

# Fallibilist Solutions to Institutional Problems



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By

John Wettersten

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# INTRODUCTION

This book extends the work of my previous publication, *A Fallibilist Social Methodology for Today's Institutional Problems*, which appeared early in 2022. That work concentrated on a critical analysis of today's widely dominant (Carnapian) philosophy of science and logic, including a critical analysis of its application. It thereby explained how a fallibilist approach to the philosophy of science solved important and pressing problems in new and progressive ways. And it explained the significant progress that has been made in the treatment of the methods of sociology and political theory. In this book four further themes are pursued: 1) the consequences for psychology of the widely ignored social nature of rationality; 2) the improvements of political and social philosophy offered by a fallibilist approach; 3) new perspectives on how scientists communicate; 4) new approaches to living better.

A wide reaching and important aspect of the fallibilist theory of rationality is the emphasis it puts on the universal social aspect of rationality. Popper made an important contribution to the methodology of science when he pointed out that science made progress with the social interaction between scientists, when theories are proposed and criticized. New developments are products of these conversations. But Popper failed to note that all thought is social. The everyday thought of all individuals has significant social aspects. And these aspects need to be taken into account. Social psychology is a widely developed field. But it has failed to take into account the social nature of thought. In Part I of this book why this gap needs to be addressed, and how it can be addressed, are explained. Historical studies of the important contribution of the Würzburg School are presented. How psychology needs to be changed to take them into account is explained. And how a theoretical psychology should look today is comprehensively developed.

Popper's important theories of open and closed societies are also significantly affected by his theories of the social nature of science. But his theories of open and closed societies fail to take into account how individuals are socially embedded in each kind of society. They fail to take into account the close relationship between the place of individuals in society and the



way they think. In Part II of this book how the fallibilist theory of rationality can be used to explain this is presented.

The fallibilist theory of rationality puts great emphasis on the importance of the way scientists communicate with each other. But it has not lead to significant, critical studies of how this occurs. The critical analysis of the styles of journals and disciplines throws light on these phenomena, as is shown in Part III of this work.

Finally, in Part IV various approaches to improving how we live by taking into account the social nature of rationality is explained.



## PART I

### CONSEQUENCES OF THE SOCIAL NATURE OF RATIONALITY FOR PSYCHOLOGY

Attempts to reduce all thought to mere psychological processes have persisted until today. This psychologistic approach explains away rational thought processes, as Gottlob Frege already pointed out.

**1a. “Preliminary Report on Attempts by Psychologism to Gain Influence in Respectable Methodological, Epistemological and Psychological Society”, in I.C. Jarvie and Nathaniel Laor (eds) *Critical Rationalism, The Social Sciences and The Humanities* (Dordrecht: Kluwer Academic Publishers, 1995), pp. 129-52**

**Preliminary Report on Attempts by Psychologism to Gain Influence in Respectable Methodological, Epistemological and Psychological Society**

In his path-breaking *Towards a Rational Philosophical Anthropology* Joseph Agassi has led the way in the quest for an alternative to reductionist theories in metaphysics, in science and in methodology. These theories, he has effectively argued, are based in an all-or-nothing view of rationality which we need to overcome. They lead us to explain away rather than to explain. My contribution to this Festschrift follows his lead. It offers a preliminary examination of how one reductionist view—psychologism—influences our research so as to lead us to explain away instead of to explain even when we do not set out to use it. A study of how this difficulty arises may help us to overcome it.

Frege already saw how psychologism leads us, contrary to our intentions, in epistemology, in methodology and in psychology to explain away the world and our knowledge of it. The grip of the all-or-nothing view of rationality described by Agassi may be illustrated by rendering Frege’s critique of scientific psychology as psychologistic up-to-date. The result is

a preliminary attempt to move forward to better, non-reductionist views of science, scientific psychology and knowledge in the spirit of Agassi's work. These new views should avoid difficulties identified by Frege and explained by Agassi.

Psychologism is the program of basing science on psychological foundations alone. Nobody seeks to do this explicitly, even though the investigation of the psychological foundation of science is a traditional and important task. Psychologism seems obviously circular: founding science in general on the science of psychology in particular. One wonders how such a view could ever gain influence even surreptitiously. And this poses my problem. Even though it is officially rejected, psychologism of various sorts exerts an undesirable influence. This influence seems to arise from the attempt to make scientific psychology complete. If scientific psychology fails to explain how science is possible, it seems incomplete. But, if we explain how science is possible, we go too far and explain knowledge away. We either do not know how to stop with mere explanations of learning and proceed unintentionally to psychologistic explanations of knowledge, or we do stop but only by excluding explanations of learning from psychology.

### **Prologue: Gottlob Frege**

Gottlob Frege was ignored by his contemporaries, who failed to understand him. A man with a high dedication to truth, he was first appreciated by Bertrand Russell but only after Russell had discovered independently the pivotal part of Frege's work. Russell then quite quickly found a contradiction in it. Frege immediately and gracefully acknowledged Russell's critique, even though his life's work collapsed under Russell's criticism. In spite of this failure, Frege has had enormous posthumous influence. One aspect of his legacy is his critique of scientific psychology as psychologistic. According to this critique scientific psychological explanations of how we obtain knowledge have solipsism as an unintended consequence. This critique formulates a dilemma faced earlier by Hume and by Kant: An adequate scientific psychology rendered knowledge impossible (Hume) or an adequate theory of knowledge rendered scientific psychology impossible (Kant). We apparently need to choose between a complete scientific psychology on the one hand and an explanation of knowledge on the other. Any attempt to explain the acquisition of knowledge with a psychological theory must lead to solipsism and any psychological theory which does not do so is incomplete.

