clause. The clause to the effect that, if the (first) level belief that-p is a member of a maximally coherent set of beliefs (of S at t, in w), then it is epistemically justified. Coherence of a set of beliefs is defined in terms of inferential relationships obtaining among the member beliefs of the set. Since the coherence of a new (e.g., observation) belief with an antecedently coherent set of beliefs depends on the prior composition of the set, in addition to the nature of the new belief, no belief can be guaranteed coherence, nor justification. No belief is incorrigible.

Some substantive foundationalists respond by denying that incorrigibility is an essential feature of foundational beliefs, maintaining that the latter are rather merely those beliefs that are justified, but not inferentially so. Foundational beliefs are only *prima facie* justified, and conditions may arise that **defeat** this presumption. These proponents of **modest foundationalism** charge that substantive coherentism has been motivated by a straw man attack on substantive foundationalism. They charge, moreover, that substantive coherentism is subject to difficulties of its own. Of these, the most serious seems to be that of specifying a non-arbitrary way of discriminating epistemically among equally coherent but pairwise inconsistent sets of beliefs.

Now, substantive foundationalism and coherentism are only benchmarks in a landscape of alternative first-level epistemic principles. Many difficult and important issues separate them from each other and from other sorts of positions. But consideration of the question which first level principles are correct will not be undertaken here. Of primary interest is rather the metaquestion 'How should one go about deciding which first level principles are correct?'

[6] This is an over-simplification of an argument given by Sellars (10) and by Lawrence Bonjour (40).

[7] This view is far from universal among epistemologists. James Van Cleve has argued persuasively (in 85) that justification of first level beliefs requires only that there be true first level principles. Justification of these principles is superfluous.

[8] The attempt to satisfy this desire is called by Sosa 'formal foundationalism', and its repudiation as unsatisfiable is called 'epistemic pessimism'. (Cf. 84)

[9] Couched in the terminology of epistemology-as-semantics, this motivation clearly verges on paradox. Certain areas of purely formal considerations (e.g., the Incompleteness Theorem, theory of types, paradoxes of self-reference, etc.) seem relevant to its statement and to theories that would offer to fulfil it. Nevertheless, epistemologists have shown little awareness of or interest in these considerations. Unfortunately, it is beyond the scope of this discussion to do more than make the preceding comments.

Chapter 2

[1] 27: 335

[2] 27: 335-336

[3] 27: 344-345, 31: 177

[4] 31: 177

[5] 31: 175

[6] It is important to realize that, although Sellars invokes sense impressions to explain the difference between veridical and ostensible perception, it is not sense impressions that are perceived, but external objects. Sense impressions causally mediate between subject and object in the process of perception, but sensation, unlike perception, is not an epistemic category.

Self-awareness, on the other hand, differs importantly from both perception and memory. Where the propositional components of perceptual and memory experiences are conditioned responses to external objects, which responses are causally mediated by the non-propositional components of those experiences, the propositional component of an experience of self-awareness (the **only** component) is an unmediated conditioned response to its object, which is a mental state or internal episode of the subject himself. We each have, on Sellars' account, 'privileged, but by no means either invariable or infallible, access' to our own states of mind (10: 178). 'The "privacy" of "inner episodes".... is not an "absolute privacy". For if...these concepts have a reporting use in which one is not drawing inferences from behavioral evidence,...nevertheless...the fact that overt behavior **is** evidence for these episodes **is built into the very logic of these concepts.**' (10: 189) Overt behavior is publicly available evidence for 'inner episodes', evidence which may on occasion, be strong enough to support a denial, by a second party, of a report of self-awareness.

[7] A number of writers have complained that epistemologists have exhibited an insensitivity to important features of reasons-talk. Robert Audi charges that 'some philosophers have at times failed to distinguish justificatory relations between the relevant sets of propositions and justificatory relations among the relevant sets of beliefs. This might be partly because "belief" may be readily used to refer either to propositions or to beliefs of them.' (33: 120) The claim is not that there is only one sort of justification relation, and that epistemologists have been derelict in not getting clear about whether it holds between beliefs or between propositions, but rather the claim is that there are two phenomenologically distinct justification relations that have been confused by epistemologists. The nature and significance of this phenomenological distinction is not agreed upon. Some philosophers (cf., e.g., 50, 57, 78) believe that propositional justification is the more basic concept, and relates to certain logical relations that obtain among propositions. Others (cf., e.g., 51 and 64) believe that doxastic justification is basic, and consists of causal relations among belief states.

[8] (25: 438, note 2) Sellars is inconsistent as to whether or not acceptance (belief) is action or not (compare 25: 434), but the non-action sense seems to dominate.

[9] This proposal seems to have the consequence that hardly anybody has any justified beliefs, for few people are in a position to believe **everything** that is of relevance to the

truth or falsity of even one of their beliefs.

[10] 'Available' and 'relevant' are fudge words when used to describe the relations among subject, evidence, and hypothesis. Making their import clear is a major problem that need not be tackled here.

