# The Value of Genetic Fallacies

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**Abstract:** Since at least the 1938 publication of Hans Reichenbach's *Experience and Predication*, there has been widespread agreement that, when discussing the beliefs that people have, it is important to distinguish contexts of discovery and contexts of justification. Traditionally, when one conflates the two contexts, the result is a "genetic fallacy". This paper examines genealogical critiques and addresses the question of whether such critiques are fallacious and, if so, whether this vitiates their usefulness. The paper concludes that while there may be one or more senses in which genealogical critiques are fallacious, this does not vitiate their value.

**Resume:** Depuis au moins la publication de *Experience and Predication* de Hans Reichenbach en 1938 il s'est grandement répandu un accord qu'il est important de distinguer les contextes de découvertes des contextes de justification lorsqu'on discute des croyances des gens. Traditionnellement, lorsqu'on confond ces deux contextes, le sophisme «génétique» en résulte. Dans cet article on examine les critiques basées sur la généologie d'une position, les fondements de ces critiques, et leurs utilités même si elles sont fallacieuses. Bien qu'elles puissent être fallacieuses, on conclut que ceci n'élimine pas la valeur des critiques généalogiques.

**Keywords:** argument, context of discovery, context of justification, deduction, genetic fallacy, induction, informal logic.

## 1. Introduction

Since at least the 1938 publication of Hans Reichenbach's *Experience and Predication*, and implicit in Frege's earlier rejection of psychologism, there has been a widespread view that, when discussing the beliefs that people have, it is important to distinguish contexts of discovery and contexts of justification.[1] It is true that

[1] As Hoyningen-Huene, 1987: pp. 502-503, points out, it is possible to trace the distinction back even further than Frege. Giere, 1999: p. 14, in his discussion of Reichenbach's distinction, makes an interesting observation. He writes, "I suggest that part of the significance of the distinction for Reichenbach at this time was its implicit denial that characteristics of a *person* proposing a scientific hypothesis have anything to do with the scientific validity of the hypothesis pro-

 

few would nowadays accept Reichenbach's positivistic account of the method of justification as a wholly formal enterprise involving rigorous syntactic axiomatizations. Moreover, as writers such as Paul Hoyningen-Huene and Thomas Nickles have pointed out[2], in the years following 1938, the distinction that Reichenbach believed separated the task of psychology from the task of epistemology evolved into "a set of intermingled distinctions."[3] Nevertheless, the core idea from Reichenbach that did enter into mainstream philosophy (especially philosophy of science)[4] was that an important logical distinction exists between "the psycho-logical processes which occur when a scientist thinks of new ideas and the logical argument which exhibits the degree to which those ideas are supported by the facts and other evidential considerations."[5] For example, Reichenbach writes that the way in which a physicist finds (i.e., discovers) a new theorem corresponds to the context of discovery, while the way in which the physicist presents the theorem to the public, rationally reconstructing it to make clear how the facts provide justification for the theorem, corresponds to the context of justification.[6]

As presented by Reichenbach, investigations into the contexts of discovery, unlike those into justification, belong within the realms of psychology, sociology, and history.[7] Descriptions of the "processes of thinking in their actual occurrence"[8] that lead to a person's holding a belief may be important in understanding the actual reasoning processes of a person.[9] Such descriptions may even tell us something about the sorts of problems and issues the person finds important, or shed insights on the traditions of practices in which the person lives and works. However, for those who accept the distinction between the two contexts, these descriptive accounts do not, by themselves, address the question of whether the person is justified in holding those beliefs to be true or rejecting

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posed. This applies, in particular, to that person's being a Jew. Reichenbach seems to have made it a precondition on any scientific epistemology that it rule out the possibility of any distinction between, for example, Jewish and Aryan science."

[2] See Hoyningengen-Huene, 1987, Hoyningen-Huene, 2006, Nickles, 1980, and Nickles, 1985.

[3] Hoyningen-Huene, 2006: p. 119. Also, see Kordig, p. 110, who starts his 1978 paper with the claim that "[T]he distinction between discovery and justification is ambiguous."

[4] See Siegel, pp. 297-299, for a review of some of the philosophers of science who agree that "maintaining a sharp distinction between … the "context of discovery" and the "context of justification" is both illuminating and appropriate for epistemology and philosophy of science."

[5] Nickles, 1980: p. 8. Also, see Curd, pp. 209-210.

[6] See Reichenbach, 1952: pp. 6-7.

[7] See Reichenbach, 1952: pp. 7-8.

[8] Reichenbach, 1952: p. 5. Also, see Reichenbach, 1952: p. 382.

[9] See Handy, pp. 27-28.

them as false. As Reichenbach writes, there "is a great difference between the system of the logical interconnections of thought [the context of justification] and the actual way in which thinking processes are performed [the context of discovery]."[10] Whereas accounts in the context of justification critically (logically) assess rational reconstructions of the operations between "the starting point and the issue of thought-processers,"[11] Reichenbach insists that the "manner in which logical inferences are actually made [the description of which falls within purview of the context of discovery] is strange and obscure and rarely resembles the formal method of logic."[12]

In contrast with those who accept this distinction, others contend that descriptive accounts of the "process of thinking" that leads to a person having the beliefs that she or he has **are** relevant in determining whether the person is justified in holding the belief to be true.[13] For instance, in his *The Future of an Illusion*, Freud investigates the origin of the belief, common in human beings, that in the end "all good is rewarded and all evil punished, if not actually in this form of life then in the later existences that begin after death". [14] What he discovers is that the belief has its origin in "man's need to make his helplessness tolerable and built up from the material of memories of the helplessness of his own childhood and the childhood of the human race."[15] Freud concludes that an examination of its psychoanalytic origins demonstrates that the belief is only a projection of deep-seated needs for security and protection, and so not a belief that one is justified in holding to be true.[16] In this sense, the descriptive account of the belief's psychological origin is, Freud thought, relevant to the question of whether the person is justified in holding the belief to be true. More recently, some writers contend that gender issues are relevant in assessing whether or not one is justified in holding a belief to be true.[17] For example, writers such as Jane Flax claim that the fact that a belief originates with a man embedded in a patriarchal society that institutionalizes disempowerment and alienation constitutes sufficient reason to reject the belief as "distorted" and unjustified.[18]

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[10] Reichenbach, 1952: p. 5.
[11] See Curd, p. 209, and Kantorovich, pp. 487-488.
[12] Reichenbach, 1958: p. 43.
[13] See, for example, Kuhn, p. 9, and Thagard, p. 52.
[14] Freud, p. 23.
[15] Freud, p. 23.
[16] Religion is, in this sense, an "illusion", and so not justified. See Freud, pp. 39ff. Also, see Lavine, p. 333, and Pashman, pp. 57-60.
[17] See, for example, Anderson, p. 50, Burton, pp. 286ff, Crouch, 1991: pp. 108ff., Fisher, and Flax, 1987: pp. 623ff.
[18] See Flax, 1995: pp. 217ff. Also, see Crouch, 1991: p. 105, Grimshaw, pp. 58ff, and Harding, pp. 40ff.