Nowadays Frege's rejection of psychologism is apparently accepted by everyone. Yet Frege's critique of various theories as psychologistic is in fact ignored or deemed only to apply to views such as Jakob Friedrich Fries, Edmund Husserl or Leonard Nelson, which seem either to go beyond the bounds of scientific psychology or to use psychological elements in theories of knowledge. This point of view, however, is far from the spirit of Frege, who actually opposed Wilhelm Wundt. Wundt is, of course, commonly deemed one of the founders of scientific psychology. He is still deemed a modern scientific psychologist, who worked quite properly within the bounds of scientific method. And Frege deemed his psychology psychologistic.

It may, then, be useful to examine more recent views to see if they also, perhaps unintentionally, develop psychologistic views. Does Frege's critique of scientific psychology as psychologistic and psychologism as solipsistic apply to modern theories? To which ones? To methodologists and epistemologists, as well as to psychologists? Or should we perhaps reappraise our view of Frege? Was his critique of Wundt really justified?

It may seem that this is a philosophical matter of no real interest for the social sciences and especially for psychology. But this view overlooks the fact that the problem is central not only for the development of epistemology and psychology but also for the practice of psychology at least. It concerns the formulation of research programs within this discipline. Since psychologism is generally rejected and scientific psychology accepted, the analysis of psychologism concerns the practice of various disciplines, psychology included. Wundt's program was, according to Frege, quite misguided in theory because in practice it quite unintentionally led to solipsism. If contemporary programs are similarly misguided, it is of great importance for the practice of psychology. If, on the other hand, Frege's critique is wrong, then the common rejection of psychologism, or at least Frege's analysis of it, needs to be rethought.

## **1. Suspicions Aroused**

Psychologism is the theory that knowledge can be adequately explained with psychology alone. It is a curious view. As far as I can tell hardly any philosopher or psychologist has openly defended the view—unless we count Berkeley or Hume as I mention below. It was the critique of psychologism by Frege rather than its defense, which made it famous. Frege contends that psychologism is found in leading views, even those accepted as scientific, and even though it is not openly defended. This

would not be so bad if it did not have quite undesirable consequences. Frege contends that it leads first to idealism and then to subjectivism, which is the same as solipsism.

Frege's critique has played an important role in the history of philosophy and psychology because it has made us aware of a danger we should be careful to avoid. Psychologism is an intruder in various fields that sneaks in under disguise as something innocuous and then transforms decent realistic theories into wild subjectivist ones. The central difficulty psychologism poses is not due to its appeal. Nobody seems to like it. Rather, it sneaks into the debate in the following way. Epistemologists, methodologists and psychologists explain facts of learning psychologically. But they quite unintentionally go too far and end up explaining all knowledge with psychology alone. Epistemology and methodology become superfluous. In this way epistemologists, methodologists and psychologists develop views which fall prey to Frege's critique. Theories which are designed to explain real objects explain them away; the theories reduce everything to dream.

I wish here to offer a preliminary report concerning how and why attempts to offer realistic theories may turn out to be psychologistic. These remarks may seem quite unnecessary to those who presume that the problem is not really so difficult and has been resolved in various ways by various thinkers. We need, they might say, merely to keep in mind that the explanation of change of belief is by no means the explanation of knowledge. Psychology can engage in the former and epistemology and/or methodology in the latter. The response requires that the following problem be solved: How can a psychology which merely explains belief be an adequate psychological theory of learning? My own suspicion is that that has not been done. One of the chief problems of associationist psychology, for example, has been that they could not explain how thoughts were ordered. They could explain mere change of belief well enough. But the phenomena of thought can hardly be reduced to mere change of belief. I do not know of any learning theorist who would take this as an adequate description of his task.

I suspect that psychologism has not yet been successfully overcome, but from time to time quite surreptitiously succeeds in establishing secure positions in the most influential of places. Now this is mere suspicion. But the suspicion poses another reason for interest. Whether or not psychologism is in fact avoided in psychology, in epistemology and in

methodology, it would be useful to know how, and, if there are alternative ways of doing so, what these are. This could at least clear the air.

Due to my suspicion that psychologistic theories have been officially exiled from intellectual society but that they nevertheless slip back in, perhaps under aliases, perhaps disguised, I would like to find a way of identifying theories which *prima facie* may be deemed psychologistic. I do not wish to bring any indictments. This is merely a preliminary investigation to decide if there is cause for a court hearing. Perhaps such a procedure must dismiss all charges. I will leave that for others to decide. Hopefully any preliminary investigation may give us a better understanding of the difficulty of successfully banning psychologism.

As I have looked at psychologies, especially psychologies of learning, I have had the impression that, if psychologists do what they seem to set out to do, they would themselves explain knowledge quite within psychology and without any further need of epistemology or methodology. In this way they seem to fall prey to psychologism. The psychologies of Piaget, of Skinner and of computer models of the brain to take a few prominent examples seemed so powerful, and their readiness to answer demands for explanation seems to justify their power, that they thereby could explain science and knowledge with no aid from either methodology or epistemology. They are suspect of being psychologistic.

I do not say that these theories really can explain science and knowledge, nor that, if they do, they must be psychologistic. I only raise a dilemma: if psychology does not explain learning, it does not do its job and if it does, it seems also to explain knowledge and to thereby become psychologistic. This seems to render them subjectivist, for they then seem to explain knowledge with no need for reference to an external world.

