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**AN INVESTIGATION OF HUSSERL'S RELEVANCE
TO CARNAP'S EARLY PHILOSOPHY**

by

Francine Lea Kitchen

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ABSTRACT

AN INVESTIGATION OF HUSSERL'S RELEVANCE TO CARNAP'S EARLY PHILOSOPHY

By

Francine Lea Kitchen

This thesis is inspired by a desire to know whether Rudolf Carnap's early work, The Logical Structure of the World, was influenced by the philosophy of Edmund Husserl. Starting from mentions of Husserl in Carnap's work, i find many issues on which to compare the philosophical systems of Husserl and Carnap. The primary similarities center around the issue of psychologism and the notions of construction and constitution. Husserl's critique of psychologism is examined and found to be illuminating when applied to Carnap's philosophy. Husserl's system of constituting noetic-noematic essences is compared with Carnap's system of reconstruction by logical definition. It is concluded that there are sound reasons for believing that Carnap's constructional system was connected to Husserl's constitutive system.

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CHAPTER 1: INTRODUCTION

In the course of my studies of analytic philosophy, Rudolf Carnap stood out as a philosopher whose theory was more firmly grounded in the individual subject's experience than other formal analytic philosophers (for example, Hintikka, Moore, Russell, Quine, Goodman, Ayer). Upon first studying Edmund Husserl, I learned that Carnap praised Husserl's attack on psychologism, which made me wonder what else they had in common. In the process of forming a proposal for a possible thesis (of which the present work is the actualization), I discovered a confusing collage of overlapping issues that they had in common. Two of those issues have been chosen to form the skeleton of this paper: (1) structural similarities of their constructional systems--that is, category resemblance and order of categories, and (2) an epistemological foundation in the experience of the subject. The scope has been narrowed by limiting discussion to the earliest works of both philosophers, that is, Husserl's and Carnap's publications up to 1928, which was the year of publication of Carnap's Logische Aufbau der Welt.

The temporal relationships among the works of Carnap and Husserl that are emphasized in this paper is obviously important. Husserl's Logische Untersuchungen (Logical Investigations), volumes 1 and 2, appeared in 1900-1901. His Ideen was published in 1913. These are the two works of Husserl that Carnap cites in Der Logische Aufbau der Welt

(The Logical Structure of the World, commonly referred to as the Aufbau), which was published in 1928.

The purpose of this paper is to compare Carnap's early philosophy with Husserl's, and to search out similarities while acknowledging differences. These two philosophers have interesting similarities and dissimilarities. Both Husserl and Carnap came to philosophy from mathematics and were influenced by Frege. Following is an example, although slightly digressive, of the sort of investigation that is under way here.

Robert C. Solomon, in his article "Sense and Essence,"(1) makes an attempt similar to the present one by trying to bridge the gap between Frege and Husserl. This is particularly relevant since Carnap was also strongly influenced by Frege. Solomon says:

In this essay, I have attempted to make some sense out of one of Husserl's most obscure and most central concepts (that is, essence). As a result, I hope that I have indicated the direction which philosophers on both sides of the analysis-phenomenology breach must follow if there is to be a serious meeting of philosophical cultures. [P.401]

Husserl's choice of the notion of 'essence' as a central concept resulted in his detractors' accusing him of Platonic realism. He has also been accused of being opposed to factual science. In order to clear up these misguided criticisms, Solomon purposes to reevaluate Husserl's doctrine of 'essence'. The first important point to

(1) Robert C. Solomon, "Sense and Essence: Frege and Husserl," International Philosophical Quarterly, 10 (1970): 278-401.

remember about Husserl's essences is that the knowledge of essences is completely independent of any ontological commitment concerning the actual existence of essences or actual experience of any particulars that embody those essences. This is not to say, however, that essences are independent of all possible facts. Essences, in fact, require the possibility of particulars that embody those essences.

Solomon's article represents a precursor to the present paper in trying to bridge the gap between Husserl and formal linguistic analysis. Carnap is not only implicated by being also a formal linguistic philosopher, but additionally by having been a direct heir of Frege's philosophy.

Both Husserl and Carnap were concerned with the foundation of logic and philosophy. Husserl was originally motivated by the problem of founding logic, although he later moved away from that field. Both developed an epistemic theory (theory of perception and meaning) that provides an alternative to phenomenalist sense data theories by basing their theory on the actual primordial experience of the subject rather than on sense data. Today philosophers in the analytic tradition think of them as very different and emphasize Carnap's rejection of what he calls metaphysical issues such as intuitions of essences. Husserl and Carnap were each a primary founder of two separate branches of contemporary philosophy. Carnap later came to discount the value of Husserl to his own thought, perhaps

because Carnap's philosophy developed in a direction away from Husserl's. The tendency to emphasize their differences should be set aside for the duration of this investigation in order to discover their complementarity.

The most obvious similarity is that Carnap agreed with Husserl's attack on psychologism. This issue will be discussed at length in Chapter 2. Erazim Kohak points out another similarity:

Carnap, Wittgenstein, and Husserl all started with a conception of lived experience and all encountered a critical challenge in the problem of the intersubjective validity of such experience. Carnap's forceful reconstruction of physicalism...was a brilliant attempt to escape privacy of lived experience by translating it into its public physical counterparts.(2)

Husserl also attempts to escape the privacy of lived experience, but by constituting it into categories or structures of experience or essences.

A comparison of Husserl's constitutions and Carnap's constructions is the unifying thread that weaves itself throughout this paper. Husserl and Carnap both use the words 'construction' and 'constitution'. They are, however, speaking of different, although structurally similar, enterprises. In order to promote clarity on the differences between their enterprises, Husserl's system will be called constitutive, while Carnap's is called constructional. The major difference between them is that Carnap does, but Husserl doesn't, believe that a concept (or object) is

(2) Erazim Kohak, Idea and Experience (Chicago: University of Chicago Press, 1978), p.180.

reducible to (is nothing but the relationship between) its components (or constituents). Husserl describes objects in terms of the components upon which they are founded; but, unlike Carnap, he believes they exist as objects in themselves (which isn't to say that they're independent of their constituents). In this sense, Husserl's constitutions are more compatible with a subject's experience of concepts as something in themselves, as something more than their constituents. For this reason, I think Husserl's system is more firmly founded in the subject's experience than is Carnap's.

Although I do not intend to argue it in this essay, I agree with Husserl that "getting back to the subject" is an effective antidote to some tendencies in philosophy. Those tendencies are the multiplication of metaphysical entities (such as some forms of sense data theory) that have no basis in experience, and also the enforcement of analytical empirical methods upon disciplines (such as philosophy) that cannot be based on physical sciences. For example, some talk of sense data pays no heed to the fact that the occurrence of sense data in all perception is only a hypothesis and not an obvious feature of experience. Sense data are only an abstraction from experience and not a part of experience. Absurdities arise out of this when philosophers try to prove the existence of sense data. This is another in a long line of dubious arguments for the existence of metaphysical entities. I believe one could

avoid such absurdities by limiting one's philosophical talk to those concepts that have a firm foundation in the subject's experience. Also, the tendency to apply the method of the natural sciences to the human sciences results in errors such as, in anthropology, failing to get a sympathetic understanding of a culture under study, or, in psychology, ignoring aspects of the human psyche that cannot be evidenced in observable behavior. I believe these oversights can be counteracted by, for example, noticing that the subject does not experience his or her emotional life as merely a set of behavior and realizing that this has important consequences for the choice of a method with which to study the human psyche. The fact that experience is possible only with a subject has implications too often ignored, as in the examples above. The implications are that subjectivity is a part of all experience that should be taken into account in any discussion of experience.

We will find in the Logical Structure of the World(3) not only that Carnap uses Husserl's epoché (S.64, p.101), but that Husserl's thoughts on a constitutive system in Ideas(4) have some connection with Carnap's constructional system (S.3, p.9). Appendix A consists of a chart showing the sections and pages in the Aufbau where Carnap refers to

(3) Rudolf Carnap, The Logical Structure of the World and Pseudoproblems in Philosophy, trans. Rolf A. George (Berkeley: University of California Press, 1967). Hereafter referred to as the Aufbau.

(4) Edmund Husserl, Ideas: General Introduction to Pure Phenomenology, trans. W.R. Boyce Gibson (London: Collier Books, 1962).

Husserl, and the corresponding pages of the German and English editions of Ideas, together with the specific subjects discussed at those points. This paper will expound elements in Ideas that may have partially inspired Carnap's constructional system. This paper will also propose that Carnap's unanalysable given is more similar to Husserl's stream of experience than it is to sense data theories. Other relevant points will be brought up in the course of the exposition of Ideas and of the Aufbau. These secondary issues are: the status of essences, presuppositionlessness, psychologism (in Chapter 2), and epistemic priority. I will be looking for structural similarities in their constructional systems. That is to say that in both systems certain types of objects are ordered similarly: for example, individual experiences are epistemically prior to intersubjective physical objects that are epistemically prior to cultural objects.