The common complaint against people who want to critique beliefs in terms of their psychosocial genesis—to provide what is sometimes called a genealogical critique of a belief or a system of beliefs[19]—is that that they conflate the context of discovery for a belief and the context of justification for a belief. For example, in the course of arguing for what he calls "external realism," John Searle considers various antirealist objections to external realism. One way of responding to the claims of the antirealist is to assess critically why the antirealist has the beliefs he or she does. Such a response falls within the context of discovery since it would provide a descriptive account of why the person has the antirealist beliefs. However, this is not Searle's tack since, as he writes, "pointing out the psychological origins of antirealism is not a refutation of antirealism. It would be a genetic fallacy to suppose that by exposing the illegitimate origins of the arguments against realism, we somehow refute the arguments."[20] What this passage from Searle reflects is a widely held belief about the importance of differentiating between critically assessing the psychosocial history of how a person came to have a belief, and critically assessing whether a person is justified in holding that the belief is true. This does **not** mean that there is never a close relationship between questions about what caused a belief (the context of discovery) and questions about whether the belief is justified (context of justification). As Larry Wright notes,[21] in many everyday contexts, such as why I believe my car needs servicing, the cause of my belief, the annoying "clunking" sound, may also be the justification of my holding the belief to be true. Indeed, even more generally, for externalist epistemic theories, at least some of the causes of a person's having a belief are important in determining whether the person's belief is epistemically justified or reasonable.[22] As Klement writes, "it is now often recognized that the causal history of a belief or position is sometimes relevant to its epistemic status".[23] However, for those who advocate what Nickles calls the logical "divorce" of the context of discovery from the context of justification,[24] there is no necessary connection between descriptions of how a person came to have a belief and the person being justified in holding the belief to be true or false. As Siegel writes, advocates of the "divorce" thesis claim that the context of discovery, exemplified by psychological descriptions, "can tell us that a person believes a certain claim, and, perhaps, how that person came to believe it; but not why that belief

[19] See Kim, p. 398, who writes that "[A] genealogy is an argument to discredit a belief or belief system by exposing its genesis …"
[20] Searle, p. 20.
[21] Wright, 2001: p. 99.
[22] See, for example, Bonjour, pp. 34-35, and Goldman, 1992: pp. 112ff.
[23] Klement, p. 383.
[24] See Nickles, 1985.

would count as evidence for that claim."[25] If the causal history of a belief is relevant to its epistemic status, it is because its role in the context of justification has been established independently of its role in the context of discovery.[26] An unacceptable conflation of the two contexts occurs when one assumes that an account in one context automatically or necessarily determines the account given in the other context.

Traditionally, logic books characterize arguments that conflate these two contexts in this way as arguments that commit the "genetic fallacy". As Wesley Salmon writes, "[T]he error of treating items in the context of discovery as if they belonged to the context of justification is called the 'genetic fallacy'."[27] Similarly, Abraham Kaplan writes that the genetic fallacy "is the fallacy of judging the truth of an assertion on the basis of its source rather than by the evidence or argument available for it",[28] while for Hamblin the genetic fallacy occurs when one confuses "temporal or historical origin with logical nature."[29] In what follows, I will examine genealogical critiques and address the question of whether such critiques are fallacious and, if so, whether this vitiates their usefulness. My conclusion will be that while there may be one or more senses in which genealogical critiques are fallacious, this does not vitiate their value. Properly understood, genealogical critiques play a useful and important role in the process of inquiry.

## 2. Background

Since both genealogical critiques and genetic fallacies are kinds of arguments, and the subject matter of both formal and informal logic is, broadly, the study and evaluation of arguments,[30] the natural starting point is with an examination of the concept of an argument as it occurs in formal and informal logic. Although it may seem that answering the question "What is an argument?" should be relatively straightforward, matters are not so simple. Part of the complexity is a function of the multiple meanings assigned to "informal logic", and the resulting difficulty of determining whether there is a common sense of argument acceptable to all, or most of the different conceptions of informal logic. As noted by Ralph Johnson,[31]

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[25] Siegel, p. 316.
[26] See Seigel, p. 301.
[27] Wesley Salmon, 1963: pp. 11-12.
[28] Kaplan, p. 13. Also, see Klement, p. 384, and Lavine, p. 323. For other forms that genetic fallacies can take, see Goudge.
[29] Hamblin, p. 45. For an account of how the meaning of "genetic fallacy" has changed over the years, see Klement, pp. 384ff.
[30] See Hacking, 1972: p. 3. Also, see Hamblin, chapter 7.
[31] Johnson, 2006: p. 232. Also, see Johnson, 1999: pp. 266-267.

writers have used "informal" logic to mean everything from "the logic of substantive concepts" to "logic minus deductive and inductive logic," to "applied epistemology." Some writers even seem to believe that "there is no such thing as informal logic."[32] Nevertheless, amongst the majority who believe, generally, that informal logic, in contrast with formal logic, deals with practical, dialogical contexts,[33] Douglas Walton's characterization of "argument" is a good starting point that captures a core idea for many of the conceptions of informal logic:

> *Argument* is a social and verbal means of trying to resolve, or at least contend with, a conflict or difference that has arisen between two or more parties.[34]

It is, of course, possible to resolve conflicts and differences of opinions in various ways, and the definition does not distinguish between those different ways. For example, in some contexts, one way to try to resolve a conflict or difference of opinion is by appealing to the relevant laws and statutes. However, while juridical adjudication of conflicts and differences of opinion may make use of informal (or even formal) logical arguments, the adjudication is not itself a logical resolution. Thus, one common addition to Walton's definition, though not one with which all advocates of dialogical approaches to arguments would be entirely comfortable, is to say that the way in which conflicts and differences of opinions are resolved in the arguments with which informal logic is concerned is to present evidence to support accepting a claim. So understood, the concept of an argument in informal logic is broadly consonant with the concept of argument in the traditional concept of formal logic. Although formal logic texts vary in their wording, the common, underlying idea is that an argument is a finite set of sentences in which all but one of the sentences in the set provide some kind of evidential (*qua* logical) support for the remaining sentence, the conclusion, in the set.[35] Thus, following the lead of Michael Dummett,[36] Ian Hacking writes that the "right way to answer the question, What is logic? is to consider transitions between sentences."[37]

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[32] Johnson, 1999: p. 265.
[33] See, for example, Levi, p. 227.
[34] Walton, 1990: p. 411. Also, see Goodwin, 2007: pp. 69-70, Walton, 2007: p. 114, and Walton, 2008: p. 142.
[35] See, for example, Merrilee Salmon, p. 12, Skyrms, pp. 6-11, and Wright 1995: p. 566. Also, see Machina, p. 574.
[36] Dummett, pp. 432-433.
[37] Hacking, 1979: p. 290. See DeHaven, 1998: p. 1, who characterizes an argument in formal logic as "any sequence of statements that includes statements put forward as supporting another statement and the statement to which this support is given". Also, see Bonevac, 1999:p. 3, who writes that an "*argument* [in for-

A distinction often found both in discussions of formal logic and in discussions of informal logic is the distinction between deductive and inductive arguments. Even a cursory review of the literature dealing with the distinction reveals that there is not complete agreement about the way to draw the distinction,[38] how useful the distinction truly is,[39] or even whether we should treat inductive logic as a kind of logic at all.[40] Nonetheless, one approach with general widespread support, and the one used in this paper, is that the distinction is a useful one and that categorizing an argument as either deductive or inductive reflects a decision about the standards used in evaluating the argument.[41] Supposing that the standard used in evaluating the argument is that the premises, if true, necessitate[42] the truth of the conclusion, then the argument is a deductive argument. Moreover, if it is in fact the case that the premises, if true, necessitate the truth of the conclusion, then the argument is deductively valid. In contrast, supposing that the standard used in evaluating the argument is that the premises, if true, make it improbable, but not impossible, that the conclusion is false, then the argument is an inductive argument.[43] Analogous to the case of deductive arguments, if it is in fact the case that the premises, if true, make it improbable that the conclusion is false, then the argument is a strong inductive argument. Because information added to that provided by the premises of an inductive argument may either strengthen or weaken the argument, the support that true premises provide for a conclusion in an inductive argument, unlike the support in deductive arguments, is non-monotonic.