“Knowledge” may be explained by reference to mental states such as images or sensations alone. I wish, then, to present a question about those theories which may be deemed so dangerously close to psychologism that they may have slipped into it. My question is, how may these theories be *prima facie* identified so a preliminary hearing may be held concerning the possibility of raising the charge of psychologism against them?

I should add that it is not psychology alone that has caused me some discomfort. I confess that methodologists as well sometimes give me the impression of coming very near to, if not falling into, psychologism. They also use psychological theories to explain the growth of knowledge.

Carnap's *Der logische Aufbau der Welt*, for example, seems to take the psychological basis for a system of thought as crucial for the explanation of the existence of knowledge. Carnap, of course, was a former student and follower of Frege, so it may be hard to say. But it looks suspicious when he explains knowledge psychologically, thereby dispensing with any need to refer to the external world.

Indeed, the charge that Carnap's *Aufbau* is idealistic is not new. Quine says that it is instrumentalistic, i.e., not really idealistic but only seemingly so. When Quine discusses his own epistemology, he too seeks to substitute for the old epistemological methods an up-to-date psychology—a new stimulus—response psychological method. He goes so far as to view anti-psychologism as outdated. Other theorists such as the Bayesians amongst philosophers of science introduce psychologies which may or, may not explain knowledge all by themselves with no reference to the external world. These examples are not intended as examples of psychologism but as cases in which there is difficulty in understanding how the psychology without the psychologism is employed, how the psychologism may be rendered harmless or even how psychology is at all employable to explain the acquisition of knowledge. My present hope, then, is merely to air the question of whether a court should investigate the true identity of psychologies, of methodologies and of epistemologies, which use neither the name nor the appearance of psychologism but which may nevertheless be reasonably suspected of being such. I would hope to find a simple method, of reasonably identifying putative offenders that might be used without intensive investigation. Such a method, were it to be found might help not only to provide a basis for an inquiry, but also to dismiss unreasonable, trumped up charges more quickly; to clear the air of suspicion and to relieve us of any unease we feel. Of course, should subsequent investigation reveal that the ability of psychologism to sneak past our defenses is regained due to some new development, we might also want to rethink our strategies for putting up fences.

## 2. Psychologism's File

In order to construct a preliminary investigation into the possibility that psychologism has slipped past the authorities, we should, perhaps, begin with a little background. We ought to at least know what psychologism would look like upon a face to face meeting when not disguised. To find out just what psychologism does look like is not so easy. The only alleged pictures we have of psychologism are old and faded. The true identity of



those photographed turn out on closer analysis to be just as doubtful as contemporary suspects.

Since rumors have it that psychologism was first seen in Athens, we may begin with Plato. I do not know if Plato himself should be considered psychologicistic or not. He presented the problem of how we learn in the *Meno*, through a dialogue between Socrates and a slave boy. The slave boy, it will be recalled, did not know any geometry. Yet, with few questions Socrates led the boy to the discovery of a solution to an advanced geometrical problem in a simplified special case. Nobody told the boy the solution, yet he had the ability not only to produce the right answer but to recognize it as such.

Plato then asks, how is it possible to acquire knowledge? Or, how is learning such as that exhibited by the boy possible? The two questions seem here indistinguishable. The slave boy plays the roles of exhibiting the natural, untarnished process of learning, and of precluding the answer, he heard it from others. Plato's answer is thus simultaneously a description of how minds work and how knowledge is obtained. The actions of the mind, he says, are really just the exercise of memory. Knowledge is shown possible, and its existence is explained by the theory, that we already have it but have forgotten it—perhaps temporarily. Through the exercise of memory, then, we can recall and recognize truths.

Now we would not accept this view today. The view that we can explain knowledge by postulating the existence of an eternal soul which spends a period of time in a body runs too contrary to our scientific inclinations. Yet we still need an answer to Plato's problem. And it seems that Plato's key desiderata are still widely accepted: in order to explain knowledge we must explain learning and in order to explain learning we must explain knowledge.

The acceptance of these desiderata is illustrated by the work of Hume. Hume deems such a program the only viable one if knowledge is to be explained at all. He tried, of course, to refute it, thereby rejecting the possibility of explaining knowledge. He tried to show that a unified explanation of both learning and of knowledge was impossible: the operation of our minds—which we describe in psychology—can never produce any theoretical knowledge. Hume presumed the truth of associationist psychology—of the view that (1) all mental activity consists of law-governed operations on discreet images of the world obtained directly through our senses and (2) we associate together items we have

sensed together. Persons, Hume argues, whose minds function as associationist psychology said they did, could not produce knowledge. And, he argued, we have thus shown that no knowledge is possible. We have only associations which are habits of the mind. That which appears to us to be knowledge, i.e. strong belief, must on closer analysis be deemed mere belief. We thus find in Hume both the fundamental psychological program of explaining knowledge with psychology and the fundamental objection to it: it confuses what is thought to be true with what is true.

This result would seem to indicate that psychologism was already in the 18th century successfully expelled as unrealizable. Yet, the reaction to Hume shows that this early endeavor to block attempts to explain knowledge with psychology was not successful. Many believers in science craved for a complete explanation of psychological processes and of knowledge. They tried to show Hume wrong. One suspects that they sought to overcome or work around the banishment the psychologism. The suspicion that they sought to save the program by of explaining the learning and knowledge together is confirmed by the widespread acceptance of Hume's program of explaining the psychological foundations of science even while showing how knowledge is possible, as for example, Mill sought to do.

