Reconstructive Deductivism and Its Misapplication

Ting Xie

Abstract. This paper differentiates two types of reconstructive deductivism: qualified reconstructive deductivism (QRD) and non-qualified reconstructive deductivism (NQRD) in terms of distinctions in their working methods. With a critical survey on the objections against and justifications for them, I shall argue that some objections against reconstructive deductivism are untenable and some justifications are problematic in themselves. I also argue that neither QRD nor NQRD is an adequate theory for natural language arguments, though they do trigger a number of theoretical issues.

1 Introduction

Debates concerning deductivism seem to be a hallmark of the informal logic tradition. Various definitions of deductivism could be found in pertinent texts and other works. Generally speaking, "deductivism" could be defined as follows:

> *Deductivism is the view that all arguments appearing in natural language are best analyzed as deductive arguments. Deductivism typically proceeds by "identifying" additional premises that are implicit in a particular informal, apparently inductive argument, but not explicitly stated. These additional premises render the argument a deductive one.* ([2], p. 83)

By a *deductive argument* is meant an argument that is deductively valid, i.e., one such that if its premises are true, its conclusion cannot be false. By an *inductive argument* is meant a deductively invalid argument, i.e., an argument that could have a false conclusion even if its premises are true. The definition of deductivism offered above involves three parts. The first sentence shows an interpretive approach to deductivism, which points out how natural language arguments should be interpreted. And the second sentence introduces its working method, which reveals a method of deductively recasting arguments when analyzing and assessing them. The third sentence approaches deductivism from an evaluative perspective, which is about standards by which arguments should be evaluated. That is to say, "deductivism" could be used to denote a theory about how to evaluate arguments. It is also often used to denote a theory about how to interpret arguments.

Ting Xie   Department of Philosophy, East China Normal University
          TXieecnu@126.com

The method of making an inductive argument deductively valid by adding an implicit premise characterizes reconstructive deductivism. In a word, reconstructive deductivism maintains that all informal arguments can best be interpreted as attempts to create deductively valid inferences, and should be analyzed and assessed accordingly. In dealing with arguments which are not explicitly deductive, the reconstructive approach interprets an argument as a deductive one by attributing to it an implicit premise that makes it so. Then the assessment of an argument will be an evaluation of the strength of its premises, whether explicit or implicit.

Obviously, the literature related to reconstructive deductivism are abundant, so I cannot pretend to offer an exhaustive treatment. This paper will focus on Leo Groarke's and David Hitchcock's[1] reconstructive deductivism. Both Groarke and Hitchcock are outstanding scholars in the field of informal logic, and have published several influential papers to argue for reconstructive deductivism which have already aroused wide academic discussion. They approach to "deductive" in different ways, even though they both take a stand of deductive reconstruction to some extent. Groarke treats "deductive-inductive" as types of argument, while Hitchcock takes them as types of validity. A close look at the similarities and dissimilarities between their theories will pave the way for a better understanding for argument analysis and appraisal. By diving into its definition and different practical usages, I differentiate two types of reconstructive deductivism, namely qualified reconstructive deductivism (QRD) and non-qualified reconstructive deductivism (NQRD). In this paper, I shall criticize both of the above and point out their misapplication to non-deductive arguments. In particular, I shall argue that reconstructive deductivism, either QRD or NQRD, is not an adequate theory of argument analysis and appraisal.

The rest of this paper is organized as follows. Section 2 presents two different kinds of reconstructive deductivism and their characteristics. Section 3 focuses on the objections and defenses they face within the field of informal logic, and then I give my own reflective thinking on problems which, I think, reconstructive deductivism runs into. In Section 4, I will point out the deficiencies of deductive reconstruction while recasting some arguments which are seen as irreducible to be deductive, such as inductive arguments, conductive arguments and arguments from analogy. Finally, Section 5 summarizes and discusses the profound significance of reconstructive deductivism together with the way in which this opens up new opportunities for the future study of informal logic and argumentation theory.