So far then, we have identified a general concept of argument common to both formal and informal logic, as well as a pragmatic[44] distinction (deduction versus induction) drawn in discussions of both kinds of logic. How, then, does formal logic differ from informal logic, and what does this difference say about the concepts of argument and fallacy in the two kinds of logic? Broadly, the answer to this question is that informal logic and formal logic differ from one another both in the way in which they treat the natural

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mal logic] is a finite string of statements, called *premises*, together with another statement, the *conclusion*, which the premises are taken to support."

[38] See Wilbanks. 2009.

[39] See Govier, 1987: pp. 3-4.

[40] See Goldman, 1985: p. 41, Harman, 1973: pp. 161-163, and Sainsbury, p. 9.

[41] See Govier, 1987: pp. 43-44, and Haack, p. 12. Skyrms, p. 12, writes that deductive and inductive logic "are not distinguished by the different types of arguments with which they deal but by the different standards against which they evaluate arguments."

[42] This glosses over a complex issues since, as Russell, p. 594, notes, there are "many different conceptions of possibility and its sister notion, necessity". Thus, there is some ambiguity in the concept of deductive assessment.

[43] See Skyrms, p. 7.

[44] See Machina, p. 577.

language sentences making up the various parts of a "real life" argument, and in the analysis of the arguments with which they deal. In the case of formal logic, the assumption is that it is possible to identify and formally characterize the logical form of the natural language sentences that make up the argument, in virtue of which there is a structural entailment relationship between the premises of the argument and its conclusion.[45] Thus, formal logic, as noted by Walton, "abstracts from the content of the premises and conclusion of an argument"[46] and focuses on the underlying logical form instantiated by the natural language sentences constituting the argument. Once one identifies the formal structure of an argument, formal logic applies various standards to assess whether the argument is either good or bad (fallacious). Mario Bunge captures this conception of formal logic when, after investigating "the matter of the ontological commitment of logic and semantics",[47] he writes that logic "is no more and no less than the theory of logical form, in particular of the form of deductive arguments."[48] In the case of deductive arguments, the traditional view of what constitutes a fallacy is represented by J.L. Mackie who writes that a "fallacy, in the strict sense, is an invalid form of argument."[49] For example, on the standard account, an argument expressed in a natural language that is a "proper" substitution instance,[50] in a specified system of logic,[51] of affirming the consequent is (formally) deductively fallacious precisely because it is possible for an instance of the argument form "affirming the consequent" to have all true premises and

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[45] See Elugardo and Stainton, pp. 394ff.
[46] Walton, 1990: pp. 417-418. Also, see Sainsbury, pp. 29-32.
[47] Bunge, p. 207.
[48] Bunge, p. 208.
[49] Mackie, p. 169. Also, see Russow and Curd, p. 97.
[50] Walton, 2008: p. 150, uses the expression "most specific form of the argument". In particular, Walton writes that "Even if we know an argument has an invalid form, in need not automatically follow that the argument must be invalid. To be assured of that, we would also have to know that the form presented is the most specific form of the given argument." Also, see Walton, 2007: p. 122. Govier, 1995: p. 179, writes that we "need a paraphrase which captures all of the logically relevant features."
[51] The qualification of the instance of the argument form being a *proper* instance, in a specified system of logic, is important. As Massey, pp. 492-49, and before him, Oliver, pp. 463ff, notes, without the appropriate qualifications, it is possible for an argument to instantiate the argument form of affirming the consequent but, nevertheless, be valid. Thus, as Oliver, p. 463, writes, without appropriate qualification, the principle "If an argument is an instance of an invalid form, it is invalid", is a false principle. Also, see Finocchiaro, 2005: p. 150. Massey, pp. 494-496, claims that to demonstrate that an argument is invalid, it does not suffice to show that it is an instance of an invalid logical form; one must also show that it fails to be an instance of any valid argument form. For critical discussions of Massey, see Bencivenga, pp. 247ff, Govier, 1995: pp. 172-180, and Plumer, pp. 181ff. For an extension of Massey's argument to valid arguments, see Woods, 1995, pp. 181ff.

a false conclusion.[52] The key point for deductive fallacies is that a particular, natural language argument is fallacious because it is a "proper" substitution instance, in a specified system of logic, of an argument form for which, in the specified system of logic, there is at least one proper substitution instance with all true premises and a false conclusion.

The issue of what constitutes a fallacy is more obviously complicated in the case of inductive arguments because an inductive argument having all true premises does not necessitate the truth of the argument's conclusion. Inasmuch as the support that true premises provide for the conclusion in an inductive argument is non-monotonic, identifying the underlying formal structure of the argument does not, by itself, give any information about whether or not the premises, if true, provide good evidence for the conclusion. Nevertheless, using the notion of a deductive fallacy as a guide, we can say that an inductive argument is fallacious just in case having all true premises does not make it improbable that the conclusion is false. To be sure, what this characterization fails to specify is the degree of improbability necessary for the inductive argument to be fallacious. Whereas any deductive argument that falls short of validity is deductively fallacious, there is no commensurate absolute dividing line for inductive fallacies. Except for the limiting case in which the truth of the premises of the argument has no affect on the improbability of the conclusion being false, all inductive arguments have some degree of strength. Thus, there is a subjective, epistemic element present in inductive fallacies not present in deductive fallacies. In order to capture this subjective, epistemic element, we can say that when the relevant improbability is less than what the framer of the argument intended or is less than what the framer of the argument presents it as having, the conclusion lacks strong inductive support. From this it follows that what makes an inductive argument fallacious is that the improbability of the conclusion being false, on the assumption that the premises are all true, is either less than one believes the improbability is, or is less than the probability one presents the argument as having.

Because the epistemic context in which an inductive argument occurs is crucial in assessing whether the inductive argument is fallacious, people often distinguish the kind of logic whose subject matter is inductive arguments, from the kind of logic whose subject matter is deductive arguments, calling the former informal logic and the latter formal logic. However, in as much as this suggests a simple dichotomy, this distinction is not quite right, and what we really have is more of a spectrum of possible positions than a dichotomy. On one side of the spectrum[53] are deductive arguments,

[52] See Haack, pp. 22-23.
[53] See Walton, 2007: p. 14, and Walton, 2008: p. 13.

which are fallacious just in case they are deductively invalid. A step removed from this are inductive arguments where, although the structure is identified by uncovering the logical forms of the natural language sentences making up the arguments, analysis must take account both of probabilistic rules of evidence and the epistemic context of the argument.[54] Further along on the spectrum are inductive arguments whose analysis does not require identifying the logical forms, if any, of the natural language sentences making up the arguments. This is the sense of informal logic captured in Johnson's claim that the "province of informal logic is argumentation, or as I prefer, the practice of argumentation."[55] For these inductive arguments, the relevant rules are, as Wright notes, rules of conversation "governing moves in a forensic language game subserving dialectical goals, notably persuasion."[56] While such rules may bear some similarity to probabilistic rules of evidence, in fact they may be quite different.[57] Because they serve as broad norms for dialectical systems[58] in which argumentation occurs, such rules are more like what Jaakko Hintikka calls "strategic rules" and much less like the "definitory rules" that characterize much of what we typically think of as logic.[59] Finally, at the far end of the spectrum relative to valid deductive arguments, are those inductive arguments (recalling that an argument is inductive because it is being evaluated according to the standard that the truth of some claims provide non-conclusive evidence for the truth of another claim) in which there is no evidential link between the premises and the conclusion.