The most important response to Hume, however, was Kant. Kant certainly did not try to save psychologism or even psychology. This fact is obvious, since even Carnap came to the conclusion that scientific psychology is impossible. He states (my translation):

“But psychology must remain even further than chemistry from the rank of a natural science worthy of the name. This is above, all due to the fact that mathematics is not applicable to the phenomena of the inner sense and its laws. One could merely appeal to the laws of continuity as they appear in the products of inner changes. For, the pure inner intuition, in which psychological appearances should be constructed, is time, and time has only one dimension. Still further, psychology cannot come even close to chemistry as an art of systematic classification or experimental theory, because in psychology the manifold of inner observation only differentiates its parts through mere divisions of thought. These do not remain differentiated and may be arbitrarily combined. Still less does the inner sense allow itself to be subjected to tests in accord with our intent. Even the observations themselves alter and disarrange the state of the observed object. Psychology can thus never be more than an historical

doctrine. As such it can offer as much as possible a systematic description of the soul or of the inner sense. But psychology cannot be a science. It cannot even be a psychological experimental theory.”<sup>1</sup>

In spite of his rejection of scientific psychology Kant’s explanation of how knowledge is possible is a description of a mental apparatus of sorts which unifies learning and knowledge: Learning according to Kant is first and foremost the display of what is already present in our reason. The fact that Kant avoided psychologism only at the expense of giving scientific psychology enhances my dilemma: One seems unable to explain simultaneously learning psychologically, on the one hand, and knowledge of any kind, on the other hand. Prominent reactions to Kant indicate that psychologism once more tried to overcome the banishment and even to gain influence in high places. This took place even though Hume and Kant decidedly rejected it as a realizable program. Hume chose one horn of the dilemma, that of giving up psychological explanations of knowledge, and therefore knowledge itself. Kant chose the other horn of the dilemma, that of giving up scientific psychology. The entire nineteenth century, from Johannes Müller to the Denkpsychologie around the turn of the century, saw thinker after thinker attempting to refute Kant’s contention that scientific psychology was not possible. No aspect of the psychological

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<sup>1</sup> “Noch weiter aber, als selbst Cheymie, muß empirische Seelenlehre jederzeit von dem Range einer eigentlich so zu nennenden Naturwissenschaft entfernt bleiben, erstlich weil Mathematik auf die Phenomene des inneren Sinnes und ihre Gesetze nicht anwendbar ist, man müßte denn allein das Gesetz der Stetigkeit in dem Abflusse der inneren Veränderung desselben in Anschlag bringen wollen ... Denn die reine innere Anschauung, in welcher die Seelen-Erscheinungen konstruiert werden sollen, ist die Zeit, die nur eine Dimension hat. Aber auch nicht einmal als systematische Zergliederungskunst, oder Experimentallehre, kann sie der Chymie jemals nahe kommen, weil sich in ihr das Mannigfaltige der inneren Beobachtung nur durch bloße Gedankenteilung von einander absondern, nicht aber abgesondert aufbehalten und beliebig wiederum verknüpfen, noch weniger aber ein anderes denkendes Subjekt sich unseren Versuchen der Absicht angemessen von uns unterwerfen läßt, und selbst die Beobachtung an sich schon den Zustand des beobachteten Gegenstandes alteriert und verstellt. Sie kann daher niemals etwas mehr als eine historische, und, als solche, so viele möglich systematische Naturlehre des inneren Sinnes, d.i. eine Naturbeschreibung der Seele, aber nicht Seelenwissenschaft, ja nicht einmal psychologische Experimentallehre werden.” Immanuel Kant, “Metaphysische Anfangsgründe der Naturwissenschaft”, in: Immanuel Kant, *Kritik der Urteilskraft und Schriften zur Naturphilosophie*, Darmstadt: Wissenschaftliche Buchgesellschaft, 1963, pp. 15-16.

program could be abandoned. Both learning and the possibility of knowledge had to be explained psychologically. But no one successfully explained how that could be done.

One thinker who did develop a response to Hume and Kant, who tried to save both the explanation of knowledge and scientific psychology and who is perhaps the only thinker noted for being psychologistic is Jakob Friedrich Fries. Fries argued that any attempt such as Kant's to prove that scientific theories were true, i.e. that they constituted knowledge, must end in infinite regress or circularity. In order to avoid dogmatically asserting some starting point we need, according to Fries, some other method of grounding knowledge, more accurately, of explaining how knowledge is in fact grounded. Fries proposed that a philosophical or anthropological method could be used to describe the concepts we actually use. We may, he thought, have direct knowledge of these. It is they which produce knowledge by processing sense impressions—the content of knowledge. According to Fries such a view could generate explanations of the various ways knowledge is obtained in the various sciences. These concepts themselves require no further grounding, thus the problem of dogmatism vs. infinite regress vs. circularity is removed. On one reading of Fries, we are entitled to a faith in reason. The function of philosophy is merely to describe its functions and its limits. Fries states that the study of how we gain knowledge might be called psychology, but he prefers not to do so in order to distinguish it from the study of feelings or individual or sexual differences, etc. He deems it an anthropological study of (pure) reason.