Both philosophers underwent changes in their philosophy. After their early work (for example, Husserl's Ideas and Carnap's Aufbau) the differences became more pronounced. During their early work both emphasized a structural system based on immediate experience. Therefore, we will be concerned only with these early works. The following references evidence Husserl's influence on Carnap's first philosophical work, which concerned space.

The relevant change in Carnap's philosophy is pointed out by Robert S. Cohen in his article, "Dialectical

Materialism":(5)

In Carnap's early investigation of theories of space, he speaks of immediately intuited essences along with empirically furnished knowledge. Within a few years, he had begun his distinguished career as a defender of a thoroughly empirical knowledge, which is open to qualified observers by rationally specifiable procedures. But in the phenomenological empiricism of 1928 (publication of the Aufbau), he seeks verifications by reductions to sense data which have the same direct, certain and intuitive character as Husserl's intentions. By 1931, Carnap had erected the structure of scientific theories on a contingent foundation of similarly intuited...protocols, contingent in the sense that the primitive protocols are records of direct experience for which empirical or logical justification is neither needed nor possible. [P.145-146]

According to Adolf Grunbaum in his article "Carnap on Foundations of Geometry,"(6) Carnap, in his doctoral dissertation ("Der Raum" or "On Space," Berlin, 1922, Kantstudien, no.56), espoused the phenomenological neo-Kantian a priori of Husserl's intuition of essences when discussing the topological features of intuitive visual space (p.664). Grunbaum quotes Carnap's dissertation:

Experience does not provide the justification for them (the axioms governing the topology of visual space), the axioms are...independent of the 'quantity of experience', that is, knowledge of them does not, as in the case of a posteriori propositions, become ever more reliable through multiply repeated experience. For, as Husserl has shown, we are dealing here not with facts in the sense of empirically ascertained realities but rather with the essence ('eidos') of certain presentations whose special nature can be grasped in a single immediate experience. [P.22, as quoted by Grunbaum; cf. also p.62 per Grunbaum.]

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- (5) Robert S. Cohen, "Dialectical Materialism," The Philosophy of Rudolf Carnap, ed. Paul A. Schilpp (London: Cambridge University Press, 1963), pp. 99-158.
- (6) Adolf Grunbaum, "Carnap on Foundations of Geometry," in The Philosophy of Rudolf Carnap, ed. Paul A. Schilpp (London: Cambridge University Press, 1963).

In the Aufbau when discussing other works related to constructing space, Carnap mentions Oskar Becker as a mediating influence between himself and Husserl (Aufbau, p.193). In most likelihood Carnap refers to an article Becker published in 1923 entitled "Contributions Toward a Phenomenological Foundation of Geometry and Its Applications to Physics." (7) Marvin Farber (8) says of Becker's article that it is a highly competent interpretation that uses not only Husserl's ideas, but Husserl's manuscripts. These points show that Carnap's early work on space was influenced by Husserl.

(7) Oskar Becker, "Contributions Toward a Phenomenological Foundation of Geometry and Its Applications to Physics," Jahrbuch fuer Philosophie und phaenomenologische Forschung, 1923, cited by Herbert Spiegelberg, The Phenomenological Movement: a Historical Introduction (The Hague: Nijhoff, 1976), pp.601-602.

(8) Marvin Farber, The Foundation of Phenomenology: Edmund Husserl and the Quest for a Rigorous Science of Philosophy (Cambridge: Harvard University Press, 1943), p.22n.

CHAPTER 2: HUSSERL'S CRITIQUE OF NATURALISM

This chapter consists of a discussion of phenomenism, phenomenology, positivism, psychologism, and the relationships between them. Husserl's critique of naturalism from "Philosophy as a Rigorous Science"(9) will be discussed at length.

According to phenomenism, all perception contains sense data that are the subject's data of immediate experience - for example, color patches, shapes, sounds, smells, or tactile feelings. (Husserl also uses the term 'sense data' or 'hyletic data', but in a different sense.)

Phenomenology, in its most general use (which originated with Husserl) means the purely descriptive study of any subject matter. However, it also has a more specific, explicitly Husserlian use - that is, that of using the phenomenological method. The phenomenological method consists in the intuition of essences (described more carefully in Chapter 3) through use of the method of free (imaginative) variation to formulate a pure description of phenomena. This method is supposed to incorporate no presuppositions. Husserlian phenomenologists believe not only that presuppositionless inquiry is possible, but that it is the only true philosophy.

Reflection will show that a phenomenologist will disapprove of the phenomenalist's presupposition (or

(9) Edmund Husserl, "Philosophy as a Rigorous Science," Phenomenology and the Crisis of Philosophy, trans. Quentin Lauer (New York: Harper Torchbooks, 1965).

unfounded supposition) that the material world can be reduced to sense data, which (for the phenomenologist) have a dubious ontological status. This disapproval stems not so much from disagreement with the assumption, but rather from disapproval of having any presuppositions at all. The phenomenologist's advice to the phenomenalist would be to examine his or her presupposition. If the implications of these assumptions are shown to conflict with our experience of the world, then the proposed reduction must be abandoned.

Logical empiricism (or logical positivism) was developed by the Vienna Circle, a group of philosophers who wanted to give an account of science that would do justice to the central importance of mathematics, logic and theoretical physics without abandoning Mach's general doctrine that science is the description of experience. Carnap came to be regarded as the leading exponent of their ideas. Carnap was chiefly influenced by Russell, Frege, and Mach. This positivism of the twentieth century can be characterized by the belief that if a proposition is neither analytic nor empirical, then it is not cognitively meaningful. The positivism of the nineteenth century with which Husserl is familiar was characterized as the belief that all human behavior can be described by natural laws.

Carnap's constructional theory is in the phenomenalist tradition of using sense data as a basis for a philosophical system. The object of such a system is to find the smallest number of types of basic experience and similarity relations

between them from which to construct everything else. The terms 'construction' and 'reduction' are inverse operations within Carnap's logical method. In the Aufbau reductions are presented as formal definitions of a certain type of concept in terms of a simpler, more basic concept. You might imagine starting out with some complex statement and proceeding to define every word in concepts that are in turn defined in terms of more basic objects. You would get a nested series of definitions that would show that the complex sentence can be constructed out of more basic concepts. The hope is that one will choose basic elements that are epistemically justified by being epistemically primitive. In Carnap's system, these are 'elementary experiences', which are each a time slice of experience or the subject's stream of experience at one particular moment. Carnap's elementary experiences are total time slices of experience, not just colored patches, etc. (which is what some positivists meant by sense data). According to Carnap, sense data are based on the primordial total experience. Carnap wants to find the smallest number of primitive relations among elementary experiences from which to build his logical structure of the world.

Carnap's main acknowledged point of agreement with Husserl is on their mutual criticism of psychologism. In Logical Foundations of Probability, (10) Carnap points out

(10) Rudolf Carnap, The Logical Foundations of Probability (Chicago: University of Chicago Press, 1950).

that although a logician may sound psychologistic in his or her foundational remarks, the actual working out of the logic is usually purely formal. Carnap goes on to defend the purely formal character of logic. In this he would seem to be in complete agreement with Husserl. But, as we shall see shortly, Husserl would criticize Carnap's founding logic on a practical choice. Carnap partially attributes the fact that "the great majority of contemporary writers in modern logic ... are free of psychologism" to "the efforts of [Frege and] ... Edmund Husserl, who emphasized the necessity of a clear distinction between empirical psychological problems and nonempirical logical problems and pointed out the confusion caused by psychologism" (p.40).

Now let us turn to Husserl's critique of naturalism from "Philosophy as a Rigorous Science." Husserl wished to instigate a revolution in philosophy in order to free philosophy of the naturalistic assumptions in which philosophy and other human sciences (that is, psychology, history, sociology, anthropology) had become bogged down. He believed that this revolution was necessary for the progress of knowledge, and he proposed to accomplish the revolution by revealing the absurdities of naturalistic procedure (p.76). In criticizing naturalism, he was not criticizing the procedures of natural science. Rather, he was objecting to the application of the methods of natural science to other fields. The methods of natural science are out of place in the human sciences' Disciplines such as

philosophy, psychology, and sociology have been corrupted by the prejudices of naturalism in so much as they have used empirico-analytic methods. The use of such methods is inappropriate to the human sciences because, although we experience physical objects in causal, space-time relationships, we do not experience social, psychological, and philosophical objects in causal, space-time relationships. Rather, we experience the object domain of the human sciences as relationships among structures of experience which can be made clear to us through careful reflection. Husserl elaborated this careful reflection into a complicated phenomenological method (bracketing, the epoché, reductions).