Within this general framework, although informal logic deals with the evaluation of inductive arguments, analyses of inductive arguments that assume the existence of and therefore focus on the logical form of the natural language sentences constituting the arguments and, concomitantly, use relatively formal methods of assessment, are more akin to formal logical analyses than those analyses that lack this focus. In contrast, analyses of inductive arguments that focus on arguments understood as speech acts governed by rules in forensic language games subserving dialogical goals are, typically, much further removed from the methods used

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[54] See Yezzi.
[55] Johnson, 1999: p. 272.
[56] Wright, 1995: p. 567.
[57] For example, Eemeren and Houtlosser, 2006: p. 15, write that in "pragma-dialectics, the critical norms of reasonableness authorizing the speech acts in various stages of a critical discussion are accounted for in a set of dialectical rules." In contrast with the broadly functionalist character of pragma-dialectics, see Goodwin, pp. 83-87.
[58] See Hamblin, pp. 255ff.
[59] Hintikka, pp. 36-39.

in formal logic.[60] For these kinds of inductive arguments, fallacies are, as noted by Frans van Eemeren and Peter Houtlosser, "distortions in an argumentative exchange"[61] in which there occur "discussion moves that violate in a particular way a particular rule for critical discussion that applies to a particular stage of the discussion."[62] The upshot is that for both deductive and the various kinds of inductive arguments, and so too for formal and informal logic, the common concept of fallacy is that the premises fail, in one way or another, to provide the needed (relevant) evidence for the conclusion. Of course, what counts as the "needed evidence", as well as what counts as a failure, will vary depending on whether the argument is deductive or, if inductive, what kind of inductive argument it is. For example, in the case of arguments understood as speech acts governed by rules in forensic language games subserving dialogical goals, failures of evidence (and so what constitutes a fallacy) are determined by the rules of the relevant language game. Still, the underlying idea, as suggested by Polycarp Ikuenobe, is that, broadly, a fallacy is "an error in the method of justification that results in a failure to provide relevant evidence to satisfy certain standards of adequate proof."[63] However, since errors in justification can occur in different ways, this characterization of a fallacy certainly does not count as a "theoretical unification" or a theory of fallacies, but only as a general remark about a common characteristic of all fallacies.

## 3. The Genetic Fallacy

Given the distinction between deductive and inductive fallacies outlined above, how do genealogical critiques commit the genetic fallacy? To answer this question, let us look at a simple, sample genealogical argument. Suppose I claim that someone is closely monitoring all my daily activities. You, though, reject that claim (that is, you assert that my claim is false) because you believe (truly, as it happens) both that I am a paranoid schizophrenic and that my claim about someone closely monitoring all my daily activities is largely a result of my being a paranoid schizophrenic. Thus, it is possible to express your genealogical critique of my claim in the following way:

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[60] This is consonant with the claim in Govier, 1987: p. 14, that informal logicians contend that "the appraisal of natural language arguments requires something other than translation into a technical formal language and application of formal rules to test validity." Also, see Johnson1999: p. 268.
[61] Eemeren and Houtlosser, 2007: p. 244.
[62] Eemeren and Houtlosser, 2003: p. 389.
[63] Ikuenobe, p. 190.

**P1**. Andy claims that someone is closely monitoring all his daily activities.

**P2.** The principal reason that Andy claims that someone is closely monitoring all his daily activities is because he is a paranoid schizophrenic, and the belief that someone is closely monitoring all his daily activities is a symptom of that schizophrenia.[64]

**C.** Therefore, Andy's claim that someone is closely monitoring all his daily activities is false.

The critic of genealogical critiques would say that even if we assume that the two premises are true, the fallacy exemplified by this argument comes from supposing that the truth of the two premises provides support for the truth of the conclusion. As already noted though, there are two different ways to understand "support"; on the one hand, the support could be deductive, while on the other hand, it could be inductive. If the critic of the argument claims that the genealogical critique is a deductive argument, and so evaluates it according to deductive standards, then the question is whether the argument is valid or invalid. The full answer to whether the argument is valid or invalid depends on an account of how to determine the logical form of the natural languages making up the argument, a specification of criteria for when an argument form is a valid or invalid argument form, and an application of the criteria to the argument form of the genealogical critique. Unfortunately, even if the sentences in the genealogical critique did not include intensional contexts (e.g., "claims that …"), determining the logical form of a natural language sentence (or even if a natural language sentence has a single logical form) is a contentious matter.[65] For instance, some writers (e.g., Donald Davidson) believe that the goal of specifying "the" logical structure of a sentence is really part of a more general project of specifying the truth conditions for the language of which the sentence is a part.[66] Not only does this make the discovery of a sentence's logical form part of a very complex empirical investigation, but, as Richard Grandy notes, if one "attempts to identify logical form with definition of truth, one must be prepared to accept the existence of a multiplicity of forms relative to diverse metalanguages with different vocabularies and logics."[67] Moreover, as intimated by Mark Sainsbury, the aim of segregating

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[64] See the list of symptoms of paranoid schizophrenia prepared by the Mayo Clinic Staff at http://www.mayoclinic.com/health/paranoid-schizophrenia/DS00862/DSECTION=symptoms.

[65] See Burge, pp. 201-206.

[66] See, for example, the discussion in LePore and Ludwig. Also, see Evans, pp. 199-209, and Jackson, pp. 350ff.

[67] Grandy, p. 163.

formal validity in natural languages from other kinds of assessments of arguments threatens to ignore how our non-formal, perhaps vague notions of what counts as a good argument places constraints on assignments of logical forms.[68] Still, even with these (and other assorted) difficulties, and with no worked out theoretical account of logical form, suppose that it happens, as a matter of fact, that all my daily activities are, unbeknownst to you who made the genealogical critique, really being closely monitored by people who are concerned about my well-being. In other words, suppose that the conclusion of the genealogical critique is actually false (even though both of the premises are, *ex hypothesi*, true). Inasmuch as the two premises being true and the conclusion false captures what Gerald Massey calls the "trivial logic-indifferent method of proving invalidity",[69] we can say, even with the caveats already made, that the argument is invalid and, consequently, deductively fallacious.

In contrast, if the critic of the argument claims that the genealogical critique is an inductive argument, then the question is whether the truth of the premises makes the improbability of the conclusion being false less than one believes the improbability is, or less than the probability one presents the argument as having. As already noted, there is not a univocal concept of an inductive argument. An argument is an inductive argument because of a decision to assess the argument according to whether the premises, if true, make it improbable, but not impossible, that the conclusion is false. However, because there are different ways to implement this assessment (e.g., quasi-formally or using rules in forensic language games subserving dialogical goals), it follows that there are several different ways for an argument to be an inductive argument. Thus, a full accounting of whether the sample genealogic critique is a strong inductive argument needs to assess, carefully and fully, the critique using each of the implementations of the inductive assessment of the critique. Such a detailed analysis, even for the relatively simple case of the sample genealogical critique, lies beyond the scope of this paper.