If this view is psychologistic, it must be shown to be so. The concepts of reason studied by Fries were not deemed by him mere psychology—mere thoughts we happened to have. He hoped to determine the concepts of reason, concepts universally employed and fundamental for the various sciences. We thus come to the result that the one alleged clear case of psychologism is no clear case at all, but just as difficult to judge as the others.

We are left, then, with the need to construct a picture of what a clear psychologism would look like without any unambiguous example. We might propose quite simply in accord with the original description that those views be deemed psychologistic which pursue the justification or identification of knowledge through the development of a psychological theory. But this will not quite do since no one seeks openly to do that. The key to psychologism may still be deemed the presumption that a psychological theory can explain knowledge and its required justification,

however strong or weak we wish to interpret justification. But we have to realize that this presumption often seems to sneak in even when not wanted. We may; then, deem all those who fall prey to this temptation—whether willingly or not—to be psychologistic. We should find in all such views out dilemma: Either their identification and/or justification explain knowledge away or they must reject the psychology as defective due to its incompleteness.

This completes our rundown of psychologism, of psychologism's identity, of the history of the culprit and where psychologism was last alleged to be seen without disguise—falsely as it turns out. I must still add a word of caution however. There seem to be at least two readings of psychologism. On both views psychologism may be deemed the unified and exclusively psychological explanation of learning and of knowledge. On one reading all such versions of psychologism are refuted as leading to subjectivism—and are to be avoided. On a second reading we may distinguish those psychologisms which are subjectivist from those which are not. Thus some wish to banish psychologism categorically and others to introduce slight modifications to disarm him, to make him presentable in proper society:

### **3. Warning: The Suspect is Armed and Dangerous**

Though one cannot believe everything one hears, we ought to note that psychologism has the reputation of being a really dangerous fellow. His banning may be well-deserved and he should be approached with caution. Rumors are, of course, spread around for a lot of reasons, some good and some bad. So I do not want to jump to conclusions. We should understand, however, why caution is warranted.

Psychologism, it is said, appears harmless enough at first, but every time one encounters him, in whatever form, he turns first into idealism and then, still worse, into subjectivism which may be equated with solipsism. Psychologism very quickly steals the whole external world. Once psychologism has the slightest chance to work some tricks, there seems no way to avoid it. Let us here take an example, logic, to show how real the dangers are. We begin seemingly innocently enough, by granting that operations of the mind which occur when we do logic should be explained psychologically. We presume that these operations should be distinguishable from other operations which occur when we are engaged in other mental activities. As a consequence, then, the psychological operations, even if at first identified as the correlates of logical operations, once identified should enable us to reverse the procedure and identify, say, valid inferences

from the psychology. If we cannot do this our theory would not have identified the unique psychological correlates of logical inferences. Explanations of these inferences and their correctness may then be purely psychological, i.e., the description of the relevant mental activity, with no reference to the external world, is a complete description of logic. But this means that a psychological theory can explain valid inferences. We are led to the conclusion that what is inferred in accord with certain psychological laws is identical with valid inferences. Judgements about how states of affairs must be related to other states of affairs in the world may be decided by appeal to psychology alone. Nothing short of idealism suffices now to rescue our initial psychological explanation of logic—even of the mere psychological correlates of logic.

The danger is apparent. Psychologism seeks total dominion. He does not merely seek to destroy the outside world but also other minds. For, if what is thought to be real constitutes what is real, everything I think is real, is real. Everything real is thus totally dependent on my thought. But if it is real, if it is something other than my thought, it must be independent of my thought to some extent at least. But how can it be totally dependent and still independent to a degree? We are led back to the view that your thoughts or anything else in the world are merely my thoughts of them. Thus we are led to radical subjectivism: the world is my dream. One might protest that the premise is crazy and the argument depends on an attempt to make sense of it and this might be deemed a silly endeavor. This is true. But since it reveals the logic of psychologism, since it makes clear there is no sensible way out, it may be worth saying.

Now the panic may seem exaggerated. It may seem quite reasonable to presume that psychologism is not so dangerous. These undesirable consequences may be avoided even if we do flirt with psychologism from time to time. We need merely, for example, to adhere steadfastly to some form of materialism. But ironically it is just here that Frege warned us most strongly. The dangers that psychologism might gain influence do not go away just because we seem to have removed them from the start. Rather, we may start out with any full-blooded metaphysic whatsoever and hope that its ontology is quite secure. Yet we may end up with the odd result that the ontology of our metaphysic, of our materialism, for example, is stolen: the metaphysic itself is merely my ideas, my dream. It has lost its ontological import. To show this let us follow our example with some detail. We assume the thinking brain and its products. We then assume that explanations of psychological, i.e., appropriate behavioral or physical events can be explained by reference to material entities alone.

Since we want our theory to be complete and the conduct of science and logic obviously are psychological, whatever else they may or may not be, the behavior of the conduct of science and logic should also be explained. We thus explain the conduct of science and logic as the mere interaction of physical events, of events in the brain and or behavior. So far so good. But science and logic should also be true. They should constitute knowledge. So we are now forced to say that knowledge is the adjustment, perhaps a special type of adjustment, of behavior. Knowledge then becomes reactions of individuals to the world. But my very knowledge of these reactions is in turn mere reactions. The description of my knowledge is a mere description of reactions. The relation of any two events, for example, is a mere relation of my reactions. But what are relations of my reactions; my judgements, if not relations between my images? They then seem to be nothing more than my ideas, my private world, and my dream.

Let me here quote Frege. (The translation is mine.)