The naturalism Husserl criticized consists of the advocacy of scientific method (that is, empirical-analytic method) and its extension to philosophy and the human sciences. He used the term 'naturalism' to include empiricism and positivism in referring to the nineteenth-century movement started by Auguste Comte, which supported the following premises. Empirical science is the only valid knowledge and empirical facts are the only possible objects of knowledge. There is no proper method for philosophy except the method of empirical science. The task of philosophy is to find the general principles common to all sciences and to use them as guides to human conduct and as a basis for social organization. A corollary of this is that all human behavior is governed by natural laws.

Husserl echoed the Kantian critique of reason when he provided a critique of the pretended scientific procedure of naturalism. He did so in order to develop a truly rigorous scientific philosophy in the interests of human culture. He shared with naturalists the goal of philosophy as a strict science. He praised naturalism for having such a goal. But he said that naturalists erroneously believes that naturalism has accomplished its goal (p.78). Therefore it was important that he criticize naturalistic philosophy.

Husserl used the word 'science' and 'scientific' to mean something broader than empirical science. For Husserl, science was a body of indubitable and objective truths. Scientific philosophy should be clear and certain (at least about its basis). Nothing must be taken for granted.

The natural scientist looks upon everything as 'nature' as opposed to 'spirit'. In doing so he or she sees only physical nature, sometimes carrying this to the extreme of explaining psychical nature in purely physical terms. In this sense, naturalism is equivalent to many forms of positivism because Husserl is speaking of the tendency to apply the method of the natural sciences to all fields of inquiry.

Husserl discredited both the naturalizing of human consciousness and the naturalizing of ideas, ideals, and norms. By advocating the naturalization of ideas, naturalism becomes absurd. For example, if the naturalist reduces formal logic (or ethics) to natural laws of thinking

(applied psychology), he or she falls into the fallacy of psychologism. Psychologism is refuted by pointing out that logicians do not investigate how human beings do think--they investigate valid reasoning. Husserl's phenomenological epoché enables an individual's psychology to be suspended from any investigation (see discussion of transcendental consciousness in Chapter 3). Husserl elaborately refuted the fallacy of psychologism in Logical Investigations, volume 1.⁽¹¹⁾ Many philosophers (especially Frege, Husserl and Carnap) have refuted psychologism, and others have at least denied holding the position of psychologism. Husserl argues that logical laws are not based on psychological laws because logical laws are exact and non-empirical while psychological laws are vague, and because logical laws are certain and thus not based on induction, which yields only probable validity, and because logical laws make no empirical claim (while psychology does) about the existence of psychic events. Carnap argues that there is not just one single language determined by psychological laws, but that there are many equally appropriate languages from which to choose.

Naturalists may deny the error of psychologism, but if they advocate using the method of the natural sciences in the human sciences, they do not avoid the absurdity revealed by Husserl's critique (p.80). There is an absurdity

(11) Edmund Husserl, Logical Investigations, trans. J. N. Findlay (London: Routledge & Kegan Paul, 1970).

involved in the advocacy by naturalists of natural scientific method. In the case of a logician, the advocacy of valid laws of reason involves a normative judgment that is inconsistent with a naturalist belief that all human enterprise is governed only by natural laws.

Carnap addresses this point by saying that logic consists of syntactical rules we choose to accept.⁽¹²⁾ The choice of these rules is admittedly a normative judgment. For Carnap, logic is independent of experience, and it is not a science of essences as Husserl would have it; rather it is a set of normative laws. For Husserl this is another example of the absurdity of psychologism, in that it reduces logic to human norms just as the standard form of psychologism reduces logic to natural laws of human behavior. Husserl insisted that logic is a science of essences. Husserl divides knowledge into sciences of fact (or experience) and sciences of essence. A science of essence is one free from positings of actual fact--that is, no experience as experience can provide the epistemological grounding. For mathematics, logic, and philosophy, it is essential insight and not experience that supplies the ultimate grounds. To be grounded in essential insight means that the essential contents of the science are mediated through thought, rather than being experiential fact (*Ideas*, S. 7). Husserl seems to come to this view as a result of

 (12) Rudolf Carnap, Philosophy and Logical Syntax (London: Kegan Paul, Trench, Trubner, 1935).

struggling with other explanations and finding them guilty of some form of psychologism. Logic and philosophy are a priori sciences, dealing with rational concepts and necessary truths. But instead of deducing what is true of the world from a priori assumptions, phenomenology looks at the world and discovers what it is like. For most positivists, logic is an empirical science--that is, it is based on psychology. Carnap set himself apart from other positivists on this issue and, in doing so, is in closer agreement with Husserl than other positivists are. In his early work, Carnap went so far as to consider as cognitively meaningful the justification of induction.(13) (Quine, as a counter-example, would consider that only as an empirical question.) As we shall see shortly, Husserl considered the epistemological foundation of logic an important antidote to psychologism.

In the case of natural scientists in general, the advocacy of the natural scientific method is a normative judgment. Husserl believed that natural laws and normative laws should exist side by side, each with their own methods of investigation. Phenomenology is the proper method for investigation of normative laws and the human sciences. Naturalism's claim that everything is governed by natural laws is absurd because the advocacy of any method is governed by a normative judgment, not a natural law. The

 (13) Rudolf Carnap, "On Inductive Logic," Probability, Confirmation, and Simplicity, ed. Marguerite H. Foster and Michael L. Martin (New York: Odyssey Press, 1966).

choice for whatever reason of one method over another, one set of rules over another, is not governed by natural laws. Husserl described the naturalist as one who wants to understand the essence of genuine truth (or goodness or beauty) but who believes that this goal is to be attained through a philosophy based on natural science. The naturalist is acting upon normative presuppositions to the extent that he or she sets up values--that is, that he or she chooses the method with which we should work (p.81).

The fact that this is a normative judgment is obscured because reason itself has been naturalized, so that the naturalist denies that the judgment is normative. That is to say, the naturalist believes that the problematic normative judgment is governed by natural laws (that it is not really a normative judgment). Thus when confronted with values, those normative laws turn into natural laws. Carnap indicates that we can hope in the future to derive to an ever greater extent known extra-physical laws (governing human behavior) from known physical laws.(14) Therefore, Carnap might say that what is a normative judgment in one context (choosing laws of logic), would turn out to be a natural law in a broader context (human decision behavior). Husserl said that it is absurd to deny that normative judgments are normative. Since the critic of naturalism can't point to any empirical consequences of the absurdity,

 (14) Rudolf Carnap, "The Philosopher Replies," The Philosophy of Rudolf Carnap, ed. Paul A. Schilpp (London: Cambridge University Press, 1963), p.883.

and since that's the only evidence a naturalist will accept, the naturalist is not shaken from his or her beliefs (p.82).

For Carnap and other positivists an austere definition of logic and of philosophy has normative consequences for all philosophers. Carnap started to develop his verifiability principle around the time of the writing of the Aufbau. According to the verifiability principle, any question that cannot be empirically tested is not cognitively meaningful. The set of questions not cognitively meaningful includes aesthetics and metaphysics. Consequently Carnap believes that philosophers should not concern themselves with aesthetics or metaphysics. Carnap makes this normative judgment without apology. This is a fine example of the absurdity of naturalism as pointed out by Husserl. As regards other questions of philosophy, Carnap believes that ethics and epistemology are based on psychology, which leaves nothing for philosophers but logic. The main point of Husserl's phenomenology is to re-establish a firm methodological foundation in philosophy for examining consciousness, perceiving, and conceiving.

For Husserl the problem of psychologism goes even further than the absurdity stated earlier. The problem of psychologism is the problem of finding an epistemological foundation for the sciences that avoids naturalistic, behavioral, and experimental psychology. Psychologism can appear in other forms. The form of psychologism bearing on the matter of epistemological foundation is the belief that

epistemology is based on a causal account of meaning, cognition, certainty, and evidence (as opposed to intuitions of essences). That causal account would be an explanation in terms of natural laws. Carnap's empiricist (as opposed to rationalist or idealist) theory of epistemology is just such a causal account. Although Carnap didn't reduce epistemology to psychology (the bold form of psychologism), he does seem to say that it is based on normative decisions which presumably in turn are governed by natural laws. For example, he believed that meaning is based on normative decisions about what words mean and that evidence is a question of which system of logic is chosen to be used in an area of study. In Philosophy and Logical Syntax, Carnap wrote that epistemology (after elimination of its metaphysical and psychological elements) is a part of logical syntax (Chapter 3, Section 5). As I indicated earlier, however, Carnap's position seems to be less literally empirical than other positivists'. But any naturalist's causal account of philosophical issues is for Husserl merely an extension of the fallacy of psychologism.