Nevertheless, even though it involves a bit of "hand-waving", it does seem plausible to claim that, under ordinary circumstances, the sample genealogical argument, when assessed according to inductive criteria, is weak. More specifically, even if the premises are true, under ordinary circumstances the truth of the premises, by themselves, seem to have a relatively weak evidential relation to the conclusion, and so do **not** make it improbable that the conclusion is false. After all, if I truly am a paranoid schizophrenic, and this is known to people having an interest in my welfare, then my

[68] See Sainsbury, pp. 332-334.
[69] Massey, 1981: p. 494.

being a paranoid schizophrenic is likely to make it more, not less likely that my daily activities are being closely monitored. Notice that this does **not** mean that an expanded version of the genealogical critique, in which we include other premises, needs also be a weak inductive argument. For example, suppose that we include the premises that I have no close friends, that there are no people very much interested in my welfare, and that my being a paranoid schizophrenic is a relatively recent phenomenon. The addition of these premises, on the assumption that the added premises are true, would increase the improbability that the conclusion is false. As noted earlier, an assessment of the strength of an inductive argument depends on the epistemic context of the argument; this means that inductive arguments, unlike deductive arguments, are, in this respect, non-monotonic. However, whether it is possible to reconstruct a related, but different, stronger inductive argument is beside the point in the case of the present, sample genealogic critique. On the assumption that the framer of the argument presented it in good faith as an attempt to demonstrate the improbability of the conclusion being false, then because the premises, if true, do not, under ordinary circumstances, make it as improbable that the conclusion is false as the framer believes, it follows that the genealogical argument is inductively fallacious. The upshot is that if either validity or (sufficiently) strong inductive support is at least one of the important criteria by which we judge the merits of an argument, then it appears that people who use genealogical critiques are, at the very least, often purveyors of bad arguments.

For at least two different reasons though, appearances are misleading. If we take the proffered example as typical of genealogical critiques, then the problem with such critiques is not, at least directly, the evidential link (deductive or inductive) between the premises and the conclusion, and so not a problem either of validity or of inductive strength. To see this, consider the general form of genealogical critiques suggested, at least in part, by the sample genealogical argument:

**Formulation 1**

**Claim:** C is a claim made by some person.

**Genealogical Critique:** Concerning the claim that C, it is possible to construct an argument having as one of its premises the reasons that led to the critiqued person making the claim that C, where the premises of this new argument logically imply that C is false. This entails that the critiqued person is not justified in making the claim that C.

So expressed, it is important to distinguish two questions from one another, and answer each. The first question is whether genealogical critiques formulated in this way are fallacious. On the assumption that the example considered earlier is typical of genealogical critiques, the answer to this question is "yes", critiques formulated in this way are usually fallacious. Genealogical critiques are fallacious in the deductive sense and, usually, in the inductive sense of fallacy. Contrary to the claim of the genealogical critique, it is not the case either that, when evaluated by deductive criteria, the conclusion must be true if the premises are all true, or when evaluated by inductive criteria (that may be quasi-formal or dialogical), that it is improbable that the conclusion is false if the premises are all true.

However, one possible response for advocates of genealogical critiques is that this criticism applies only to genealogical critiques that are incompletely stated. For example, in the case of the sample genealogical critique, suppose that we added the premise "Anytime that being a paranoid schizophrenic is the principal reason for why a person makes a particular claim, then that claim is false." In this case, the revised genealogical critique is valid. Moreover, if the argument is valid, then, assessed by inductive criteria, the argument is inductively strong as well. After all, since, in a valid argument, the truth of the premises necessitates the truth of the conclusion, then it also follows that the truth of the premises makes it improbable (in fact, impossible) that the conclusion is false. The general point then, reflecting a variation of what David Hitchcock calls "methodological deductivism",[70] is that it is possible to turn any invalid genealogical critique into a valid genealogical critique (and so too, a strong inductive genealogical critique) by treating the original argument as enthymematic and adding the "appropriate" universal premise.

The problem, though, is that the validity of the argument (and so too the inductive strength of the argument when assessed by in-

[70] See Hitchcock, p. 63.

ductive criteria) comes at the cost of the soundness of the argument. Although it may be the case in a particular instance that the claim of a paranoid schizophrenic, made principally because the person is a paranoid schizophrenic, is false, this is not generally and unqualifiedly the case. Analogously, adding the premise may mean that the argument, when evaluated according to inductive criteria, is inductively strong (since the truth of the premises necessitate the truth of the conclusion), but this comes at the cost of including a premise in the argument that is not true. Of course, in the case of an inductive argument, the premise could be something weaker than a universal generalization. For example, one could add the premise "Most times that being a paranoid schizophrenic is the principal reason for why a person makes a particular claim, then that claim is false."[71] However, since we can imagine cases in which it is not the case that the paranoid schizophrenic's claim, though principally a result of the schizophrenia, is false, it is difficult to assess whether it is true in most cases that such a claim is false. For example, short of definitional fiat, it seems implausible to assume that the belief forming mechanism associated with being a paranoid schizophrenic (even if one could narrowly individuate the mechanism in this way) is highly anti-reliable, something that would, if true, warrant the needed premise. At the very least, whether the beliefs of a paranoid schizophrenic, caused principally by the schizophrenia, are false (or likely to be false), seems to be tied tightly to the specifics of the case. This suggests that without considerably more information, such a reformulated argument would not have the strength that the framer of the argument believed or intended it to have. If there were no good, independent reasons to accept the additional premises as true, the appropriate response would be to concede that **if** the premises were all true it would be improbable that the conclusion is false, but that without good reasons to accept the truth of the premises, there is no good reason to accept the conclusion as true. In either case then, while it may be possible to augment the sample genealogical argument, and so turn it into a deductively valid or formally[72] strong inductive argument, such augmentation typically comes at the cost of requiring the use of a false premise or a premise we cannot simply assume is true. Thus, such augmentation, without independent justification for accepting the truth of the premises, either does not increase the likelihood that the conclusion is true, or does so in a way in which there is no justification for believing that the likelihood has been increased. In the latter case, as C.L. Hamblin notes, the argument

[71] See Klement, p. 387, for a version of this premise making use of a reliabilist theory of epistemology.

[72] The qualification highlights that a different story is needed when the inductive argument is assessed according to dialectical criteria.

"will be quite useless" in establishing the conclusion so long as no one knows whether the premises are true.[73] The important point here, regarding conflations of the context of discovery and the context of justification, is that we have framed the problem with genealogical critiques independently of the possible conflation of the two contexts. If there are problems with genealogical critiques, they are not exclusively problems caused by conflating the context of discovery and the context of justification.