“Psychological treatments of logic have their foundation in the mistake that the thought (the judgement, as one customarily says) is something psychological, equivalent to a mental picture. That leads necessarily in the theory of knowledge to idealism. For, the parts which one distinguishes in thought such as subject and predicate belong to psychology just as the thought itself. Since each piece of knowledge only becomes such through the act of judging, all bridges to objectivity are broken. All efforts to reach it can only be attempts to pull oneself out of the swamp by the locks of one’s own hair. One can at most attempt to explain how the appearance of objectivity arises, how we come to assume something that does not belong to our mind, even though this assumption is not justified. This slide into idealism strikes one most strongly in physiological psychology, because it there stands in such strong contrast with its realist beginning. One begins with nerve fibers, ganglia cells, one makes assumptions about excitations and their conduction and seeks thereby to come closer to an understanding of the contents of thought, in that one presumes without noticing it that the processes in the ganglia cells and nerve fibers are more understandable than the contents of thought. As it becomes a well-behaved natural science, one presumes without further ado the objectivity of the ganglia cells and nerve fibers. That might work as long as one limited oneself to the contents of thought. But one doesn’t stop there: one proceeds to thought and judgment and suddenly the original realism turns up as extreme idealism, and this theory saws off the branch on which it sits. Everything dissolves into contents of thought, and thereby the foregoing explanations themselves become illusory. Anatomy and physiology become fictions. The whole anatomical and physiological foundation of nerve fibers, ganglia cells, stimuli, stimulation, conduction of stimulations, dissolves. And what remains? Images of nerve fibers, images of ganglia

cells, images of stimuli, etc. And what should be originally explained?  
These images!”<sup>2</sup>

You may think this plot is too sophisticated, that no materialist can lose the outside world so carelessly as if he had his pocket picked. Let us look once more to see if we catch Frege’s sleight of hand. Skinner will do perhaps as an example. His materialism may not be quite bona fide, but I think he is good enough. He merely spoke of behavior and used a physicalist vocabulary, carefully avoiding any clear metaphysical statement. It seems, indeed, that he deemed his metaphysic so special and wonderful, its services so necessary, that he was reluctant to show it in public for fear

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<sup>2</sup> The original reads as follows: “Psychologische Behandlungen der Logik haben ihren Grund in dem Irrtum, daß der Gedanke (das Urteil, wie man zu sagen pflegt) etwas Psychologisches sei gleich der Vorstellung. Daß führt dann notwendig zum erkenntnistheoretischen Idealismus; denn es müssen dann auch die Teile, die man im Gedanken unterscheidet wie Subjekt und Prädikat ebenso der Psychologie angehören wie der Gedanke selbst. Da nun jede Erkenntnis sich im Urteilen vollzieht, so ist nun jede Brücke zum Objektiven gebrochen. Und alles Bemühen, es zu erreichen, kann nur noch ein Versuch sein, sich am eigenen Schopfe aus dem Sumpfe zu ziehen. Höchstens kann man zu erklären versuchen, wie der Schein der Objektivität entsteht wie wir dazu kommen etwas anzunehmen, was unserer Seele nicht angehört, ohne daß diese Annahme jedoch dadurch gerechtfertigt würde. Am auffallendsten ist dies Einmünden in den Idealismus bei der physiologischen Psychologie, weil es mit ihrem realistischen Ausgangspunkte in so scharfem Gegensatz steht. Man geht aus von Nervenfasern, Ganglienzellen, macht Annahmen über Erregungen und der Fortleitung und sucht damit das Vorstellen dem Verständnis näher zu bringen, indem man unwillkürlich die Vorgänge in den Ganglienzellen und Nervenfasern für verständlicher hält als das Vorstellen. Wie es sich für eine brave Naturwissenschaft ziemt, setzt man hierbei unbehens die Ganglienzellen und Nervenfasern als objectiv voraus. Dies mag solange gehen, als man sich auf das Vorstellen beschränkt. Aber dabei bleibt es nicht: man geht auch auf das Denken und Urteilen über, und da schlägt nun plötzlich der anfängliche Realismus in extremen Idealismus um, und damit sägt diese Theorie selber den Ast ab, auf dem sie sitzt. Nun löst sich alles in Vorstellungen auf, und damit werden die früheren Erklärungen selbst illusorisch. Anatomie und Physiologie werden zu Dichtungen. Der ganze anatomisch-physiologisch Unterbau von Nervenfasern, Ganglienzellen, Reizen, Erregungen, Fortpflanzung von Erregungen löst sich auf. Und was behalten wir übrig? Vorstellungen von Nervenfasern Vorstellungen von Ganglienzellen, Vorstellungen von Reizen, u. s. w. Und was sollte ursprünglich erklärt werden? Das Vorstellen! “Logik”, in *Nachgelassene Schriften*, Hamburg: Felix Meiner Verlag, 1969, pp. 155-156.)



its virtues would become known and someone would try to steal it. His prejudice was clear enough.