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[1]Neither Leo Groarke nor Hitchcock used the term "reconstructive deductivism" directly in their papers. This term is taken from Govier ([5]). The reason I unify their terms under "reconstructive deductivism" is based on simplicity, for what they illustrate is the same as the contents of reconstructive deductivism.

2 Two Types of Reconstructive Deductivism

Although basic ideas are shared, different scholars still have their own specific usages of reconstructive deductivism, due to their different understandings of the working methods. In contemporary discussion, debates about the contrast are rooted in Leo Groarke ([6, 7, 8]) and David Hitchcock ([12, 13, 14]).

2.1 Groarke's NQRD

Leo Groarke ([7, 8]) develops a version of non-qualified reconstructive deductivism (NQRD). (The name is mine, not Groarke's.) NQRD holds that reconstructive deductivism always seems possible because one can always assign the claim that an argument's conclusion follows from its explicit premises as an implicit premise that renders the inference deductively valid.

Groarke gives several definitions of deductivism:

(a) I understand deductivism as the view that ordinary arguments are best analyzed as deductive inferences ([7], p. 139);

(b) deductivism might roughly be described as the view that all arguments should be understood as attempts at deductive arguments ([8], p. 1);

(c) by deductivism I mean the view that natural language arguments should be understood as attempts to formulate deductive arguments ([8], p. 2).

If we take a closer look at the definitions above, it is not difficult to see that Definition (a) and (b) are interpretive accounts of deductivism, while Definition (c) approaches deductivism in an evaluative way[2]. This is consistent with the general understanding of this term. What is distinct is that he re-clarifies some conceptions.

Firstly, he distinguishes "deductive validity" from "formal validity" and contends that the former is much broader than the latter. Consider below, the following two remarks by Groarke:

> *Among other things, I stress that deductive validity extends beyond the relatively narrow conception of (formal) validity that characterizes deductive formal systems.* ([8], p. 1)
> *An argument is deductively valid if (and only if) it is impossible for the premises to be true and the conclusion false. There are many cases when this condition is fulfilled even though there is no system of formal logic which can demonstrate that this is so.* ([8], p. 2)

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[2] The acceptability of deductivism as an interpretive account is based on the correctness of deductivism as an evaluative thesis. If deductivism validity is the only proper standard by which arguments are evaluated, then it is reasonable to treat deductivism as an interpretive strategy. They are so closely related whether considered in a theoretical or practical way. Therefore, this paper will not make a special distinction between these two senses of deductivism while using the term "deductivism".

According to the remarks above, Groarke holds that formal validity characterizes deductive formal systems, while deductive validity is applicable for not only the formal systems, but also those non-formal ones. In other words, it means that a valid argument may be valid either in virtue of its forms or in virtue of the meaning of the terms that it contains. Therefore, Groarke concludes that it is the deductive validity, rather than the formal validity, that should be the core concept of deductivism.

Secondly, he argues that the distinction between deductive and inductive arguments is not the idea that the former has certain conclusions, while the latter harbors uncertain ones. A deductive argument is necessary only in the sense that its premises necessarily entail its conclusion, not that its conclusion is necessarily true.

Based on the above re-clarification, Groarke insists that it is always possible to deductively reconstruct an argument which is not transparently deductive by noting that any arguer is committed to the statement that "If the premises of my argument are true, then the conclusion is true." This can be derived from the implications of the speech acts "argument" and "assertion", because an arguer who argues for some conclusion C from some set of premises purports to believe both that C is true and that her proposed premises justify this belief. ([6], pp. 30–31)

To sum up, Groarke contends that there is no need to distinguish among arguments which are inductive, conductive, deductive, abductive, and so forth. Because all arguments can be reconstructed to be deductive. It is just exactly in this sense that I call his reconstructive deductivism non-qualified reconstructive deductivism (NQRD).

2.2 Hitchcock's QRD

Hitchcock also makes a distinction between "formal deductive validity" and "deductive validity." To be specific, when Hitchcock uses "deductive validity", he means to include validity not only in virtue of form but also of meaning relations. Hitchcock's QRD is related to his classification of arguments which is based on his understanding of these two concepts of validity mentioned above.