[11] The other distinctions drawn by Firth can be obtained as follows. By adding to (f) "S believes that-p, and S's belief that-p was caused by a mental process isomorphic in relevant respects to the argument establishing 'I (S) shall believe that-p'" (recall Harman's reasoning instantiators), one obtains a definition of "S's belief that-p is doxastically justified". The difference between (e) and (f) concerns those intermediate cases where S believes a proposition that is propositionally justified for him, but it is unspecified whether or not that belief is doxastically justified.

[12] For Sellars, law-like statements are not universally quantified material conditionals, but are 'material' rules of inference governing use of the predicates which they essentially contain. Cf. 17: 387 and references given there.

[13] That is, nothing else is known of x relative to the members of K. (17: 414, note 16)

[14] Sellars uses 'if-then' in his statements of major premises of first level probability arguments, and refers to the entailments embodied in second level probability statements as enthymemes. But (1) the major premises seem to be necessary truths, (2) object language modal predicates are seen by Sellars as projections down from rules of inference in the metalanguage, (3) nomological statements (which have the same form as the major premises) are analysed by Sellars as entailments, viz. material rules of inference. On this basis it would be plausible to read the 'if-then' in Sellars' major premises of first level probability arguments as 'entails'.

Chapter 3

[1] **Essays in Philosophy and its History**, Preface, page viii.

[2] He also elaborates on his reasons for rejecting two of the three traditional strategies for justifying epistemic principles. (1) It might be supposed that epistemic principles 'turn out to be truths of reason, as self-evident as that red is incompatible with blue.' (30: 624) Sellars objects that 'self-evidence is too atomistic an interpretation of the authority of these principles.' (*ibid.*) That a proposition is self-evident implies that it can be known independent of its logical connections with any other proposition. But this conflicts with Sellars' 'coherence theory of concepts', according to which a concept is defined by a set of inference rules characterizing its interconnections with other concepts, and as a consequence of which 'one has **no** concept pertaining to the observable properties of physical objects in Space and Time unless one has them all.' (10: 147-148) Knowing one epistemic principle involves knowing many other things as well. (It seems to be a consequence of this view that 'red is incompatible with blue' is not self-evident, either.) (2) Alternatively, one 'might rest on his oars with the claim that unless these principles are true, we cannot know certain things that comon sense tells us we do know.' (30: 624) But this 'second alternative — which amount to the old slogan, "this or nothing" — is too weak, in that we do seem to have insight into **why** something like Chisholm's principles are true.' (*ibid.*) The second alternative provides reasons that are no reasons. (3) Sellars does not discuss, in (30), the suggestion that epistemic principles are synthetic *a priori* truths. In fact, Sellars' own strategy amounts

to something very similar to that claim.

[3] Sellars nowhere gives a clear statement of what explanatory coherence amounts to. The thesis that is usually attributed to him (cf., e.g., 66, ch. 7, and 75, ch. 1) is that 'we are justified in accepting a theory if it explains, a description if it is explained, and a rule of inference if it helps to explain.' (75: 15) It does not seem that Sellars is committed to a thesis that is quite so restrictive in the roles of justified propositions in explanatory coherence. Rather, the addition of a proposition to the set of accepted propositions is justified if there is a net gain of explanatory power of the set. The new proposition need not, from anything Sellars says, be directly involved in any explanation, either as *explanandum* or as *explananda*.

[4] Cf. (81) and (82). The Salmon/Reichenbach strategy for vindicating induction as a logically necessary means to the epistemic end of possessing empirical truth is an application of Feigl's distinction between vindication and justification (48). Carnap (42) had applied the language/metalanguage to ontology, and distinguished between internal and external questions about a given sort of objects. Feigl followed Carnap's lead and drew a parallel epistemological distinction.

> Everyone would admit that the notion of a language which enables one to state matters of fact but does not permit argument, explanation, in short, **reason-giving**, in accordance with the principles of **formal logic**, is a chimera. It is essential to the understanding of scientific reasoning to realize that the notion of a language which enables one to state empirical matters of fact but contains no material moves [roughly, inductive procedures] is equally chimerical. The classical 'fiction' of an inductive leap which takes its point of departure from an observation base undefiled by any notion as to how things hang together is not a fiction but an absurdity. The problem is not 'Is it reasonable to include material moves [inductive procedures] in our language?' but rather 'Which material moves is it reasonable to include?' (8: 355)

Compare Goodman: 'The problem of induction is not a problem of demonstration but a problem of defining the difference between valid and invalid predictions.' (52: 68) It is important here to distinguish between "Goodman's problem" of induction (What are the principles of induction?) from what might be called "Goodman's paradox" of induction (How can there be any principles of induction?). The latter, also describable as the 'Grue problem', involves Goodman's observation that, no matter how the principles of induction are (syntactically) specified, it is possible to conceive of a predicate for which use of those principles yields inferences that are intuitively invalid ('non-projectible' predicates). Goodman concludes that the difference between 'projectible' and 'non-projectible' predicates lies in the fact that the former are more firmly 'entrenched' in linguistic useage; but he does not offer an explication of entrenchment nor an account that will allow rational entrenchment of a predicate to be distinguished from arbitrary entrenchment. Joseph Pitt attributes to Sellars the following explication of 'entrenchment'.