Our increasing knowledge of the control exerted by the environment makes it possible to examine the effect of the world within the skin and the nature of self-knowledge. It also makes it possible to interpret a wide range of mentalistic expressions. For example, we can look at those features of behavior which have led people to speak of an act of will, a sense of purpose, of experience as distinct from reality, of innate or acquired ideas, of memories, meanings and the personal knowledge of the scientist, and of hundreds of other mentalistic things or events. Some can be “translated into behavior”, others discarded as unnecessary or meaningless. In this way we may repair the major damage wrought by mentalism.<sup>3</sup>

His psychologism, i.e., his attempt to explain learning and knowledge psychologically, was perhaps still more bone fide. “The central question of scientific knowledge is not what is known by scientists? But, what does knowing mean? The facts and the laws of science are descriptions of the world—that is, of prevailing contingencies of reinforcement.”<sup>4</sup> He still needed to avoid subjectivism. “Knowledge is subjective in the trivial sense of being the behavior of a subject but the environment, past or present, which determines the behavior lying outside the behaving person.”<sup>5</sup>

Subjectivism is not so easily avoided as that, however. For, Skinner’s statement, that there is an environment which determines the behavior, is merely behavior. The statement that there is an environment which lies outside the behaving person is also mere behavior. It describes in particular Skinner’s reactions. The world—as we know it—is merely reactions. So Skinner loses whatever he has knowledge of—no wonder he wouldn’t talk about metaphysics—and becomes confined to statements about his own reactions, concealed in a language about knowledge. Skinner’s reactions have no world to house them and thus they reduce in the already described way to his dreams.

This might all be investigated in still more detail and perhaps such an investigation would lead to a change in our laws, especially of ontological import and of insurance of such import. But for now the conventional

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<sup>3</sup> B.F. Skinner, *About Behaviorism*, New York: Alfred A. Knopf, 1974, p. 17.

<sup>4</sup> *ibid.*, p. 144.

<sup>5</sup> *ibid.*, p. 144.

wisdom seems sufficient grounds for being somewhat conservative in the matter. At any rate we may find here some reason for a preliminary investigation.

#### 4. Suspicious Activity

Before proceeding with our attempt to find a means of identifying versions of psychologism which are using aliases or wearing disguises we might present a brief rundown of some further reports of suspicious activities which have given rise to the fear in some quarters that psychologism has insinuated itself in proper society and exercises damaging influence there. There are reports that psychologies just seem to do more to than their mandate allows; as a consequence, they harbor psychologism. They set out to explain learning and that seems all to the good. But then they seem also to want to go right ahead and explain science and knowledge too. Indeed, they may lose their brakes and be unable to stop at learning. For, if the process of learning is properly explained, then so is the process of the acquisition of some knowledge, and hence the possession of some knowledge. It may not be clear that, if learning psychologists do so, they are psychologistic or even that they do. Yet this attempt is precisely what psychologism can be expected to do. We have hit upon the dilemma presented above yet again: psychology seems unable to explain learning without explaining knowledge, and if it explains knowledge it is psychologistic.

Piaget seems to want to explain the growth of knowledge as well as his competitors such as Skinner and others. What perhaps readily arouses suspicion is that it is hard to find out exactly what ought to be explained and what should be left to other disciplines, if anything. He says that he wants to explain knowledge “on the basis of its history, its sociogenesis and especially the psychological origins of the notions and operations upon which it is based.”<sup>6</sup> He states further:

“I do not want to give the impression that genetic epistemology is based exclusively on psychology. On the contrary, logical formalization is absolutely essential every time that we can carry out some formalization: every time that we come upon some completed structure in the course of the development of thought, we make an effort, with the collaboration of

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<sup>6</sup> *Genetic Epistemology*, New York & London: Columbia University Press, 1970, p 1.

logicians or of specialists within the field that we are considering, to formalize this structure. Our hypothesis is that there will be a correspondence between the psychological formation on the one hand and the formalization on the other hand. But although we recognize the importance of formalization in epistemology, we also realize that the formalization cannot be sufficient by itself. We have been attempting to point out areas in which psychological experimentation is indispensable to shed light on certain epistemological problems, but even on its own grounds there are a number of reasons why formalization can never be sufficient by itself.”<sup>7</sup>

Piaget proposes complementary studies of the development of thought structures in children, on the one hand, and of the reduction of science to these structures on the other. The combination should enable us to explain how structures representing knowledge came about. Although appraisals of knowledge are to be left aside, it appears that the development of knowledge must be entirely explained by psychology. There can be no operation of thought which is not a product of a psychological development. Thus, all aspects of knowledge must be psychologically explicable. Furthermore, according to Piaget’s hypothesis all completed structures would correspond to some knowledge. It thus appears that formalization may be a mere test to see whether the postulated psychologism is true.

Let me leave this aside for now and go on to epistemology. Epistemological theories seek to explain how knowledge is justified. In order to do so, they need to find a basis for knowledge. In almost all contemporary philosophy of science this basis is deemed sense experience of one sort or another. This means that psychology will almost inevitably play a role: the psychology of perception must serve as a foundation and knowledge must be built out of the building blocks it offers. Perhaps the classical example of such an effort in this century is Rudolph Carnap’s *Der logische Aufbau der Welt*. Carnap hoped to move toward a system of concepts with a few propositions as axioms from which the rest could be deduced. This would be the unified science. The construction of such a system should employ the logic of Frege and Russell—this logic could give order to the system—and a psychology—Carnap mentions the psychology of Ziehen as being especially important—which could provide the content of the system and render all concepts reducible to elementary experience.

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<sup>7</sup> *ibid.*, p. 10.