> *Most arguments are deductively invalid in the sense that the meaning of their constituent statements leaves open the possibility that their premises are true and their conclusion false. Some of these deductively invalid arguments are appropriately appraised by a non-deductive standard of inference appraisal; they are "inductive" or "conductive" or "abductive" arguments. Some are obvious non-sequiturs, to be rejected out of hand. The rest are the topic of this paper.*([12], p. 83)

"The rest" above refers to enthymematic arguments. Based on this citation, Hitchcock's classification scheme of arguments can be depicted as follows:
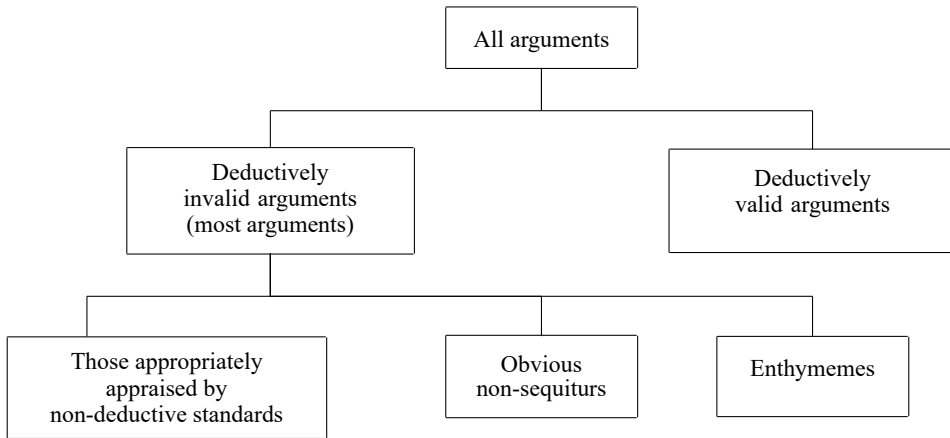
Figure 1: Hitchcock's classification of arguments

Compared with Groarke, Hitchcock disagrees that all arguments are intended to be deductively valid or that all arguments should be interpreted to be deductively valid. He does not even think that there is such a thing as a deductive argument. He thinks "deductive" is an adjective that applies to a type of validity, not a type of argument. ([11], pp. 9–10) Deductive reconstruction by adding an implicit premise can only be applied to enthymemes.

In a detailed way, Hitchcock evaluates an argument in four consecutive steps. First and foremost, one should ask whether the argument is deductively valid as stated. If it is not, then, second, one should ask whether it can be appropriately appraised by non-deductive standards. If not, then third, one should ask himself/herself whether the argument contains an obvious non sequitur. If the answer is still "no", then you can move to the fourth step—to add an implicit premise to the originally invalid argument and make it valid. The whole process can be diagrammed as Figure 2.

In terms of the added premise q, Hitchcock (1986) argues that it must satisfy the following conditions:

(a) q must follow "deductively and reasonably immediately" from the combination of the stated premises, the stated conclusion, and the "drawing of the conclusion from the premises".

(b) The conclusion must follow from the stated premises in conjunction with q.

(c) It must be possible to offer evidence or reasons for and against q "independently of the truth or falsity of the conclusion".