Now let us turn from the epistemological foundation of philosophy and psychology to the epistemological foundation of logic. For its lack of epistemological foundation (as well as for the absurdity of the normative belief), Husserl would criticize a Carnapian analysis of logic as a practical method. In his later work, Carnap assumes that logic doesn't need any epistemological foundation (although

earlier he considered the justification of induction as meaningful). If logic is just a set of rules chosen to govern the game of logic, then there's no need to explain how we know those rules; they are justified through their practical usefulness in our rational reconstruction of science. The Carnapian definition of logic revises logic from the theoretical "science of sciences" to a practical calculus. But Husserl is concerned to lay the epistemological foundations of logic as well as of other disciplines. For Husserl logic is not just a set of practical rules; it is a theoretical science of essences (ideal laws) that can be epistemologically grounded by phenomenology. There are at least two valid methods of investigating reality: the method of the natural sciences and the method of phenomenology. Each must be used in its own proper sphere.

The arguments presented in this chapter comprise two lines of argument. The first line of argument concerns the various ways in which the absurdity of naturalism manifests itself. That absurdity can be manifested in simple psychologism or in a normative belief that natural scientific method should apply to the human sciences. But Husserl argues that the human sciences are not physical sciences as are the natural sciences, and therefore cannot have an empirical explanation. The only sciences that can be empirically founded are the physical sciences, because empirical observations and facts exist only in those

sciences. According to Husserl, philosophy is a science of essences, not a science of facts. Epistemology and other branches of philosophy as well as other human sciences can only be founded (constituted) through essential investigation for which Husserl has developed the phenomenological method.

The second line of argument concerns epistemology. Naturalism applies the method of the natural sciences to philosophy which results in the elimination of epistemology in favor of logic and empirical psychology. According to Husserl this makes philosophy impossible because scientific philosophy should be an eidetic science which investigates the epistemological foundations of all disciplines.

The chief service of empiricism is to have saved humankind from such philosophical illusions as scholastic entities and metaphysical artifice. Husserl agrees that natural science should be concerned with the experientible real fact-world. But philosophy is not a natural science. There are some judgments that should not permit of being grounded in experience but that do fall properly into the domain of philosophy.

Having discredited naturalism, Husserl also makes a positive criticism. Contrary to naturalism's prejudice, a method of inquiry can be scientific without being positivistic. Phenomenology is to be a rigorous science, but it is not positivistic. Phenomenology, as pointed out earlier, shares a common goal with naturalism. Husserl's

goal is a genuinely rigorous scientific philosophy, which, if propagated, will rescue human culture from crisis and put it back on the path to greatness.

Husserl's own words are almost religious in their appeal to science.

There is, perhaps, in all modern life no more powerfully, more irresistibly progressing idea than that of science. Nothing will hinder its victorious advance. In fact, with regard to its legitimate aims, it is all-embracing. Looked upon in its ideal perfection, it would be reason itself, which could have no other authority equal or superior to itself. [P.82]

These claims on behalf of science are made with no explanation or justification. They seem to be self-evident to Husserl. But one of the lessons to be learned from phenomenology is that presuppositions are often unquestioned precisely because they seem self-evident to their holder. The phenomenological method should enable one to avoid presuppositions. It is not surprising in the era most influenced by naturalism to find such presuppositions. But it is ironic to find such views in a philosopher who advocated an intellectual revolution by means of getting rid of the presuppositions of naturalism. Just because Husserl points out the value-ladenness of naturalism, it doesn't follow that phenomenology is value-free. Whereas Husserl says that objectivism (a naturalistic attitude that treats theoretical entities as real entities) can be overcome by pure theory (that is, phenomenology), Jurgen Habermas(15)

(15) Jurgen Habermas, Knowledge and Human Interests, trans. Jeremy J. Shapiro (Boston: Beacon Press, 1972), Appendix.

says that the only way to overcome objectivism is to acknowledge a dependence on interests and to abandon the illusion of pure theory. Although Husserl acknowledges that all reality is constituted by human experience, his faith in pure theory (independent of human experience) implies that phenomenology as pure theory is not likewise constituted--otherwise it wouldn't be pure theory. This is a contradiction unless phenomenology is not to be included in the domain of reality. Later critiques of Husserl's phenomenology find the possibility of a presuppositionless philosophy doubtful and point to presuppositions in Husserl's philosophy. Such a critique is especially meaningful in light of Husserl himself holding a presupposition that can be explained by his own historical context.

CHAPTER 3: IDEAS

The following discussion of Husserl's Ideas has a double purpose: to introduce the reader to Husserl's text and to draw out similarities with Carnap. Only the major issues of Ideas are discussed here, and many fine points glossed over. The comparisons with Carnap come out most strongly in the sections on noema and noesis and on constitution. (Section numbers from Ideas precede the exposition of a section. These are included for reference reasons, but are extraneous to the present discussion.)

1. Essences

Phenomenology is a science of essences (or structures of experience, rather than of facts. S.1: All facts are based on the "object-giving intuition" found in each person's natural experience. Object-giving intuitions (or experiences) operate on more than one level. The primordial object-giving experience is sensory perception. This is our first indication in Ideas of levels of experience. S.2: A subject's acts of cognition posit real things as having spatio-temporal existence that characterizes the natural standpoint. Such "facts" of existence are contingent, meaning that the things need not exist. But the things also have necessary characteristics without which they wouldn't be the things that they are--which implies for Husserl that they have an essence. They have some kind of essential being (Eidos) which can be apprehended with varying degrees

of clarity. Essences are always general, but they have varying degrees of universality. In distinguishing fact from essence, Husserl is distinguishing the particular from the universal. For example, any cognition of a table includes the postulate that the table exists in space and time. An object must exist in space and time and have legs and a flat top in order to be a table. The essence of tables includes these characteristics. S.3: Essences are the objects of eidetic intuition. An essence is an object of a type different from empirical objects. The object of an empirical intuition (or sense experience) is an individual object, and the object of an essential intuition is an individual object, although of a different kind. Essences are universals, whereas objects of empirical intuition are particulars. When setting out to grasp an essence, the subject (who is a phenomenologist) can proceed either from a direct sense experience or from imagination with the method of free variation. One formulates an understanding of the essential nature of something based on one's experiences of it and/or on one's imaginings of it. S.4: In doing so, however, the subject must be careful not only that his or her eidetic intuitions are free from presuppositions, but also that he or she remember that the positing of an essence does not imply any positing of an actual individual object.

S.22: All objects are not necessarily intersubjective empirical objects, and all reality is not necessarily

intersubjective empirical reality. Essence or Idea or Eidos should not be reduced to merely psychological facts such as mental constructions; they are a different type of reality. S.23: Essential insight is a primordial object-giving act of the subject's thought and is analogous to sensory perception, not to mere imagination. S.24: Husserl claims that whenever an empiricist gives grounds for his or her convictions, he or she is guided by essential insights (whether acknowledged or not) because foundational remarks are never empirical. (This was discussed in Chapter 2.) Husserl would say that Carnap's enterprise is guided by essential insights that give him his "time slices of experience."

S.75: Phenomenology is a purely descriptive philosophy and as such does not rely upon inferences. It is possible, however, to use inferred ideas alongside descriptive phenomenology. Such inferred ideas might make up the connections for a 'mathesis of experience' (from the Greek 'mathesis,' meaning 'learning') which would be a counterpart to descriptive phenomenology. This passage could be interpreted as admitting that a formal logical system of experience like Carnap's constructional theory can exist as a counterpart to descriptive phenomenology.

Husserl's description of eidetic inquiry may allow that constructional theory is an eidetic pursuit. Husserl allows that mathematics and logic are eidetic disciplines. Clearly they are inferential. An inquiry is said to be eidetic

because it is concerned with essences. Carnap cites this passage specifically when referring to influences on his constructional system. Carnap states (Aufbau, S.3, p.9) that there is a connection between his construction theory and the goal proposed by Husserl in Ideas S.75--namely, a 'mathesis of experiences.'

2. Presuppositions

This discussion of essences brings up an important issue. Husserl has been criticized for having presuppositions in spite of his supposedly presuppositionless philosophy. Marvin Farber in his article "The Ideal of a Presuppositionless Philosophy,"(16) points out that Husserl's presuppositions include a belief (1) that cognitive experience (that is, intuition) is self-validating, (2) that the world is pre-given rather than manufactured by the subject, and (3) that intuition can yield an understanding of essences (as well as of sensory objects). The first two of these presuppositions Husserl shares with other philosophers of his historical period, including Carnap. The last presupposition is somewhat distinctive of Husserl and is, of course, not shared by the later Carnap. But in his doctoral dissertation, Carnap did accept this presupposition (see Chapter 1). Husserl's talk

(16) Marvin Farber, "The Ideal of a Presuppositionless Philosophy," in Phenomenology: the Philosophy of Edmund Husserl and its Interpretation, ed. Joseph J. Kockelmans (Garden City: Doubleday & Co., 1967).

of intuitions of essences is explained and partially justified in the next section.