Carnap held that we already had concepts which were a complex, sometimes confused combination of these experiential elements. What was needed was the systematization of thoughts we already had. This could be obtained if the new logic was employed to aid the, new psychology to explain exactly how concepts could be reduced to elementary experiences. Perhaps such a theory may be seen as anti-psychologistic in contrast to, e.g. Fries's similar program which presumed that the ordering concepts could only be discovered by anthropological investigation. Yet this advantage, if it is such, is slight indeed. The system aimed for should be a description of how in fact systems are built up and ordered. Such a system would have to be a more exact psychology, a psychology which identifies the elements and their clear combinations. Just as in Fries' theory the ordering principles already function but are yet to be clearly described. So Carnap's essay appears psychologistic because the more exact psychology would at the same time be an explanation and identification of all knowledge.

A third area of suspicious activity is methodology. Now methodology—the study of the procedures used to gain knowledge—is normally distinguished from epistemology—the study of how theories are justified. For those who believe that the procedures used to gain knowledge should yield justification, these two fields may be deemed two aspects of the same theory. Few have attempted a really sharp division and the introduction of psychology is one way in which the divide is blurred.

I do not know if Quine should be considered a methodologist, an epistemologist, both or neither. Nevertheless, he is certainly a contender in methodological disputes so that I can use him as an example of suspicious activity in methodology. He deserves to be mentioned at any rate as he deems anti-psychologism of the sort I have taken for granted as really quite old-fashioned.

Quine deems epistemology to be a hopeless endeavor: Hume's problem of how we can justify theories cannot be solved. Thus we must abandon so-called first philosophy or any attempt to find outside of science a better foundation than that provided by science itself. But we need not despair. Science itself, i.e., psychology, can fill the gap. Indeed, the project of epistemology was to investigate the relation between evidence and theory. This project can now be taken over by psychology. Psychology can explain how we in fact come to achieve knowledge, i.e., how we adapt to the world. It can explain how physical stimuli lead us to react with linguistic devices, thereby circumventing with learning theory all

epistemological problems. We can learn, e.g., how in fact we come to perceive or identify events in gestalt patterns without worrying about the problem of the reduction of these patterns to veridical elements. Quine calls this “naturalized epistemology”.

The overt use of psychology may be seen as psychologistic but perhaps Quine would hold that he has, indeed, a defense against a Fregean critique. This defense might be that he has abandoned the traditional attempt to explain knowledge, i.e., to identify what is true or to produce a justification. He cannot, therefore, confuse what is asserted to be true with what is true. Though we may be warranted in deeming certain statements true, we have no guarantee, and thus his view would not be psychologistic in the old sense of the term. As the above discussion of Skinner shows, however, this defense may be far too weak as Quine’s identification of knowledge, even if knowledge is not justified, with what works and the use of psychology to explain how we find what works may still allow the world to slip away.

## **5. Where Does Psychologism Sneak In?**

There may be many places where psychologism might sneak in, but in accord with my impressions and with what has already been said, the central difficulty occurs at that point where psychological learning theory begins to discuss knowledge. The identification of this one area should in any case be a sufficient basis for a search for *prima facie* offenders, if we should choose to conduct such a search.

As we have seen, psychologism is the attempt to explain learning and knowledge together with the aid of psychological theory. Now, if one began with the intention of merely explaining learning but then surreptitiously extended such a theory to include knowledge itself perhaps for want of knowing how to stop—could perhaps—thereby let psychologism slip past the authorities. Indeed, when we survey the area it seems difficult to know whether this has happened or not. This difficulty may encourage us to pursue the question further. As already mentioned it is often difficult to say precisely what a psychological theory of learning is designed to explain. So, when we begin to ask preliminary questions we do not find ready answers in the literature. If psychologists could explain just how they view their task of explaining knowledge, or even of explaining knowledge without admitting psychologism, then we might be able to ignore this particular locale.

Let me briefly review my two examples of Skinner and Piaget to show the difficulty of finding an explanation. We have already suggested that Skinner appears psychologistic as he explains learning as the creation of contingencies of reinforcement and knowledge as these very contingencies. He thus seems to pass quite quickly from the explanation of learning to the explanation knowledge. He may feel protected by his hidden metaphysic and his new definition of knowledge. Yet his fences seem low indeed.

Piaget seeks explicitly to avoid psychologism and makes his fence clear: Psychology explains the growth and development of mental structures but does not appraise them. Yet the fence seems small, if the following hypothesis of Piaget, the hypothesis that formalization will corroborate the view that the most developed structures discovered by psychology are in fact the most advanced sciences, is

## **6. Prima Facie Identification**

From what we have said it seems that everybody who uses psychology to explain learning without explaining how he is capable of doing so without also explaining knowledge is suspect. This is really a disappointing result. For, I had hoped to narrow down the field so as to have a means of prima facie identification which would only apply to a special class of such theories. We do not want to have to investigate everybody! Indeed, too widespread suspicions may lead to all cases being thrown out of court on mere procedural grounds. Moreover, there is a further difficulty: The proposed method of prima facie identification seems to be vague. We have already seen that it is not easy to tell if psychologies seek to explain knowledge or not. So let us then explain why it is so difficult to find narrower means of identification.

We have already raised the possibility that those who begin to merely explain learning may also seek to explain knowledge and in so doing bring in psychologism as well. And we have seen that there is ground for suspicion that this is so. Our aim is to distinguish those psychologies which may come under suspicion. But this seems difficult to do, since they all appear, more or less, to identify the process of learning with the process of the acquisition of knowledge, so that the end of successful learning is possession of knowledge. Nor do I see how they can do that without being psychologistic, since they explain by mere psychological means learning and knowledge. The initial dilemma that I presented above was that, if one wants to avoid explaining knowledge away, one must explain learning psychologically without explaining knowledge, and if one wants to explain