To summarize, Hitchcock recommends using deductive reconstruction only on enthymemes. Meanwhile, he puts limitations on the ways the added assumption acquired. It is in these two senses that I call his reconstructive strategy qualified reconstructive deductivism (QRD).
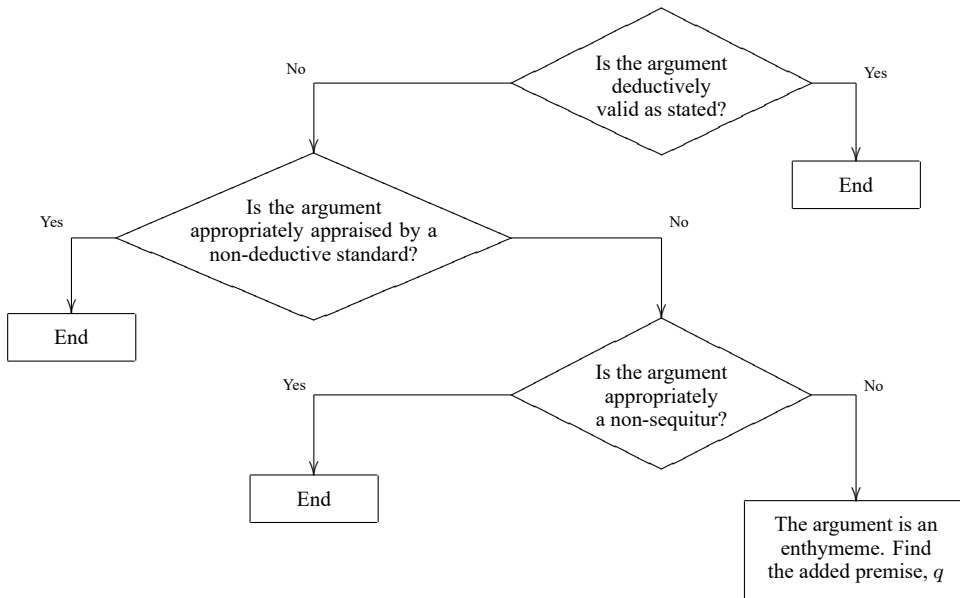
Figure 2: Hitchcock's deductive reconstruction

2.3 Summary

From the descriptions above, we can find that both Groarke and Hitchcock adopt an approach of reconstructive deductivism in different degrees. They both differentiate formal validity from deductive validity, and make the latter the core concept of reconstructive deductivism. However, there still exist some differences between them. Groarke holds that "we can treat all arguments as deductive". ([8], p. 14) That is to say, in Groarke's opinion, a reconstructive deductivist strategy can be applied to all arguments, including the inductive ones. Or there is even no need to make a distinction between induction and deduction. But Hitchcock contends that deductive reconstruction only works for enthymematic arguments. Besides, Hitchcock puts restrictions on the addition of implicit premises.

3 Problems and Defense of NQRD and QRD

Before proceeding to my own consideration of reconstructive deductivism, I would like to recognize those objections that are typically raised against it.

The typical objections to deductivism are three ([4, 5, 15]):

1 Deductivism places too much emphasis on deductive validity, failing to allow for different degrees of logical support;

2 Deductivism eliminates all talk of fallacies;

3 Deductivism leaves us with the insurmountable task of providing a plausible policy for reconstructing arguments which are, on the face of it, deductively invalid.

3.1   Problems and defense of NQRD

Alluding to the Govier's objections above, Groarke made some efforts to defend himself. "My suggestion is the more modest claim that we need a synthesis of formal and informal notions and must not unthinkingly reject every aspect of the formal approach." ([6], p. 120) But this defense constitutes a straw man fallacy, because Govier does not negate all aspects of formal logic. She only claims that "formal logic is not the right tool for evaluating the arguments of everyday life—or most academic disciplines—for many reasons" ([5], p. 83). Groarke indeed made a minor fallacy in his response to Govier, but his argument is still worth discussing. He claims that Govier misguides the standard criticisms of deductivism, and offers three reasons corresponding to the three objections mentioned above.

(1*) Deductivism can account for inconclusive argument.

This is closely related to his understanding of deductive validity. His specific method is building a modal qualifier into the premises or conclusion, or even omitting explicit qualifiers in some ordinary reasoning. Let's consider the argument:

A_1: Lithuania will eventually leave the Soviet Union, so probably its economy will decline.

Groarke reconstructs A_1 into a deductive one as the following.

A_2: If Lithuania ever leaves the Soviet Union, its economy will probably decline; Lithuania will eventually leave the Soviet Union; therefore, its economy will probably decline.