> In effect rules of inference govern the use of a concept as it is employed in object-language expressions. To say a predicate is entrenched is to say that its use in some object language expression is well-governed. This is to say that the rules concerning its use are well-developed. In other words to say that the rules governing its use have been accepted as constituent members of the metalanguage. (74: 50)

Now, on Sellars' view of induction, those meta-linguistic rules are accepted (and are entrenched) which contribute to the explanatory coherence of the total set of accepted propositions. The rationality of this process of entrenchment is understood pragmatically, in virtue of the necessity of having an explanatorily coherent belief set in order to act effectively. Presumably, then, grue-predicates never become entrenched, and so can never be projectible, because their acceptance does not increase the explanatory coherence of the set of accepted propositions. Possessing rules of inference for a grue-predicate does not allow one to explain anything that one couldn't explain without those rules. The merits of this proposal will not be considered here, but it seems doubtful that Sellars can give a more adequate account of 'acceptable explanation' than Goodman could of 'entrenchment'.

Sellars says 'I have long defended the view that the law-like statements which it is the object of nomological induction to establish are principles of inference and that the problem of induction cannot be solved without this insight.' (17: 42) Harman responds: 'I am unable to discover how Sellars' solution to the problem of induction rests on that mistaken insight.' (58: 270) The foregoing reconstruction of Sellars' response to the "Goodman paradox" allows the first of these statements to be explained and the second answered. A solution to the problem of induction ("Goodman's problem") will be adequate only if it can avert the grue-problem. But a solution to the latter requires, on Sellars' view, that law-like statements be construed as entailments, not object language statements, in order that [illegible] of rational entrenchment be possible.

[6] Sellars' uses of the terms 'valid', 'sound', and 'good' are nonstandard.

> Without attempting to define what is meant by a 'logic', it seems reasonable to say that, however many 'logics' there are, they are 'logics' by virtue of their concern with what makes an argument sound. In the case of 'deductive logic', the concept of a sound argument is that of an argument which is such that if its premises are true its conclusion **must** be true. A **good** deductive argument is one which is not only sound (valid) but has true premises, and hence a true conclusion. (25: 417)

Herein, the following uses are stipulated. An argument which is such that if its premises have positive semantic value (e.g., True), then its conclusion must have positive semantic value, will be said to be **valid**. An argument which is valid and has premises all of which have positive semantic value will be said to be **sound**.

[7] Since, as will be seen, practical arguments involve propositions which are neither true nor false, the notion of validity must be broadened from that of preservation of truth to that of preservation of positive semantic value.

[8] For Sellars, propositions are abstract entities in the 'logical order', identified with Fregean Gedanke and expressible by different linguistic expressions in different languages. (11: 199; 16: 308-310; 23: 109) But, while the latter characteristic is traditionally thought to entail that propositions are language-independent entities, Sellars argues that what follows rather is that they are **inter**-linguistic entities. (22: 100) Specifically, propositions are **types** of linguistic expressions, when the latter have been sorted as to meaning (i.e., linguistic function). Reference to propositions, therefore, is a way of applying certain metalinguistic sortal predicates to linguistic utterances. So, on Sellars' view, 'S is disposed to say that-p' is equivalent to 'S is disposed to utter tokens of type .p.' or, in other words, 'S is disposed to utter expressions of such-and-such a meaning'. ('.p.' denotes the class of utterances having a particular meaning. Thus, utterances of 'red' and 'rot' – in German – are tokens of type .red.. 24: 220-221)

It is not clear that this treatment succeeds in naturalizing talk about propositions, for an obvious question concerns the metaphysical status of meanings. For Sellars, the meaning of a word is its function in a language, as determined by the metalinguistic rules governing its use. And rules? 'A rule is an embodied generalization which...tends to make itself true.' (3: 139) (Final causes?) But, surely, a generalization is just a proposition? Indeed, 'a rule is roughly a general "ought" statement.' (23: 94)

[9] Even 'true', predicated in the first instance of propositions, is based on 'correctly assertible', predicated of utterances. (22: 101)

[10] This thesis is nowhere stated unequivocally by Sellars, but it seems to be the gist of passages like the following.