The second question is whether it would follow, even if the genealogical critique were a valid or inductively strong argument, that the critiqued person was not justified in holding the belief. It is here that the conflation of contexts of discovery and justification, which is the traditional criticism of genealogical critiques (and the reason that people refer to them as genetic fallacies), comes to the fore. Presumably, people who advocate genealogical critiques believe that successful logical implications translate into constraints on psychological inferences (reasoning). In particular, suppose that we follow Walton and say that reasoning "is the making or granting of assumptions called *premises* (starting points) and the process of moving toward conclusions (end points) from these assumptions by means of warrants."[74] Given this characterization, one interpretation of genealogical critiques is that they use the elements in the reasoning (inferring) process of a person to form an argument whose conclusion is the negation of the person's claim. Subject to the caveats noted above, since the resulting argument is invalid or inductively weak, this demonstrates that one or more inferential warrants have been violated and, consequently, that it is not the case that person's claim is justified. The important point here is the movement from information about the psychological processes (inference) that led to the claim (context of discovery), to a reconstructed valid or inductively strong argument (context of justification), back to an assertion about the permissibility of the person's inference. Thus, the genealogical critique uses both the context of discovery and the context of justification, and supposes that each context either provides information for, or places constraints on, the other.

We have now reached the central concern of those who believe that genealogical critiques are fallacious. The problem, put quite simply, is that genealogical critiques treat inference and implication conditionally; implication is conditional on inference, and inference is conditional on implication. However, according to Gilbert Harman,[75] it is one thing to say that the truth of the premises of an argument **imply** the conclusion of that argument, and it quite an-

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[73] Hamblin, p. 236. Also, see Pinto, pp. 117-118.
[74] Walton, 1990: p. 403.
[75] Harman, p. 18. Also, see Wesley Salmon, p. 12.

other thing to say that if you believe that certain propositions are true, you should (or may) **infer** that another proposition is true. Implication is a logical relationship between premises and a conclusion in an argument, whereas inference is a relationship between asserted premises and an asserted conclusion in argumentation.[76] For Harman, and so too people who worry that genealogical critiques conflate the context of discovery with the context of justification, implication is a logical relationship between premises and a conclusion, whereas inference is a psychological transition from one set of claims/beliefs[77] to another (possibly new) set of claims/beliefs *based on* or *drawn from* the old claims/beliefs.[78] Reflecting the legacy of logical positivism's and the ordinary language movement's bifurcation of epistemology and psychology,[79] in Harman's view the question of whether an implication is correct or incorrect does not have any direct bearing on the question of whether you should (or may) infer that the conclusion is true. As Alvin Goldman writes, logic, at least when that logic is deductive or the more formal portion of inductive logic, "is completely silent about cognitive states; its subject matter is wholly different."[80] In the case of inference, which is a psychological phenomenon, the question is whether the non-logical, psychological-causal relationship between the origins of the claims/beliefs in the premises, and the claim/belief in the conclusion is an appropriate psychological-causal relationship.[81] In contrast, in the case of implication, the question is whether the right logical (and so evidential) relationship exists between the premises and the conclusion. What this means is that inference, as a psychological activity, has to do with the context of discovery, while implication, as a logical (evidential) relationship between premises and a conclusion, has to do with the context of justification.

Given this distinction, and the sharp line drawn between them, the principal problem of genealogical critiques is that they run together the context of discovery with context of justification rather than keeping them separate. The standards of logical implication say nothing about what inferences are permissible, let alone what inferences one should or should not draw. Conversely, the standards of inference, being psychological-causal in nature, say noth-

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[76] See Goldman, 1999: pp. 134-136.

[77] I am, in this paper, assuming a strong connection between claims and beliefs; claims are expressions of beliefs. However, the more one understands claims as a kind of assertion, there are good reasons to think that claims are not (at least not with qualification) expressions of beliefs. See, for example, Dummett, p. 311 and Milne, pp. 269ff.

[78] See Winters, p. 202.

[79] Goldman, 1985: p. 30.

[80] Goldman, 1985: p. 42. Also, see Johnson, 1999: p. 270.

[81] See Goldman, 1985: pp. 33, 36, and Goldman, 1999: p. 29.

ing about what implications are valid or inductively strong. As Goldman remarks, rules "for good argumentation should be distinguished from rules for good arguments".[82] Arguably, this conflation of (logical) implication with (cognitive) inference is what really lies behind saying that the fallaciousness of genealogical critiques rests in their conflating contexts of discovery (inference) with contexts of justification (implication).[83] This also explains why some people[84] classify genetic fallacies under the more general rubric of "fallacies of relevance"[85]; unless one is willing to accept some kind of psychologism, the context of discovery is not relevant to the context of justification. Significantly, this also places the traditional account of so-called genetic fallacies, understood as conflations of contexts of justification with contexts of discovery, squarely in the realm of mistakes in the applications of formal or quasi-formal implication.

Perhaps though, this is not the whole story and advocates of genealogical critiques really have a different target. Although often framed in a way that might suggest otherwise, perhaps the true purpose of genealogical critiques is to undermine, indirectly, claims by criticizing the arguments people would use in support of their claims if asked to provide such an argument. Here, at least, advocates of genealogical critiques have moved away from conflating the contexts of discovery and justification, and have focused directly on the context of justification. So understood, genealogical critiques have a different structure:

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[82] Goldman, 1999: p. 135.

[83] This also fits with Cohen and Nagel's, p. 388, characterization of genetic fallacies as occurring when one supposes that "an actual history of any science, art, or social institution can take the place of a logical analysis of … [an argument's] structure."

[84] See, for example, Engel, pp. 198-199.

[85] See Klement, p. 385, who writes that the "genetic fallacy is usually seen as falling in the category of *fallacies of relevance*".

**Formulation 2**

**Argument:** If asked to do so, person A would support her or his claim that C with the argument $P_1, P_2, \ldots, P_n$ therefore C

**Genealogical Critique:** Concerning the set of premises $\{P_1, P_2, \ldots, P_n\}$, there is at least one member of the set held true because of its origin (cause), and it is possible to construct an argument making use of this fact whose conclusion is that at least one member of the set $\{P_1, P_2, \ldots P_n\}$ is false. Thus, because at least one member of $\{P_1, P_2, \ldots P_n\}$ is false, the truth of C does not follow from $\{P_1, P_2, \ldots P_n\}$. This entails that the critiqued person is not justified in making the claim that C.

Given this characterization, the feature to notice is that if we were to assess an argument's merit only in terms of whether or not the premises, if true, either necessitate the truth of the conclusion or make it improbable that the conclusion is false, then a genealogical critique does not directly address the question of an argument's merit. For example, suppose that Jason claims that all dolphins are fish, and that, when asked to justify this claim, offers the following argument:

**P1.** Every animal that lives in the ocean is a fish.
**P2.** Dolphins are animals that live in the ocean.
**C.** Therefore, dolphins are fish.

At this point it is possible to construct a genealogical critique of Jason's claim that dolphins are fish by asserting that the reason Jason claims that the first premise, that every animal living in the ocean is a fish, is true, is that people who knew nothing about dolphins were his teachers. These people mistakenly taught Jason that every animal living in an ocean is a fish. We can even suppose that this sort of critique does provide a good reason for supposing that the first premise in the argument is false. All this can be true, and yet none of this has any bearing on whether or not Jason's argument is valid. Moreover, since, in fact, the argument **is** valid, then the argument is a "good one" if only assessed either according to deductive criteria or according to inductive criteria (keeping implication and inference separate in the case of inductive assessment). Thus, if the goodness of an argument is only a function of whether the argument is either valid or inductively strong (again, keeping

implication and inference separate in the case of inductive assessment), then the genealogical critique does not say anything about whether the argument is a good one. Put a bit differently, the genealogical critique, on this new construal, does not distinguish valid arguments from invalid arguments. *Mutatis mutandis*, as long as we insist on a sharp separation of implication and inference in the case of inductive assessment, the genealogical argument does not distinguish strong inductive arguments from weak inductive arguments. Instead, on this new construal, if the genealogical critique of an argument has any force, it is only as it pertains to whether all the premises of the argument are true, not to whether the premises logically imply (inductively or deductively) the conclusion. Therefore, let us turn directly to the question of what merit genealogical critiques have *viz. a viz.* the question of whether the premises of an argument are all true.