3. Intuition

S.18: Partial motivation for Husserl's defense of intuition of essences came from the fact that empiricism had denied Ideas, Essence, or knowledge of essential being. Such a hostility to Ideas is dangerous because, according to Husserl, the eidetic grounding of any sciences that accepts such a prejudice is hindered. Knowledge of essential being must be the basis of the epistemological foundation for any science. S.20: Empirical intuition gives only singular elements and no generalities. It must rely on induction. But such general truths as are gained by inferences are not experiential, nor are principles of inference. The justification for such truths and principles lies in the eidetic realm. Both kinds of intuition (empirical and eidetic) are equally valuable as experience for the justification of knowledge. A traditional empiricist would claim to use only empirical intuition, but when considering foundational remarks within empiricism we must entertain the possibility that eidetic intuition is used.

4. The Epochs

S.28: The natural standpoint is the mode of consciousness wherein the physical and social world is given the whole attention of the subject. S.30: The natural

standpoint, if verbalized, entails positing objects as things that exist in the real world. S.31: The epoché is a suspension of belief or disbelief, and serves as a method by which the phenomenologist gains certain insights. Doubting the being of anything entails a suspension of the thesis of the natural standpoint. This does not mean abandoning the thesis or changing one's convictions. Rather, the suspension sets the thesis out of action, disconnects it, "brackets" it. The epoché is a refraining from judgment. This issue is important because it is by means of the epoché that presuppositions are avoided--that is, by bracketing any theses of transcendent reality. S.32: Doubting the thesis of the natural standpoint entails disconnecting ourselves from the methodology of the natural sciences. We could not do so if we were positivists, because positivists are concerned with constituting a science free of metaphysics by allowing only the methodology of the natural sciences. Instead we are concerned with the eidetic grounding of any inquiry.

5. Pure Consciousness

S.59: Husserl brackets the natural sciences as well as formal logic as such. In doing this he disconnects presuppositions like (according to Farber) a belief in the reality of the spatio-temporal world, a belief that scientific theories can be used to interpret the world, a belief that there is some independent or continuous

existence, and a belief in the existence of one's own body or empirically conditioned ego. Although a method of formal logic such as Carnap's practical calculus would be bracketed because it is not grounded in eidetic intuition, the phenomenologist must draw upon formal generalities concerning concepts, propositions, inferences, etc. The epoché brackets the particular methods of certain disciplines (for example, theory of numbers, theory of classes, theory of relations) in order to define a starting point for eidetic investigation. Theory of classes and of relations are important in Carnap's constructional system. More will be said at the beginning of the next chapter about the fact that Husserl proposes to bracket what for Carnap is his central methodology.

S.33: Consciousness itself, because it is not separate from the epoché, has a being of its own that is unaffected by the phenomenological epoché. Husserl refers to this as the "phenomenological residuum" because it remains after the phenomenological disconnection. Thus the phenomenological epoché renders pure consciousness (or transcendental consciousness) accessible to investigation.

S.80: During natural observing, recollecting, approving, wishing, being glad, or any other mental act, the psychological ego is actually present as part of the mental act or consciousness. But after performing the transcendental epoché the subjectiveness of the psychological ego is no longer part of the mental act. It

has become part of the object perceived. The object is not the same; now the object is the psychological consciousness itself. For example, in transcendental reflection, one's psychological weaknesses and prejudices can become the object of reflection whereas prior to the transcendental epoché they were part of how one perceived. Thus Husserl distinguishes between the experience itself that contains the experiencing ego and the pure (transcendental) consciousness, or, again, between the subjective phase of the experiencing and the contents of the experience with the ego suspended. The pure consciousness is no longer part of the contents of experience. S.53: The psychological ego (or empirical ego) can become an object of essential perception if it is bracketed. This transcendental reduction enables psychological consciousness to be suspended from the investigation, and it allows escape from the explication that thinking must be based on psychology (the error of psychologism). This reduction reveals pure consciousness (or transcendental consciousness) as the phenomenological residuum. This is the second bracketing that Husserl describes. The first was the bracketing of the natural standpoint; the second is the bracketing of the psychological ego. These are sometimes referred to as the first and second phenomenological reduction, or alternatively as the phenomenological reduction and the transcendental reduction. S.54: Husserl claims that the realm of pure consciousness is open to investigation on an

intuitional basis and it promises knowledge of the highest scientific value. Husserl is attempting to establish some objective validity for subjectivity. In doing this, Husserl implies that a purely descriptive investigation of subjectivity must somehow attain objectivity (intersubjective validity). Many sympathetic philosophers (for example, Martin Heidegger and Robert C. Solomon) agree that this (his 'transcendental turn') marks the place where Husserl goes off in a direction they cannot follow. Contemporary philosophers of science have asked: How is objectivity in science or philosophy possible? That is, how can the subject be separated from its historical/psychological context? Husserl's belief in pure consciousness and Carnap's faith in the scientific method are both unargued presuppositions.

6. Noema and Noesis

S.88: The noema is the intentional object, the object of consciousness, what we think we perceive, the contents of experience. When the phenomenologist brackets questions about the existence of the objects of a perception, he or she is left with the noema, the intentional object disconnected from any existential thesis. S.90: Every intentional experience has its intentional object (noema), or, as Husserl sometimes calls it, its objective meaning. S.93: The noesis is the eidetic experience in the realm of

consciousness. There are many types of noesis, for example, perceptions of empirical objects, reflections upon objects of various sorts, memories of past events, and judgments of an ethical or aesthetic nature. All noeses have noemata associated with them, that is, every noesis has some intentional object, its object of consciousness. Such noeses as judgment, sentiment, and will are referred to as the higher spheres of consciousness, as opposed to simple sensory perception. When the thesis of the natural standpoint is bracketed, the realm of consciousness (noesis) includes the psychological ego. However when the transcendental reduction takes place, the psychological ego becomes part of the intentional object (noema) and the noesis is then pure consciousness.

Husserl has discussed three structure of experience. First, he discussed empirical reality, the thing as such, the real object that appears before the ego. Second, he discussed the eidetic realm of pure consciousness that appears after the ego: the noesis, which he will later elaborate with a description of modes of perception (sections 102-24; see the following section on constitution). Third, he discussed the perceived object, what we think we perceive, the noema, the object of consciousness, the content of experience, the intentional object.

7. Constitution

Husserl's method of constitution consists of describing higher levels of reality in terms of an essential analysis of the elementary subjective reality which is a constituent of it. S.99: Husserl describes modes of perception or reflection which are ways (for example, as representations, as imaginative modification, or as signifying presentations) in which the noema is presented to pure consciousness. S.100: The modes of perception or reflection can be re-formed on new levels, so that a noesis at one level with its noema can in turn be the noema of a higher-level noesis. At the lower levels there are simple modifications of perceptions. At higher levels there are representations of various sorts. These levels dovetail into one another like Carnap's nested definitions: we can reflect upon a memory of a reflection and then focus on the remembered reflection itself (which was a reflection on an experience) and then focus on the primordial experience. These are levels of reflection and memory; there can also be levels of free fancy, or of representation, or of signification, or mixtures of these. These levels of constituted experience may have been what Carnap found in Husserl that was related to Carnap's development of his constructional system, although Husserl has a different method of using the constitutive approach. S.101: Every noematic level is some kind of presentation (and modification) of the noemata on the level below. The lowest level, below which one cannot go, is the level of simple sensory perception. The

phenomenologist investigating these levels can shift his or her attention to any of these levels. Wherever there are analogous groundings in the construction (that is, similar object types), there arise analogous types of noesis--that is, analogous modifications of reflection or perception.

We can try to construct an example at this point. Let us imagine that one's empirical intuition of the colors and shapes emanating from across the room go together with some meaning one adds to them to form the intentional object referred to as 'book'. Many such intentional objects (noemata) when situated in a certain way relative to each other and when resting upon shelves of a certain type (another noema) are constituents of the higher level (because constituted from books and shelves) noema: 'bookcase'. This is an element in the region of physical things. Husserl's constitution rests on principles different from Carnap's construction, which will be explained in Chapter 5. But it is enough for present purposes that they are both structures of categories of intentional objects that are similarly ordered. Both Husserl and Carnap use the words 'constitution' and 'construction' interchangeably.

S.135: These noetic-noematic systems of essences correspond to fundamental distinctions that are the main issues of phenomenological studies. The essence of our judgments about reality can be understood within such a noetic-noematic system of essential connections.

S.149: Husserl speaks of 'regions' (or categories) as concrete domains of study; the eidetic pursuits or disciplines (for example, phenomenology and mathematics) study such regions. Husserl uses the word 'region' to refer to parts of his noetic-noematic system. For example, the region 'material thing' is one of the more basic categories (see below). These have an analog in Carnap's object types or object domains.