> The implication statement 'that-p implies that-q' can be rephrased as the necessity statement 'that-p necessitates that-q'. In traditional terms, to say of one state of affairs implies another is to say that they are 'necessarily connected', that the one 'necessitates' the other. (28: 191)

> From the fact that one state of affairs, that-p, entails another state of affairs, that-q, it does not follow that if the thought that-p occurs to a person, the thought that-q will occur to him. Thus, the necessity which relates to two states of affairs does not carry over into a relation of necessity between the thinking of the one and a subsequent thinking of the other.... [E]ven when the relation between the thought of the one and the though of the other is contingent.... [Nevertheless,] I shall argue...that it can be a conceptual truth that, **other things being equal**, the one thought is followed by the other, even though on many occasions the one occurs without the other — indeed, even if, to push the matter to the edge of paradox, a Jonesian thought that-p is never followed by a Jonesian thought that-q. (28: 193)

[11]

> If I am right, then the way is open to giving something like the 'classical' account of the idea that reasons can be causes. For [the 'classical' account insists that it is **because** that-p entails that-q that a thought that-p is, *ceteris paribus*, followed by a thought that-q. It will be instructive to contrast this thesis with Nagel's account of the sense in which reasons can be causes: 'A man who first notes a premise A, and then perceives that A logically implies B, is moved by reasons when he accepts B **on the evidence** of the premise, even if the causal sequence, the thought of A, the perception of the connection between A and B, the assertion of B is a logically contingent one.' (28: 194)

It is interesting to note that, while Sellars analyzes entailment in terms of causal relationships among thoughts, non-functionally described, he analyzes causality in terms of entailment. 'I shall be interpreting our judgments to the effect that A causally necessitates B as the expression of a rule [i.e., a material rule of inference] governing our use of the terms "A" and "B".' (16: 136) He hints that circularity is avoided by reducing both entailment and causality to 'constant conjunction.' 'Before one has a right to say that what Hume calls "causal inference" really isn't inference at all, but merely habitual transition from one thought to another, one must pay the price of showing just how **logical** inference is something more than merely habitual transition of the imagination.' (6: 263)

The above quotation also makes clear that, if Sellars' psychologism construes entailment in terms of causal relationships among beliefs, it does not follow that if S's thought 'p' causes his thought 'q', S has **inferred** 'q' from 'p'. Rather, for S to infer 'q' from 'p' requires that he **know** that 'p' entails 'q' and that his belief of that entailment causally mediate the transition from his belief 'p' to his belief 'q'. In other words, '"p" entails "q"' is true iff, roughly, thoughts of 'p' necessitate (*ceteris paribus*) thoughts of 'q'. On the other hand, 'S inferred "q" from "p"' is true iff, roughly, S's belief that thoughts of 'p' necessitate (*ceteris paribus*) thoughts of 'q' caused his belief 'p' to be followed by his belief 'q'.

[12] Sellars' practical logic seems to be motivated partly by agreement with Hare (44) that understanding the connection between intention and action is critical for understanding evaluative discourse, and by disagreement with Hare's contention that this connection can be understood by reconstructing the logic of imperative propositions. Sellars objects that there is no such thing as the logic of imperatives, but contends that there is a logic of 'shall-statements' which is the key to the connection between intention and action (and the connection between reason and action).

> It makes sense to suppose that an expressed reasoning could have occurred without being expressed; and if so, there cannot be such things as expressed reasonings the premises or conclusions of which are promisings, tellings to, or tellings that. In particular, there is no such thing as imperative inference. (13: 177)

> There is no such thing as imperative inference, i.e., inference involving tellings to as tellings to. There is, however, practical reasoning, and there is argument involving **tellings of intention**. (13: 177)

[13] Sellar admonishes that we ought not to equate 'entails' with 'strictly implies'.

> Stronger requirements are necessary to avoid paradox. As far as I can see, something like A.R. Anderson's reconstruction of 'entails' is necessary. (13: 174, note 15; cf. also 14: 111)

Also significant is this passage:

> It has been objected that the framework of physical objects in space and time is incoherent, involving antinomies or contradictions, and that therefore this framework is unreal.... [This objection] makes the tacit assumption that if a framework is inconsistent, its incoherence must be such as to lead to retail and immediate inconsistencies, as though it would force people using it to contradict themselves on every occasion. This is surely false. The framework of space and time could be internally inconsistent, and yet be a successful conceptual tool at the retail level. We have examples of this in mathematical theory, where inconsistencies can be present which do not reveal themselves in routine useage. (12: 28-29)

This argument is characteristically used by relevant logicians to advance their claim that classical logic, insofar as it validates the entailment $(p \& \neg p) \rightarrow q$, is a false theory. Vide Anderson and Belnap, Routley, et al.

[14] X is a variable ranging unrestrictedly over actions. The range of Y is restricted to what Sellars calls 'minimal actions', which are, roughly, those that can be performed 'without thinking'. More specifically, 'a minimal action is exactly one to which the

question "By doing what?" is inappropriate.' (24: 231) Minimal actions are caused by volitions, and are the initial stages of non-minimal actions. Whether or not a particular action is minimal or not depends on both the physical constitution of an individual agent and on his training. So, for example, playing a C major scale is a minimal action for a trained musician, but is a non-minimal action for most people.