Even when restricted to the issue of whether the premises of an argument are all true, it initially seems that a genealogical critique of an argument need not be particularly worrisome to an advocate of that argument. For example, suppose Jason claims that the cube root of 27 is greater than 2, and when asked to justify his claim, offers the following argument:

**P1.** The cube root of 27 is 3.
**P2.** 3 is greater than 2.
**C.** Therefore, the cube root of 27 is greater than 2.

Let us further suppose that you happen to know a rather interesting fact about Jason—viz., that the principal reason Jason believes that the cube root of 27 is 3 is because of an early childhood head trauma. Jason hitting his head as a child is the cause of his belief that the cube root of 27 is 3. If now, rather perversely perhaps, you set out to offer a genealogical critique of Jason's argument, you might offer something like the following:

**P1.** The principal reason that Jason claims that the cube root of 27 is 3 is because of an early childhood head trauma he suffered.
**P2.** Any claim caused principally by an early childhood head trauma is false.
**C.** Therefore, it is false that the cube root of 27 is 3.

Here, though, we are back to the point made earlier in connection with the first formulation of genealogical critiques. Although the argument is deductively valid (and, by default, inductively strong as long as a sharp distinction is made between implication and inference in the case of inductive assessment), there is no good

reason to accept the truth of the premise asserting that any claim caused principally by an early childhood head traumas is false. Indeed, if it is in fact true that the only reason that Jason claims that the cube root of 27 is 3 is because of an early childhood head trauma he suffered, then the truth of 3 being the cube root of 27 demonstrates that the premise is, in fact, false. Thus, although the argument may be valid, and so too inductively strong as long as a sharp distinction is made between implication and inference in the case of inductive assessment, it is not sound.

Again, though, as we did earlier, we could treat the genealogical critique as an inductive argument (assess it exclusively by inductive criteria) and weaken the second premise to something like, "Most claims caused principally by an early childhood head trauma are false". If true, this premise, in conjunction with the premise stating that the principal reason that Jason claims that the cube root of 27 is 3 is because of an early childhood head trauma he suffered, would make it improbable that the conclusion was false. However, what justification is there for accepting the truth of the premise that most claims caused exclusively by an early childhood head trauma are false? This is an assertion whose truth depends on complex empirical investigations; it may be true, but it is not obviously true. Of course, we could emphasize the conditional nature of the conclusion by saying that it is improbable that the conclusion is false **if** the premises are true, and that we do not know whether all the premises are true. However, this does not provide any justification for claiming, without the appropriate conditionalizing, that it is improbable that the conclusion is false. In this case, we are back to Hamblin's point, noted earlier, that so long as one does not know (or, following Pinto, have justifiable reason to believe[86]) that all the premises are true, the argument will be useless in establishing the truth of the conclusion.[87] Thus, even if we reconstruct the genealogical critique as an inductive argument, unless we have independent justification for accepting the truth of the premises of the genealogical argument, the "use value" of the argument is at best problematic, and at worst very weak.

## 4. The real function of genealogical critiques

It is just at this point that the advocate of genealogical critiques may want to pull up short. It is altogether possible that an advocate of genealogical critiques is willing to concede that such critiques are either invalid or, when made valid by the addition of one or more premises, unsound. Moreover, it is quite possible that such an

[86] See Pinto, pp. 118-120.
[87] Hamblin, p. 236.

advocate is also willing to concede that genealogical critiques are either inductively weak or inductively strong (excepting the limiting case of unsound, valid genealogical critiques) only if one accepts the truth of premises for which there is little or no evidential support. Nonetheless, the advocate of genealogical argument may also go on to insist that all of this misses the point of genealogical critiques. Although the purpose genealogical critiques is to undermine a person's claim by critiquing the argument a person *would* provide, *if* asked, in support of his or her claim (and, again, this places genealogical critiques squarely back in the context of justification), this can be understood in at least two different ways. On the one hand, we can understand genealogical arguments as deductively demonstrating that a particular claim is false because of facts about its origins. As has already been shown though, the problem with this understanding of genealogical critiques is that genealogical critiques are most often either invalid, or, because their validity depends on being reconstructed with a patently false universal premise, unsound. Thus, even if genealogical arguments avoid conflating contexts of discovery with contexts of justification, they are still either invalid or unsound, and so may be dismissed as lacking anything other than, perhaps, rhetorical value.

However, there is another, more modest understanding of the role played by genealogical critiques. According to this more modest understanding, the purpose of genealogical critiques is to call into question the assumption made by the person making the argument to support his or her claim that all the premises of the presented argument are true. The genealogical critique seeks to accomplish this task by presenting an inductively strong argument whose conclusion is that either at least one of the premises of the critiqued argument is false, or there is at least one premise for which we do not have any justifiable reason to assume its truth. What differentiates this inductively strong argument from its valid counterpart is that while the valid form of the genealogical critique makes use of a universal premise for which there are good reasons to think it is false (thus making the argument unsound), the inductively strong argument makes use of a weaker premise whose truth is possible, though perhaps not known. The advocate of the genealogical critique is thereby focusing on the conditional nature of critiqued argument. Yes, if we accept the premises of the argument, then depending on whether we assess the argument by deductive or inductive standards, the argument is a good one; it is either valid or inductively strong. However, because of the genealogical critique, we have justification for claiming that either at least one of the premises of the critiqued argument is false, or there is at least one premise for which we do not have any justifiable reason to assume its truth. If at least one of the premises is false, then there is no justification for accepting the conclusion of the critiqued argument

until we have answered the challenge of the genealogical critique by either showing that the troublesome premise is, in fact, true, or we have replaced the troublesome premise with one whose truth is not in doubt. Alternatively, if there is at least one premise for which we do not have any justifiable reason to assume its truth, then there is no justification for accepting the conclusion of the critiqued argument until the truth-value of the troublesome premise is established. If the truth-value turns out to be false, either the person will have to give up the argument in support of the claim, thereby undermining the claim, or the person will have to replace the troublesome premise with a different one whose truth is not problematic. If it is possible to establish the truth of the premise, then the person **is** justified in making the claim. That does not mean that the genealogical critique was useless; the genealogical critique still led to a more careful consideration about the truth of a claim (the troublesome premise) whose truth was not obvious. Thus, on this more modest version, the conclusion of a genealogical critique is not that a held belief is false, but rather that the truth of the conclusion is less than what the person making the claim believes it to be.