A digression of one paragraph is necessary here because we must be able in the following paragraphs to point out analogues to Carnap's object types. Here is a brief preview of Carnap's system. There are three levels, ordered by epistemic priority. First, the autopsychological objects include elementary sensual experiences, recognition of similarity between elementary experiences, and sensations--in other words, subjective experience. Second, the physical objects (intersubjective objects) include material things, the psychological self, and other persons. Third, the heteropsychological objects and cultural objects include psychological events of the other and cultural

Now let us return to the manifestations and sociological groups. discussion of Husserl's regions. For Husserl every noema is part of a group of noemata that constitute the level above. These relations are not clearly described, but it will not be hard to see (when we get into the next chapter) that Carnap's well-defined relations play a role similar to what Husserl is describing here. S.150:

Within the thing region, one of the important tasks of phenomenology will be to elucidate the origin of the presentation of space. This was an early interest of Carnap. By elucidating the presentation of space, an insight is gained into what the idea of the material thing represents in consciousness. S.151: The fundamental (most basic) level of experience that is constituted individually by many subjects (similar to Carnap's autopsychological objects) is the sensory thing experience. Next above this is the intersubjectively objective thing--that is, that which gives unity to the things on the lower level (similar to Carnap's physical objects). This higher order is constituted out of intersubjective experience, mediated through empathy. The interlacing of the different regions is a difficult problem. (This is also true in Carnap's Aufbau. As a matter of fact, the rest of this exposition of Ideas could equally well be said of the Aufbau.) The experiencing subject (or psychological ego) is constituted as part of this system. Intersubjective communities are constituted on a level above the experiencing subject. Similarly, objects bearing value to subjects and cultural organizations must be described in their proper order of formation (similar to Carnap's heteropsychological objects).

In Ideas the order of Husserl's constitutive system is not detailed. We can get a better idea of the structure by looking forward in time to his Cartesian Meditations, (17)

which was completed in 1929. Farber explains the order of Husserl's constructional program as follows: (1) subjective individual consciousness, that is, my own world which includes recognition of my body, material bodies, and my personality, (2) another ego distinct from me; and (3) an objective world that includes nature and culture. (Foundations of Phenomenology, pp. 529-532) This is the same order as Carnap's, except that Carnap's divisions between levels are drawn in different places. Carnap's first level (the autopsychological) includes both (1) and (2) above in that order. Carnap's second level (the physical) is the first part of (3) above --- namely, the objective physical world. Carnap's third level (the heteropsychological) is the second part of (3) above---namely, the intersubjective cultural objects. Thus we see that the two systems have the same structural order although Carnap's is a logical reconstruction, while Husserl's is based on concepts constituted subjectively.

S.153: The last section of Ideas contains Husserl's suggestions as to where the foregoing phenomenological method might lead. Husserl suggests that constitutive research could include the whole of phenomenology (p.391).

The preceding discussion of Husserl's constitutive system is the important step towards showing the compatibility of Husserl's Ideas and Carnap's Aufbau. I

 (17) Edmund Husserl, Cartesian Meditations: an Introduction to Phenomenology, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1960).

believe that this discussion justifies my claim that Husserl has a constitutive system that is structurally similar to Carnap's constructional system.

8. Logical Investigations

It should be further pointed out that Carnap also read Husserl's earlier work, Logical Investigations. We know this because he includes it in his bibliography for the Aufbau although he does not refer to it in the text. Logical Investigations, volume 2, contains a discussion of the logical founding of one thing upon another that the former thing presupposes. Husserl uses the word 'founded' in Logical Investigations in a way similar to the way he uses 'constituted' in Ideas. Husserl writes:

The terms of a statement express the underlying acts (of thought) of the whole 'relational presentation', or, what is the same, they are names for its underlying objects, and therefore represent the place in which alone contributions of sense (empirical intuitions) may be sought. But underlying objects may themselves be categorial in type (that is, founded). Plainly fulfilment is carried out in a chain of acts which take us down a whole ladder of 'foundations'. [P.817)

For Husserl the higher levels are always founded modes of consciousness. This passage should further support the evidence of the final sections of Ideas. Husserl speaks of the relationship of founding and founded types of objects which gives a unity to the whole system of experience (p.481). Similarly Carnap wishes to attain a unified science, but through his method of logical reductions.

If Husserl has a constitutive system similar to a

constructional system, and since we know that Husserl's discussion of constitution and 'mathesis universalis' is somehow connected with Carnap's constructional system (by his own admission), then it is probable that Husserl as well as Mach and Russell provided inspiration for Carnap's constructional system. It would be understandable if Carnap had underemphasized the influence of Husserl because Carnap rejects the intuitions of essences that are the raison d'être of Husserlian phenomenology.

CHAPTER 4: AUFBAU

1. Introduction

I will not include that part of Carnap's work that is formal logic, not only for the sake of brevity, but more importantly because Husserl explicitly includes logical methods (but not general formal thinking) in the phenomenological epokhe (see Chapter 3, section 5), because using formal logic may include undesired presuppositions unless the philosopher has directly before his or her mind the fundamental logical principles being applied. In order to search out similarities to Husserl in the Aufbau it is necessary to disconnect the formal logic and concentrate instead on epistemic priority and object types. Carnap's Aufbau is, of course, an exercise in formal logic. This is one of the differences between Husserl and Carnap: that Husserl's phenomenological method brackets Carnap's formal logical method. Nevertheless, the purpose here is to search out similarities even though acknowledging great differences. Carnap himself writes that formal logic is not necessary for a general understanding of the constructional system (S.97).

The Aufbau was written in the years 1922-1925, before Carnap came under the influence of the Vienna Circle of logical empiricists. Under the influence of the Vienna Circle Carnap's views became more positivistic and thus less similar to Husserl's. Hiram Caton comments on this in

"Carnap's First Philosophy." (18) The objective of Caton's article:

... is to exhibit the empiricism-idealism antithesis in Carnap's writings through the Aufbau. We style these writings his 'first philosophy' not only because of the change of orientation which occurred between the Aufbau and The Logical Syntax of Language, but above all because sometime around 1930 the sensitivity to the antithesis which had nourished Carnap's early work withered and hardened into an attitude of dogmatic empiricism and anti-metaphysics [P.625-26].

Carnap differs from other members of the Vienna Circle in that he rejected the thesis of reality--that is, that certain objects really exist. In this he follows Husserl in bracketing the thesis of the natural standpoint. Carnap writes: "We shall not claim reality or nonreality in connection with these experiences; rather, these claims will be "bracketed" (that is, we will exercise the phenomenological "withholding of judgment," epoché, in Husserl's sense (Ideas, S.31,32)" (Aufbau, S.64, p.101). By doing this Carnap avoids certain ontological problems such as the belief that sense data really exist as empirical objects (which was held by some traditional phenomenologists) and that intentional objects such as atoms, classes, or cultures really exist (which was held by some other positivists).

Carnap states the purpose of the Aufbau as follows: "The main problem concerns the possibility of the rational reconstruction of the concepts of all fields of knowledge on

(18) Hiram Caton, "Carnap's First Philosophy," Review of Metaphysics, 28 (June, 1975).

the basis of concepts that refer to the immediately given" (Preface to the Second Edition). Carnap chooses basic elements for his system and proceeds to construct higher level concepts (or objects) from them by defining the latter in terms of the former. He was impressed by what modern logic had achieved along these lines (especially by Russell) and wished to carry the enterprise further.

Carnap's constructions are logical constructions instead of Husserl's noetic-noematic constructions as explained in Chapter 3, sections 6 and 7. A constructional system attempts to derive all objects (or concepts) from certain fundamental ones. (Carnap uses the words 'concept' and 'object' interchangeably in the Aufbau. He writes that this is not a difference in conceptions, but only in modes of speech (S.5, p.10). We will hereafter use 'object' instead of 'concept' because this is more compatible with Husserl.) Carnap's system differs from Husserl's in that it proposes to derive definitions of all objects from a few fundamental elements as opposed to many. A constructional system is a step by step ordering of objects in such a way that the objects of each level are formally defined in terms of objects of the lower levels. We have seen that Husserl developed such a system (although the object aren't formally defined) in Logical Investigations and Ideas.

2. Elementary Experiences

For Carnap a construction must be given in the form of

a definition. The terms of the definition will be classes and relations (his 'ascension forms'). He chooses for his basic elements "my experiences." These elementary experiences are entities that initially have neither names nor properties and can be called terms of a relation only after the initial constructions have been made. They are time slices of subjective experience. In choosing his basic "given" Carnap makes what I consider his most laudable move, because elementary experiences are grounded in the individual subject's experience. Here the subject's importance in relationship to "the given" is established. From these he will build classes of elementary experiences that define qualities, and classes of qualities that define senses (that is, vision, touch, smell, etc.). Carnap uses the term 'autopsychological' to refer to this basic realm of subjective experience. An elementary experience is unnamed and unanalyzable (that is, it cannot be further broken down).