[15] Note that the distinction between the proximate propensity, settled disposition, and propositional content senses of 'belief' can also be made in the case of 'intention'. (Cf. 19: 107-108)

[16] Symbols used herein are as follows: p, q, r, u are factual propositions (variables or constants, as required by context); a, b, c, are practical propositions; $\rightarrow$ represents entailment; $\leftrightarrow$, mutual entailment; $\supset$, if-then; &, and; $\vee$, or; $\neg$, not; -, s-not; $\blacksquare$, it is necessary that; $\square$, it is s-necessary that; P, it is probable that; B, I believe that; B , we believe that; F, it will be the case that; Φ x, I do x by y-ing; Ψ x, we do x by y-ing; $\perp$, the absurd proposition; I, I intend that; I , we intend that.

In presenting his inference rules, Sellars does not specify which of the four shall-connectives is involved in each case. Presumably, his inference rules are 'generic', in the sense that they are valid for all of the connectives, with changes as appropriate.

[17] Sellars is unclear whether 'shall[we][p]' entails 'shall[p]' (13: 313-40) or not (9: 203-204).

[18] This claim is not clearly articulated by Sellars. Cf. Castañeda, 43: 39, and Aune, 34: 19, 35: 145, 36: 20 for discussion.

[19] The 'reduction' (13: 190; 22: 182) hinges on Sellars' notion of a 'dependent implication'. Relative to the assumption 'p', the entailment '(p $\supset$ q) $\rightarrow$ q' is valid. By A5, then, 'SHALL[p $\supset$ q] $\rightarrow$ SHALL[q]' is valid, relative to the assumption 'p'. Castañeda calls this 'a brilliant stroke of analysis.' (43: 46) But Aune correctly notes (34: 14) that, by Sellars' own admission (13: 174; 17: 377), a dependent implication is true iff the corresponding independent implication, consisting of the dependent implication with all assumptions conjoined to the antecedent, is true. So, if 'SHALL[p $\supset$ q] $\rightarrow$ SHALL[q]' is valid relative to 'p', then '(p & SHALL[p $\supset$ q]) $\rightarrow$ SHALL[q]' is valid. This clearly conflicts with both Sellars' injunction against concatenation of shall-statements with connectives, and his claim that factual premises have no place in practical arguments. (19: 111; 22: 211)

[20] Other motivations that Sellars seems clearly to have for a distinct practical logic are (1) prior committment to anti-reductionism with respect to evaluative propositions, and (2) an interest in incorporating Kant's notion of an autonomous practical reason into his own philosophical system. Sellars' anti-reductionism construes evaluative propositions as implicit or explicit 'ought' statements. Since 'ought' is an object language operator in practical logic, and practical logic is not reducible to 'factual' logic, evaluative propositions cannot be found to be semantically equivalent to any naturalistic proposition, for the latter are 'factual'. The prior interest in updating Kant's notion is expressed at 26: 84-85.

Chapter 4

[1] 'Credibility may be transmitted from one statement to another through deductive or probability connections; but credibility does not spring from these connections by spontaneous generation.' (52: 162)

[2] Note that $PJ_{1\text{-}4}$ require that there be analogues of line 2 in derivation 2 of the form, e.g.,

> $E \rightarrow (\forall p)((\exists S)(\text{'p' is of the form 10 } \phi \text{ x' \& S ostensibly perceives that-p}) \supset F\ B\ p)$.

in order that practical arguments can actually be constructed to vindicate acceptance of observation reports.

[3] That this analysis of entailment is not circular is difficult to see. An entailment between two propositions is analyzed as an ought-statement. But an ought-statement is an entailment which has as its antecedent the intention to further the general welfare.

[4] These kinds of theories are clearly relevant to questions as to why observation reports are likely to be true ($PJ_{1\text{-}4}$. But one wonders what kind of empirical theory could offer an explanation of the uniformity of nature (PJ_0). Sellars makes no suggestions in this regard.

[5] That explanatory coherence has a structure is the reason for the consistency of his modest foundationalism with respect to first level empirical propositions with his overarching coherentism. For a first level empirical proposition to be justified is for it to be a member of a set of propositions having maximal explanatory coherence. But, for a first level empirical proposition, such membership occurs iff that proposition is located in a linear heirarchy of observation reports and inductively confirmed statistical hypotheses, law-like statments, and theories.

Chapter 5

[1] These are not analyses of ordinary language meanings, but truth-conditions that emerge from the attempt to give theoretical accounts of perception and intention. Moreover, they are only partial accounts, for there is surely more to perceiving that-ϕ x than having a belief state with the propositional content 'ϕ x' simultaneously with a ϕ x-ish sense impression. What this something more amounts to is difficult to say and Sellars does not venture a guess.

[2] The argument of this section might be taken in a Fregean spirit.