If we understand genealogical critiques in this more modest way, then even if genealogical critiques are invalid, and so fallacious in the framework of deductive logic, they often can have an important part to play the in the broader practice of inquiry. Suppose, for instance, that it turns out that some of our fears and desires either incline us to accept as true, claims that are not true, or to accept, uncritically, certain of our claims as true. If we can show that an advocated argument is using one or more of these claims as a premise, then it seems that we ought to take seriously a genealogical critique of that argument.[88] What the genealogic critique does is to call into question whether we ought to accept as true the claims that we make when constructing an argument. In doing this, the genealogical critique demonstrates why even though the critiqued argument may be deductively valid or inductively strong, there is less justification for accepting the truth of the conclusion of the argument than what the person making the argument believes there is. Thus, in its focus on the acceptability of the truths of the premises of an argument for a claim, the modest genealogical critique remains entirely within the context of justification and avoids the category mistake that comes from conflating the context of justification with the context of discovery. At the same time, this understanding of genealogical critiques rejects an entirely formalized "logic of justification" that focuses exclusively on the forms of arguments. The historical context, psychological genesis and development, and socio-political-economic conditions that underlie the

[88] See Hanson, 1967a: p. 323, who writes that philosophy of science should properly concern itself with the ideas behind scientific discoveries.

acceptance of an argument's premises may be, and often are, relevant in assessing the soundness of the argument, and so assessing whether there is less justification for accepting the truth of the conclusion of the argument than what the person making the argument believes that it is. In this sense, advocates of modest genealogical critiques are able to address Lorraine Code's concern:

> The positivistic separation of the contexts of discovery and justification produces the conclusion that even though information gathering (discovery) may sometimes be contaminated by the circumstantial peculiarities of everyday life, justificatory procedures can effectively purify the final cognitive product—the knowledge—from any such taint."[89]

Equally important, and implicit in the above comments, genealogical critiques also have a place in dialogical conceptions of argumentation. Recall the point made earlier that it is possible to understand inductive arguments as speech acts governed by rules in forensic language games subserving dialogical goals.[90] For these kinds of inductive arguments, fallacies are "distortions in an argumentative exchange"[91] in which there occur "discussion moves that violate in a particular way a particular rule for critical discussion that applies to a particular stage of the discussion."[92] In this context, the role of genealogical critiques is to call attention to possible violations in the rules for critical discussion that result from uncritically accepting the truths of claims made in the discussion. The genealogical critique, when taken seriously, asks the parties involved in the activity of argumentation to "stand back" and critically assess whether the rules governing the activity of argumentation are being followed and whether there are good reasons for accepting (if only provisionally) the truth of the various claims that, in part, constitute the activity. Thus, the value of genealogical critiques is not limited to the more traditional, non-dialogical conceptions of argument and implication; the value also extends to pragma-dialectical conceptions of argumentative discourse.

## 5. Conclusion

In summary, there are at least three important characteristics of the revised, modest genealogical critique. First, the genealogical cri-

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[89] Code, p. 26.
[90] This is consonant with the claim in Govier, 1987: p. 14, that informal logicians contend that "the appraisal of natural language arguments requires something other than translation into a technical formal language and application of formal rules to test validity." Also, see Johnson1999: p. 268.
[91] Eemeren and Houtlosser, 2007: p. 244.
[92] Eemeren and Houtlosser, 2003: p. 389.

tique often focuses on specific dispositional tendencies of people to accept or reject beliefs, and not principally on characteristics of the beliefs themselves. Suppose, for example, that I am naturally disposed to mistrust anything about the environment that a U.S. Republican party member says. Based on this disposition, I make a variety of claims relating to U.S. Republican party views about environmental policies. Here, because my claims reflect a reactionary disposition on my part to Republican claims, the purpose of a genealogical critique is to show that people ought to be careful in their acceptance of what I say and advocate concerning U.S. Republican party environmental views. Importantly, it does **not** follow from this that my claims about U.S. Republican party environmental views are false. All that follows is that there may be good inductive evidence to support the view that one or more of the premises I would use in arguments supporting my claims are false, and that before either accepting or rejecting my claims, we need to consider this evidence. So understood there is an important similarity between the (proper) role of genealogical arguments and Alan Brinton's rhetorical view of *ad hominem* arguments. For Brinton, a good *ad hominem* argument criticizes the character of a person (the person's deliberative *ethos*) and so calls into question whether the claims of a person should carry the weight that they are given.[93] Analogously, the purpose of genealogical critiques of my claims is to provide inductive arguments that challenge, but do not necessarily refute the arguments I would, if asked, offer in support of my claims about U.S. Republican party environmental views.

Second, even within this modest framework, the goal of genealogical critiques is too often overstated[94]. The critique, by itself, does not conclusively undermine an argument[95], nor does it throw the value of an entire tradition of inquiry into question. More than this, the justification called into question is not some kind of abstract, idealized justification, but rather the justification that a particular person (or group of people) has for making the claims he or she does in support of a conclusion. Consider, for example, case of physicians or medical researchers using financial support from the pharmaceutical industry to conduct biomedical research. A common worry is that this kind of relationship can, or at least could create a "conflict of interest" for those physicians or medical researchers. The U.S. Institute of Medicine defines a conflict of interest as "a set of circumstances that creates a risk that professional judgment or actions regarding a primary interest will be unduly in-

[93] See Brinton, pp. 51-52, 56ff. Also, see Hinman, pp. 340, for whom the link between *ad hominem* arguments and genealogical critiques is explicit.

[94] See Crouch, 1993: p. 229, who writes that the genetic fallacy has been "used to discredit not only individual arguments used by philosophers, but entire approaches to issues."

[95] See Handy, p. 28.

fluenced by a secondary interest."[96] This, though, is precisely the kind of context in which a genealogical critique is appropriate. If a particular group of researchers is funded by a pharmaceutical company and then publishes results that support the use of a product of that pharmaceutical company, then a genealogical critique, pointing out how published research results can sometimes be influenced by the research's funding, is altogether appropriate. Such a critique does not entail that the published results are incorrect; the function of the critique is to draw attention to the need for a more critical evaluation of the claims made by the researchers (as well as to their applications of research methodology) used in support of the conclusions they draw from their research. What is important to keep in mind is that even if the genealogical critique reveals reasons for supposing that the arguments given by the researchers in support of their claims are unsound, it does not follow that one cannot in principle give a sound argument in support of those claims. Again, the point to emphasize is that genealogical critiques are not "wholesale" refutations of the truth of claims; genealogical critiques are local, not global. For this reason, one needs to deploy and use genealogical arguments on a case-by-case basis.

Finally, the real value of the modest genealogical critique is in its role of reminding us that our prejudices—whatever their cause or character—sometimes lead us to accept as true what isn't, and to unquestioningly accept ideas and practices that should give us pause.[97] For example, studies have shown that the "vigorous marketing of newer, more costly agents [pharmaceuticals] compared with virtually no marketing for older, off-patent drugs" leads prescribing physicians and patients to prefer those drugs.[98] However, clinical trial data and evidence-based recommendations do not support the practice as necessarily reducing adverse outcomes. Often, only an uncritical acceptance of the vigorous marketing leads to the prescribing practice or patient demand. A genealogical critique of arguments that a person or group of people might give to support a particular prescribing practice, or a particular patient preference, can uncover these facts about product marketing and the psychology of patients who use the products. Such a critique could not only help the health and finances of patients, it could benefit a society where the fair and equitable control of health care costs is important. Here, in its more modest home, the genealogical critique plays a useful and welcome role.

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[96] Steinbrook, p. 2160.
[97] Also, see Crouch, 1991: pp. 114 – 115.
[98] Fischer and Avorn, p. 1854.

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