A positivistic system might have preferred sensations or some kind of sensory constituents as the basic elements, as opposed to elementary experiences unanalysed, which both Husserl and Carnap prefer. Carnap's elementary experiences are less similar to traditional sense data than they are to Husserl's stream of experience. As a matter of fact, they are the same as a time slice of Husserl's stream of experience. Both are described as a subject's total experience, but that Carnap adds that it is the total

experience at a particular moment, rather than over an indefinite duration of time. Both Husserl and Carnap describe a fundamental immediate given out of which objects are constituted. For Carnap, sensations such as the quality 'red' are constructed from elementary experiences. Carnap describes objects that are analogous to sense data when he constitutes objects several levels above elementary experiences--for example, the total visual field is differentiated into colored patches.

Carnap claims that the given (elementary experience) does not originally include an aspect of subjectiveness. Although it may be difficult to see any influence of the psychological ego at this level, according to Husserl, Carnap is ignoring the fact that the elementary experience is subjective. Carnap says that only after a synthesis of experience do we introduce the subject whose experience it is. This is why he calls it the subjectless given. In this he differs from Husserl, who maintains that subjectivity is an essential part of even the most primitive experience because there must always be an agent of constitution. Thus they differ in the ways that they hope to avoid solipsism. Both starting from a basis in individual experience, Carnap claims that the experience and its structures are objective while Husserl claims that the experience is essentially subjective but that objectivity (intersubjective validity) is gained through the phenomenological method. Both agree that the only material of cognition is direct experience.

Although Carnap doesn't recognize the importance of subjectivity in the primordial data-giving act whereas Husserl does recognize its importance, Carnap, of all the logical positivists and phenomenologists, grants more importance to subjectivity by using the total stream of experience (as experienced by the subject) as primordial, rather than elements of experience that are (according to Carnap) constituted (that is, sense data). I believe that sense data must be constituted by someone, so it behooves the theorist to step back another level to include subjectivity.

For Carnap the basic relation will be the recollection of similarity between elementary experiences. In Cartesian Meditations (which was published after the Aufbau) Husserl speaks of the 'pairing' of concepts or objects, which he describes as an immediate apprehension of similarity. The only precursor to this notion to be found in Logical Investigations involves similarity not between different objects on the same level, but between an object of one level and the higher level object which is founded on it. For Husserl the 'pairing' of concepts is an important part of the recognition of essences. Carnap, of course, refuses to speak of essences (see section 4), but his 'recognition of similarity' plays a similar role to Husserl's 'pairing' of essences. Both approaches are a method of dealing with the problem of universals. For Husserl intuiting an essence is understanding a universal. For Carnap the relation

'recognition of similarity' is what brings together objects with qualities in common.

Since the stream of experience is different for each subject, intersubjective objects cannot be based entirely on elementary experiences. Similarity relations provide formal connections for the structure of intersubjective objects. For Carnap intersubjectivity is attained through formal structure. Husserl agrees that in the constructional system the intersubjectively objective thing is constituted on a level above the fundamental level (Ideas, S.151, see also Chapter 3, section 7).

3. The Three Levels

Carnap divides the category of psychological objects into autopsychological and heteropsychological. Autopsychological objects are the acts of consciousness: perceptions, representations, feelings, thoughts, acts of will, and so on. Heteropsychological objects are intersubjective psychological objects: conscious events of others and the world of the other. Husserl, too, sees this type of object as founded on "earlier" modes (Cartesian Meditations, V). In this latter category are included expressions, which are the relation between a physical gesture and a psychological process. Other relations that fall into the heteropsychological realm are sign production, reports by others, and manifestations of culture. Cultural objects are such things as customs, nation-states, and

sociological groups.

Carnap will construct physical objects from autopsychological objects and in turn heteropsychological objects from physical and autopsychological objects. The highest level (constructed from the lower levels) is cultural objects.

4. The Essence Problem

At the beginning of the Aufbau (S.20-22) and again toward the end (S.158-161) Carnap discusses the "essence problem." By this he means questions about the interpretation of some relationship--that is, questions about why something is so or what it is in itself (as opposed to merely its place in the constructional system). For example, in addition to asking how psychological events are correlated to brain activity (which is a scientific issue), one might also ask what is the nature of the correlated objects that forms the basis of their connection. According to Carnap, this latter question belongs to the realm of what he calls metaphysics (that is, whatever is neither analytic or empirical), not to construction theory. Similarly to bracketing the existential thesis, Carnap brackets all other metaphysical theses as well--for example, what is the essential nature of something. Carnap allows talk of what he calls 'constructional essence', which means the place an object has relative to other objects in the constructional system, especially the lower-level objects

upon which it is founded. But any talk of the object in itself--that is, talk of the object as more than just a constructional form--is metaphysics, and therefore doesn't belong to a scientific (hence philosophical) investigation. For Carnap, questions about what is real or essential are irrelevant to an analysis of concepts. For Husserl, questions of essence belong in the description of experience, but Carnap is not engaged in a description of experience, rather in a reconstruction of scientific language. Carnap is only concerned to describe the formal definitions of relations.

We might ask ourselves why and how Carnap is selective of lived experience--that is, why he excluded metaphysics--in order to construct a meaningful structure, whereas Husserl assumes the equal priority of all lived experience in order to describe the necessary 'structure' inherent in it. Because of his physicalistic tendencies, Carnap excludes the realm of metaphysics from consideration. Husserl would partially agree with this because it gets rid of scholastic entities and metaphysical artifices (Ideas, S.19). But its error is that it also gets rid of essences that are a real part of our experience. Husserl criticizes this physicalistic tendency by saying that it prevents any such enterprise from establishing its necessary eidetic grounding (Ideas, S.18). (This was explained in Chapter 2.)

Carnap seems to believe that the alternative to his reductive method is uncritical acceptance of intuitions. He

argues that intuitions must be empirically justified through rational comparisons with our perceptions. Husserl writes that intuitions are self-justifying because the recommended technique for gaining an intuition of a universal or essence (namely, examination of instances and the method of free variation) establishes the self-evidence of the intuition. For example, an investigation of the essence of tables would include both compatibility with known instances of tables and a comparison of all possible characteristics of tables in order to determine the essential characteristics.

5. Constructions

In his discussion of object types, Carnap includes logical objects, mathematical objects, spatial configurations, colors, tonal pitches, biological objects (species), and ethical objects (duties). These are qualities of experience (like sense data) that will be derived from elementary experiences. All these object types should be accounted for in his constructional system. Carnap's fundamental theses are that the representation of the world in science is fundamentally a structure description and that every object of science can be uniquely characterized within its object domain (object type) through mere structure statements. This is similar to Husserl's notion of regional ontology as part of the foundation of the sciences (Ideas, S.149, see also present Chapter 3, section 7). Carnap's term 'object type' or 'object domain' is

analogous to Husserl's 'region'.

Structure statements leave the logical value of a proposition unchanged. However, some of the meaning may be lost, for example, the epistemic value may be changed by losing the connotations of a term as well as some of the subtleties of its denotation. For the construction of higher-level objects Carnap is concerned exclusively with logical, not with epistemic, value. Here is another aspect of the difference between Husserl and Carnap--that is, the difference between logical construction and epistemic construction. In Husserl's method, subtle meanings are not abandoned although they undergo transformation when constitution translates them to a different level (which is to say, a different concept). Epistemic construction here refers to Husserl's inclusion of the experience of the subject--that is, grounding his constructions in the subject's experience of the meaning of the concept investigated. Carnap does choose epistemic primacy as the criterion for choosing elementary experiences as the basic element. In spite of Carnap's claim to make constructions based solely on logical value, his overall system seems to reflect an epistemological hierarchy of objects. Epistemological considerations (as found in Husserl's system) may have influenced his ordering of levels. The role of epistemic priority in Carnap's system is ambiguous.

Husserl's hints about the order of his system are consistent with the order of Carnap's system. The

difference lies in how the objects are constructed, not in the order in which they are constructed. Husserl tells us that constituted objects such as intentional objects (including cultural objects) should be constituted from basic empirical objects or from other intentional objects. This is compatible with the order of Carnap's system. We cannot determine with certainty whether there would be any structural differences because Husserl never formulated his system in the detail in which Carnap did.

Carnap admits that some of the objects he constructs are quasi-constituents of experience. By this he means that they are purely logical analytic constructions used as part of his system and have no claim to empirical reality. Husserl says something similar when he says that eidetic objects have no claim to empirical reality (Ideas, S.4). But Husserl's objects are better grounded in the subject's experience of eidetic objects.