> A logically perfect language should satisfy the conditions, that every expression grammatically well constructed as a proper name out of signs already introduced shall in fact designate an object, and that no new sign shall be introduced as a proper name without being secured a reference..... This lends itself to demagogic abuse as easily as ambiguity – perhaps more easily. 'The will of the people' can serve as an example; for it is easy to establish that there is at any rate no generally accepted reference for this expression.('On Sense and Reference', in Geach and Black, eds.,

Translations from the Philosophical Writings of Gottlob Frege, Oxford, 1970, p. 70)

[3] The argument of this section is intended to fill out in detail Lehrer's sketchy objection to Sellars that 'other thinkers have denied that it is reasonable to accept those statements that promote the epistemic goals Sellars mentions, because they have different beliefs about what will promote the total welfare of the community.' (65: 101)

Appendix I

[1] This claim seems to be the essence of John Pollock's recent repudiation of truth condition analyses in favour of what he calls 'justification condition' analyses (76). A major task would be faced in attempting to say just what Pollock's thesis is. It is not clear whether he advocates giving up semantic (truth condition) analysis and returning to purely syntactic (inference rule) analysis, or whether his 'justification conditions' represent some third category of meaning-rules. It seems possible that Pollock has no coherent thesis. He says that 'the meaning of a statement is of course uniquely determined by its truth conditions, but these truth conditions can generally only be stated in a trivial way.... A more informative account of the meaning of a statement can often be given by saying under what circumstances one would be justified in thinking that the statement is true....' (p. 49) But this is puzzling, for, as Louis Loeb notes, if the meaning of a statement is exhaustively determined by its justification conditions and uniquely determined by its truth conditions as well, then either truth conditions collapse into justification conditions after all (as phenomenalists and behaviorists would have it), or the connection between a statement's justification conditions and its distinct truth conditions is unexplained. Pollock does not offer any account of this connection.' (70: 452) Pollock is clearly motivated by a desire to offer an alternative to epistemic reductionism, and his aversion to truth conditions apparently stems from his association of that mode of analysis with reductionism. The argument of this section is that truth condition analyses do not commit one to reductionism and, to the extent that the argument is successful, undercuts this motivation of Pollock.

[2] Cf. R.M. Hare (56), especially pp. 84 and 85. Sellars puts the case succinctly with respect to epistemic concepts:

> The idea that epistemic facts can be analysed without remainder — even 'in principle' — into non-epistemic facts...is, I believe, a radical mistake — a mistake of a piece with the so-called 'naturalistic fallacy' in ethics....In characterizing an episode or state as that of **knowing**, we are not giving an empirical description of that episode or state we are placing it in the logical space of reasons, of justifying and being able to justify what one says. (10: 161 and 169)

[3] Note that non-cognitivist views, on which epistemic statements do not take truth values, are ignored here, as are those cognitivist views on which epistemic statements have, in addition to 'descriptive' meaning of the sort possessed by non-evaluative statements, an 'evaluative' or 'prescriptive' meaning. According to views of the latter sort, necessary material biconditionals may indeed hold between propositions containing epistemic expressions and those that do not; but this does not signify equivalence of meaning per se, but only equivalence of 'descriptive' meaning. To this one need only say that 'descriptive' meaning is, after all, what one is interested in, insofar as one wishes to find truth and avoid falsehood. Also ignored are views on which, though not

reducible to naturalistic concepts, epistemic concepts are reducible to some group of non-epistemic evaluative concepts, eg., ethical concepts. Such views merely push the question of naturalistic reduction onto the non-epistemic evaluative concepts in terms of which epistemic concepts are ultimately defined.

[4] The case is usually put in terms of 'indiscernibility', such that, if two things are indiscernible with respect to their non-evaluative propoerties, then necessarily they are indiscernible with respect to their evaluative properties. 'If a given thing possesses any kind of intrinsic value in a certain degree, then not only must that same thing possess it under all circumstances, in the same degree, but also anything **exactly like it** [in respect of non-evaluative properties] must, under all circumstances, possess it in exactly the same degree.' (G.E. Moore, 71: 261) That this statement of the case is equivalent to the formulation above is shown be Jaegwon Kim (62, esp. section III; cf. also his 63).

[5] The doctrine of supervenience commonly appears when philosophers wish to avoid reductionism without thereby complicating their ontology. It was first articulated by Moore (71). R.M. Hare (56) is usually credited with the first use of the term 'supervenience'. Ernest Sosa (e.g., in 84), among others, speaks explicitly of 'the supervenience of the epistemic on the non-epistemic', and Chisholm's 'critical cognitivism' is a form of the supervenience version of anti-reductionism. Aesthetic properties have been said to supervene on non-aesthetic properties (e.g., by Frank Sibley, 'Aesthetic Concepts', ***The Philosophical Review***, **68** (1959)), and Donald Davidson has argued that mental properties of persons supervene on their physical properties ('Mental Events', in L. Foster and J.W. Swanson, eds., ***Experience and Theory*** (Amherst, 1970)).

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Appendix I: Truth Conditions and Reductionism

The methodological position sketched in chapter 1, that of epistemology-as-semantics, is stipulated. As such, it is not defended here against any metaphilosophical objections that may be brought against the concept of analysis it embodies. The position will be adequate for its intended purpose if it has some *prima facie* plausibility.