Groarke wants to say that deductivism can handle probabilistic arguments by transforming A_1 into A_2 which is a deductively valid one in virtue of the rules of propositional logic. To put this further, Groarke claims that other kinds of arguments which are irreducible in a traditional sense, such as conductive ones, will also fit this method due to the fact that similar principles can be applied to all non-deductive arguments. He argues that the inconclusive nature of ordinary argument is a function of its premises rather than the relationship between its premises and conclusion. Based on this understanding, deductivism can distinguish different degrees of logical support in terms of the relative strength of premises, both the stated and unstated, which seems to break down the first objection.

But this transformation can lead to problems. First comes the problem of whether A_1 is really equivalent to A_2. It is a question about argument identity which Hitchcock's QRD also faces. This question will be discussed with more depth in a later

section. The second problem of this transformation results from this kind of commitment made by Groarke. He writes "the inconclusive nature of ordinary argument is a function of its premises rather than the relationship between its premises and conclusion" ([6], p. 115). It is inappropriate to hold this opinion, because there is more than one way that inconclusiveness can enter arguments. Arguments with an inconclusive conclusion (Type 1) are not the same thing as those arguments with an inconclusive relationship between premises and conclusion (Type 2). Below consider these two formalizations that I have provided to show the difference between these two patterns of argument:

Type 1 If A, then (B probably has the property of X); A; therefore (B probably has the property of X).

Type 2 If A, probably then (B has the property of X); A; therefore probably (B has the property of X).

Type 1 is an argument with an inconclusive conclusion, while Type 2 is an argument with an inconclusive relationship between premises and conclusion. The difference comes out because of the various places the modifier "probably" appears. Just as Johnson says "he may be guilty of the modal fallacy of quantifying across contexts" ([15], p. 72).

Simply put, Groarke's defense that "deductivism can account for inconclusive arguments" is based on an inappropriate assumption that inconclusiveness is only the matter of premises, rather than of the relationship between premises and conclusion. He neglects the difference between Type 1 and Type 2. Therefore, his defense is problematic.

(2*) Deductivism can account for standard fallacies.

Groarke ([6], p. 117) broadens the conception of "fallacy" and proposes that a deductivist account of fallacies is possible by treating fallacies as problems with the premises of argument instead of as an error in reasoning, which is a viewpoint held by Govier. The distinction between Groarke and Govier originates from different elements of the concept argument. According to the traditional understanding of argument, it is a (P+I) conception which includes the premises and the inference from the premises to the conclusion. But they focus on one of these two elements respectively and this leads to their different understandings of fallacy. Specifically speaking, Govier concentrates on the element of inference from the premises to conclusion, while Groarke shows solicitude for the element of premises. So, in my opinion, Groarke's defense makes sense to a certain degree if we keep to the traditional understanding of argument. Besides, both Govier and Groarke hold a restricted view of fallacy which is bottomed on the argument conception. But there do exist other approaches to fallacy. ([9, 10, 3]). For instance, in pragma-dialectics the conception of fallacy is rule-oriented. Fallacy is defined as "a violation of one or more of the

rules for critical discussion" ([3], p. 194). Whether or not reconstructive deductivism can handle fallacies in this sense is not discussed. That is why I contend that neither Govier's criticism nor Groarke's defense is effective.

(3*) Deductivism does not entail an untenable policy of identifying implicit premises in ordinary argument.

Groarke admits there exist many problems with implicit premises but still claims that this does not mean a non-deductive account. He says:

> It must…be said that the recognition of implicit premises in arguments is not required only by deductivism, and that any plausible theory of argument must make some room for implicit premises.([6], p. 117)

I do agree with Groarke that the problem of adding implicit premises is not only for reconstructive deductivism. Other theories, such as informal logic and argumentation theory, also face this problem. Questions about implicit premises are varied. For example, how to establish an implicit premise reasonably? Why should we propose one rather than another among multiple implicit premises? Which type of premises should be added, the needed one or the used one? What kind of role the added assumption acts in arguments, a missing premise or a non-formal rule of inference? This question list continues. Even though these theoretical and practical issues are in suspense, Groarke's defense above still commits a fallacy of appeal to popularity. The fact that other theories have the similar problems does not justify that reconstructive deductivism can reasonably ignore them.