6. The System

Instead of an explanation of Carnap's outline of a constructional system, I include Appendix B, which presents in a very rough schematic form the various levels that Carnap constructs one upon the other. In that appendix the levels at the top of the page are the more fundamental. The schemata should not be taken as a literal representation of the relative positions of the various objects. A precise representation would require a three-dimensional figure with

overlapping lines of connection. The printed page only allows two dimensions (and even the second dimension is quite limited) and connecting lines have been left cut for ease of printing. Following is a summary of the outline, taken from Aufbau, S.159, p.239.

The basic elements are all the same type of object (autopsychological). The basic order is established through relations of similarity. The basic relations are all on the same level--that is, relations among basic elements. One basic relation suffices: the recollection of similarity. The basic elements are experiences as unanalyzable units. These experiences are "my experiences," the autopsychological basis. The objects named in Appendix B appear in the system in the order they appear in the appendix. The construction of the world of physics consists in an assignment of numbers to the elements of a four-dimensioned array (space-time system).

7. Summary

Carnap's constructional system forms a basis for philosophical investigations by ordering concepts to allow a clearer formulation of any problem. Husserl shared this goal. They differ primarily in the method employed to achieve their goal. Carnap used formal logic, and Husserl used intuition of essences together with the epoché. They both bracketed existential theses. Husserl also bracketed certain disciplines, including formal logic, while Carnap

bracketed questions about essences. There is a certain terrible symmetry in this ironic bracketing of each other's method. Carnap uses a formal logic method to form the basis of a unified science, but Husserl brackets scientific method in order to investigate the eidetic realm. They share the goal of clarifying the foundations of science and forming the basis of a unified science.

CHAPTER 5: CONCLUSIONS

I have shown that Husserl presents a constitutive system of experience in Logical Investigations and Ideas which has the same order of similar object types as Carnap's constructional system in the Aufbau. This is significant because Carnap credits Mach, Avenarius, Dubislav, Husserl, and Meinong (Aufbau, S.3, p.9) with having done work connected to his constructional system. Of these, the mention of Husserl is perhaps least expected (and therefore most interesting because Husserl is the founder of a branch of philosophy radically opposed to empiricism. As a result of this investigation I conclude that there is a probable connection between their work and that there are fundamental affinities between their systems. Further investigations along these lines could start with a more careful examination of Husserl's Logical Investigations (which Carnap also refers to). Too, Husserl's and Carnap's writings on time and space could be compared.

There must be no illusion, however, that the underlying accomplishments of Husserl's and Carnap's system are the same. Husserl's principles of constitution are based on the actual experience of the subject in an attempt to uncover the essential structure of higher-level objects of consciousness. Carnap, on the other hand, is only grounded in the subject's experience at the bottom level. After his choice of the basic element, he uses logical principles to formulate a rational reconstruction of the theoretical

statements of science. Husserl's method is grounded in the experience of the subject at all levels of analysis. This seems to mark the greatest difference between them. In addition to recognizing the importance of subjectivity, Husserl went on in later years to discuss problems of alienation in contemporary society, which he claimed are brought on by systems like Carnap's that eliminate subjectivity. For Husserl this would represent a perversion of rationalism, because he believed that consistent rationalism must be based upon consistent subjectivity.

The threads of the discussion of construction and constitution that run through this paper will now be brought together. Although both Husserl and Carnap use the terms 'constitution' and 'construction' interchangeably, two fundamentally different enterprises are involved. Contemporary philosophers do not use the two words interchangeably for this reason.

Although he doesn't recognize it as subjective, Carnap begins with subjective reality (that is, subjective experience, direct experience of an individual subject) as a basis and constructs his concept of objective reality (that is, intersubjective reality independent of subjectivity as presented by the natural sciences) or the language of objective reality. Carnap's enterprise is dubious from the outset because he doesn't use subjective experience itself to construct his concept of objective reality. Carnap's concept of objective reality is a combination of

methodological rules chosen for their practical usefulness and the objectification (or reification) of subjective experience by means of instrumentalism and behaviorism. Carnap admits that his method applies logical rules to basic experience, but the role of objectification is hidden from him. Jurgen Habermas explains that objectification is the objectivist illusion that deludes the sciences with the image of a reality-in-itself consisting of facts structured in a law-like manner, concealing that the facts are constituted as an interaction between knowledge and human interests. Objectivism is an attitude that correlates theoretical propositions (for example, predictive rules) with experience.

Carnap too doesn't realize (or mention, anyhow) that elementary subjective experience can more directly constitute higher levels of subjective experience. Carnap doesn't see subjectivity as actively shaping experience. But Husserl does. Husserl's higher levels of the constitutive process are not objective reality in the sense of being independent of subjectivity, whereas Carnap claims that his objective reality is independent of subjectivity and thus not constituted at all. I agree with Husserl that objectivity is constituted subjectively.

Construction can now be defined as the process of formulating the language of objective reality from methodological rules applied to objectified subjective reality. Constitution can be defined as the process of

formulating higher levels of constituted subjective (or intersubjective) reality from an essential analysis of elementary subjective reality.

There are several points that follow from this distinction between Husserl's constitution and Carnap's construction. Husserl is primarily concerned with the subject of experience; Carnap is primarily concerned with the scientist or philosopher who wants an exact language. The context of construction is one of developing a language for theory-building motivated by practical goals and guided by formal logical analysis. This is in contrast to the context of constitution, which is to organize experience guided by the essential structures of the subject's experience and motivated by the need for an epistemological foundation for philosophy and the human sciences. Husserl is more concerned with the subject's experience than is Carnap. Although when compared with other positivists who don't use the subject's experience even as a basis, Carnap is more concerned with the subject's experience than they are.

I have also shown that Carnap's elementary experiences are less similar to the sense data of traditional phenomenologists than they are to Husserl's primordial experience. Nevertheless, it is admitted that like sense data theorists, Carnap proceeds to a logical reconstruction rather than the experience-based constitutions of Husserl. It seems that Carnap has a more restricted notion of

experience than does Husserl. Carnap's exclusion of subjectivity and essences is an example of what Husserl criticized about naturalism--that is, its having a restricted view of what is the domain of study.

The present paper has not only shown how the founders of two disparate philosophical schools are similar in certain important ways, but how it is possible that Carnap was influenced by Husserl. We saw that both Husserl and Carnap present a systematic philosophy based on successive conceptual levels that are formed from levels below them. We saw that both systems are founded on the same type of elementary experience. We saw that both philosophers describe regions or domains of object types. We saw that the types of objects described by both philosophers appear within one system in the same order as those types appear in the other system.

This thesis was inspired by a desire to know whether Rudolf Carnap's early work The Logical Structure of the World was influenced by the philosophy of Edmund Husserl. Starting from mentions of Husserl in Carnap's work, I found many issues on which to compare the philosophical systems of Husserl and Carnap. It was found that the primary similarities centered around the issue of psychologism and the notions of construction and constitution. Husserl's critique of psychologism was examined and found to be illuminating when applied to Carnap's philosophy. Husserl's system of constituting noetic-noematic essences was compared

with Carnap's system of reconstruction by logical definition. It has been concluded that there are sound reasons for believing that Carnap's constructional system was influenced by Husserl's constitutive system.

APPENDICES

APPENDIX A

Aufbau			Ideen		
Sect.	Engl.pg.	Ger.pg.	Sect.	Engl.pg.	topic
S.3	p.9	p.141	S.75f- 76a	p.192-193	construction theory
S.65	p.101		S.31,32	p.96-100	epoche
S.65	p.102	p.316- 317	S.150j- 151d	p.386-388	inter- subjectivity
S.65	p.106	p.65 p.160	S.36c- 37a S.80a-e	p.108-110 p.213-214	the subjectless given
S.125	p.193	Becker			constructing space
S.164	p.263	p.64ff	S.35e- 36c	p.107-108	intention- ality

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logical objects (non-real objects)

mathematical (arithmetic and geometric) objects (non-real)

recollection of similarity (including temporal order)

elementary experiences time order

similarity circles of elementary experiences (classes of
similar elementary experiences)

quality classes of experience (qualities)

sense classes (for example, vision) of quality classes

sensations (sense data, as the relations of an elementary
experiences to their quality classes)

visual field place (two-dimensional position in the field of
visual qualities)

colors (a colored area in the visual field)

Physical Objects

space and time order (three-dimensional space)

visual things (parts of physical space)

my body (a special visual thing)

other senses (pain, heat, touch, hearing, smell, taste)

emotions

conscious processes unconscious processes

world of my perceptions autopsychological states

the self

physical objects: the world of physics (a world of numbers)

organisms

other persons (special organisms)

expressions of autopsychological events of another body

Heteropsychological and Cultural Objects

conscious events of the other

sign productions

reports

unconscious events of the other

the mind of the other

the world of the other

intersubjective correspondence

the intersubjective world

cultural manifestations

higher cultural objects (for example, sociological groups)

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