However, an attempt will be made in this appendix to forestall a more immediately serious potential objection. This is the charge that a view of epistemology-as-semantics is biased in favour of certain substantive epistemological theses. In particular, it may be charged that truth condition analyses are inherently favourable to **epistemological naturalism.**[1] Epistemological naturalism is the thesis that epistemic properties are 'reducible to' naturalistic, non-epistemic properties. More formally, it is the claim that, for every predicate denoting an epistemic property, there is a necessary biconditional statement in which that predicate appears in a term of one argument while no such predicate appears in any term of the other argument. But such a biconditional can be true if and only if there is a true metalinguistic statement to the effect that, at any (accessible) possible world, the statement comprising one argument of the biconditional is true if and only if the statement comprising the other argument is true. A recursive specification of truth conditions for sentences containing a particular epistemic predicate provides just such a metalinguistic statement. So, if one thinks that recursive truth conditions can be given for all epistemic predicates, it seems that one is also committed to reductionism with respect to epistemic properties.

In this section, the claim will be defended that one can accept the epistemology-as-semantics methodology without committing oneself to reductionism. The defense will involve an examination of the claims of naturalism in contrast with those of two different kinds of anti-reductionism. It will be shown that neither kind of anti-reductionism entails the claim that truth conditions cannot be given for sentences containing epistemic predicates, but rather, that each entails a claim that such truth conditions necessarily will be **incomplete** in clearly specifiable ways.

The feeling that epistemic concepts are not reducible to non-epistemic concepts stems from the observation that the former (like, for example, ethical and aesthetic concepts) are **evaluative** concepts. One has a strong inclination to say that, no matter how many factual propositions one asserts about a thing, one has not thereby **evaluated** that thing.[2] Consequently, there can be no equivalence of meaning between any evaluative expression and a non-evaluative (i.e., naturalistic, empirical) expression.[3]

The anti-reductionist claim can be understood in two different ways. On the first construal, it is the claim that the truth value of no sentence containing an epistemic expression can be known by inference unless the truth value of some other sentence containing an epistemic expression is known first. In terms of truth conditions, this amounts to the claim that no base clause can be given: the antecedent of every clause must contain an epistemic expression if it is to be true. Since what is known when the truth value of a sentence of the form 'Fa' is known is whether or not the referent of a is in the extension of F (at a possible world), this means that the extension of some predicates denoting epistemic properties must be fixed (at each possible world) independently of the extension (at that world) of any predicate denoting a naturalistic property. That is, some predicates denoting epistemic properties must be primitive; or,

in other words, some epistemic properties must be metaphysically basic.

The first construal of the anti-reductionist claim thus entails both a metaphysical thesis and an epistemological thesis. The metaphysical thesis is that there are non-natural, epistemic properties 'in the world'. Since our knowledge of epistemic facts cannot be accounted for in terms of the usual modes of knowing (we don't literally **see** justification in the world, after all, and reduction of epistemic knowledge to what we do see, etc., has been ruled out *ex hypothesis*, the metaphysical thesis entails the existence of some other mode of access to that part of the world constituted by instantiated epistemic properties. Some philosophers, convinced of the truth of anti-reductionism, have accepted the entailed metaphysical and epistemological theses. Such philosophers are usually known as (epistemological) **intuitionists**. Other philosophers reason contrapositively. Convinced that the usual modes of knowing (perception, memory, self-awareness, inference) are our sole means of cognitive access to the world, they conclude that postulation of non-natural, epistemological properties 'in the world' does not help explain the fact that we have epistemological knowledge. The simplest explanation, it is thought, is a denial of the anti-reductionist thesis; so (epistemological) **naturalists** are characterized by their insistence that recursive truth conditions can be given for sentences containing epistemological expressions.

The opposition between epistemological naturalism and intuitionism underscores the tension that exists between the belief that epistemic concepts are not reducible to non-epistemic concepts and the belief that there are no 'non-natural' properties in the world. Still other philosophers, dissatisfied with both intuitionism and naturalism, have sought to alleviate this tension and to escape between the horns of non-natural properties and a faculty of intuition on the one hand and reductionism on the other hand by offering a second construal of the thesis of anti-reductionism. In common with the first construal, the second maintains that there are no necessary biconditionals connecting sentences containing evaluative expressions with sentences containing no evaluative expressions. That is, necessary and sufficient conditions cannot be given for evaluative expressions in terms of non-evaluative expressions. On the other hand, one-way conditionals which individually express necessary or sufficient conditions **do** exist.[4] Proponents of this version say that, while evaluative expressions are not reducible to non-evaluative expressions, evaluative properties of things **supervene** on the non-evaluative properties of those things.

> If we take this approach, we will not say that there are empirical sentences that might serve as translations of the sentences expressing our ethical knowledge but we will way that there are empirical truths which **enable us to know** certain truths of ethics. Or to use our earlier expression, we will say that the truths of ethics are "known through" certain facts of experience. (44: 60-61.)[5]

At the semantic level, the claim of the supervenience anti-reductionists is that, although base and recursive clauses can be given, no closure clause can be given to complete a recursive specification of truth conditions for sentences containing epistemic expressions. By affirming the existence of base clauses, the need for non-natural properties is obviated; for, given any sentence containing an epistemic expression, there is at least one other sentence not containing any epistemic expression, such that if the second sentence is true, then the first sentence is true. Knowledge of natural properties by ordinary means is adequate to explain our epistemic knowledge. At the same time, the necessary absence of a closure clause means that the extension of no predicate denoting a non-epistemic property fixes the extension of any predicate denoting an epistemic property. Supervenience anti-reductionists thus seem to avoid both the

ontological inflation of the intuitionist and the (alleged) phenomenological distortion of the naturalist. However, it is not clear that this appearance corresponds to reality. Jaegwón Kim has shown (50: 153) that the supervenience version of the anti-reductionist thesis requires that there be an infinite number of distinct basic non-epistemic properties. So it seems that, on either version, anti-reductionism is funded by an expansion of the supply of ontological currency.

It seems plausible to suppose that most philosophers would find an infinity of natural properties more acceptable than even one non-natural property, and that, consequently, most anti-reductionists hold to the supervenience version of that thesis. This being so, supervenience anti-reductionism and naturalism would seem to be the main contenders for the allegiance of those epistemologists who allow that epistemic statements take truth values and who do not have some special reason for eschewing semantic analyses. The difference is slight, and the task of providing epistemic principles can be identified with that of providing base and recursive clauses for a specification of truth conditions for all substitution instances of the schema "S's belief that p (at t, in w) is epistemically justified". Naturalists will hold out for a closure clause and complete recursion, while supervenience anti-reductionists will deny that a closure clause can be had.

If the foregoing is correct, then, adoption of a methodology of epistemology-as-semantics does not prejudice the answer one will give to the question of the reducibility of epistemic concepts to naturalistic concepts. Reductionists and anti-reductionists can both seek informative truth conditions for sentences containing epistemic expressions without compromising their respective positions on the reducibility issue. However, while reductionists will seek recursively complete truth conditions, anti-reductionists will expect to find less.

Appendix II: Sellars' Practical Logic

For ease of reference, the formation rules and axioms that were reconstructed in chapter 3 are collected in this appendix. Symbols used herein are as follows: p, q, r, u are factual propositions (variables or constants, as required by context); a, b, c, are practical propositions; → represents entailment; ↔ , mutual entailment; ⊃ , if-then; &, and; ∨ , or; ¬ , not; -, s-not; ■ , it is necessary that; ¤ , it is s-necessary that; P, it is probable that; B, I believe that; *B* , we believe that; F, it will be the case that; Φ x, I do x by y-ing; Ψ x, we do x by y-ing; ⊥ , the absurd proposition; I, I intend that; *I* , we intend that.

Formation Rules

FR1. If 'p' is a factual proposition of the form ' Φ x', then 'SHALL[Fp]' is a practical proposition.

FR2. If 'p' is a factual proposition not of the form ' Φ x', then 'shall[Fp]' is a practical proposition.

FR3. If 'p' is a factual proposition of the form ' Φ x' and 'q' is a factual proposition, then 'SHALL[q ⊃ Fp]' is a practical proposition.

FR4. If 'p' is a factual proposition not of the form ' Φ x' and 'q' is a factual proposition, then 'shall[q ⊃ Fp]' is a practical proposition.

FR5. If 'p' is a factual proposition of the form ' Ψ x', then 'SHALLwe[Fp]' is a practical proposition.

FR6, 7, 8. As FR2, 3, 4, *mutatis mutandis*.

FR9. If 'a' is a practical proposition, then '-a' is a practical proposition.

FR10. If 'a' is a practical proposition, then ' ¤ a' is a practical proposition.

Axioms

A1. shall[Fp]' ↔ SHALL[(*ceteris paribus*)(∀x)((p ⊃ Φ x) ⊃ F Φ x)]

A2. SHALL[Fp] → (*ceteris paribus*)Fp

A3. SHALL[Fp] → BFp

A4. shall[q ⊃ Fp] ↔ SHALL[q ⊃ (*ceteris paribus*)(∀x)((p ⊃ Φ x) ⊃ F Φ x)]

A5. (p → q) → (SHALL[p] → SHALL[q])

A6. SHALL[p&q] → SHALL[p]

A7. (SHALL[p ⊃ q]&p) → SHALL[q]

A8. SHALL[pBD ↔ --SHALL[p]

A9. $\blacksquare a \rightarrow a$

A10. $(\square a \rightarrow b) \rightarrow \square b$

A11. $(\text{-}a \rightarrow \perp) \rightarrow \square a$

A12. $(\square a \rightarrow p) \rightarrow \blacksquare p$

A13. $(\blacksquare p \rightarrow a) \rightarrow \square a$

A14. $\square$ SHALL[F Φ xBD $\leftrightarrow \blacksquare$ (IF Φ x)

FR1 to FR8 and A1 to A7 were extracted directly from Sellars' discussions of his practical logic. FR9, FR10, and A8 to A14 are attributed to him here on the basis of what he says about practical semantics.