With regard to the implicit premises, Groarke employs a psychological strategy which invokes psychological states like beliefs to justifying deductive reconstruction. He puts the arguments in the context of speech acts, and thus claims that any arguer who argues for some conclusion C on the basis of some set of premises purports to believe that C is true and the premises justify this belief on a psychological level.

> The deductivist approach suggests that we should ask why this particular reasoner believes that this conclusion follows (deductively) from their premises, trying to answer this with implicit premises that explain their reasoning.([6], p. 119)
> We can see that it is always possible to deductively reconstruct an argument which is not transparently deductive by noting that any arguer is committed to that statement "If the premises of my argument are true then the conclusion is true"… In this sense, their argument declares that they believe that these premises imply the conclusion and that the conclusion is true if the premises are true. It is perhaps worth noting that they are committed to the latter conditional not merely in the sense of material implication, but in the stronger sense that they must believe there is a relationship between

their premises and their conclusion which makes it reasonable to base a
belief in the latter on a belief in the former.([8], p. 6)

Groarke appears to be saying what makes deductive reconstruction possible is
the arguer's belief in the implication—"if the premises of my argument are true, then
the conclusion is true". It is the belief-concerned characteristic that constitutes his
psychological strategy. This strategy takes the arguer's belief into consideration,
which makes the argument evaluation much more complex. Because methodolog-
ically speaking, determining what the arguer's actual intentions are is notoriously
problematic.

Besides the three typical critiques above, NQRD also runs into some other prob-
lems, one of which is related to indicators. Groarke claims: "The basis of my de-
ductivism is an account of premise and conclusion indicators like 'therefore', 'so',
'because', etc. According to deductivism, we should interpret such words as an an-
nouncement of deductively valid inference."([6], p. 114) Put another way, Groarke
says, "one might construe this difference between deductivism and nondeductivism
as a difference between two competing accounts of the meaning of premise and con-
clusion indicators in ordinary language."([6], p. 114) However, indicator words are
not always present in all arguments. What is more important is that we use indicators
based on a certain argument structure, instead of arguments having certain structures
because of certain indicators.

3.2   Problems and defense of QRD

Hitchcock offers justifications for his QRD mainly from the following aspects.
On one hand, he contends the author of an enthymematic argument implicitly as-
sumes the truth of a universal generalization of the argument's associated conditional
with respect to one or more content expressions which occur more than once. Un-
less it would be implausible, where a molecular content expression is repeated, this
generalization is over the most molecular repeated content expression. Hitchcock
prefers to view this assumption as a non-formal rule of inference, rather than as a
missing premise. Put simply, he suggests redefining the concept of argument to in-
clude among the premises sentences which the arguer had in mind but left unstated.
And then he purports to take the unstated (unexpressed, tacit, implicit) assumption of
an enthymematic argument as the articulation of a rule of inference in virtue of which
the conclusion follows from the premise(s). To a point, this is similar to Groarke's
psychological strategy but diverges in treating this assumption as an inference rule
rather than a missing premise.

On the other hand, he also differentiates "formal validity" from "deductive va-
lidity", and proposes the concept of "formally deductively valid". An argument is
formally deductively valid if and only if no uniform substitution on the argument's

atomic content expression produces an argument with true premises and a false conclusion. By introducing the concept of "formal deductive validity", he broadens the scope of deductivism.

Despite of these justifications, there are still many problems with his QRD. One of the problems proposed by Govier ([5]) is about the added premise. She argues that we ignore the various interpretations of the conditional statement related to the argument. The expression of "drawing of the conclusion from the premises" in (a) is often understood as "if P_1-P_n, then C". After adding this statement into the primary argument, we immediately get a deductively conclusive conclusion by using Modus Ponens. However, the statement "if P_1-P_n, then C" should not be understood only in this way. There are other possible ways of interpretation. Govier makes a short list of these possibilities, such as "support", "give grounds to", "make it probable that…" and so on.

Apart from the open possibilities for interpreting "if…then…", Hitchcock's QRD, I believe, also faces other theoretical difficulties. Firstly, QRD brings in too many roles and makes argument evaluation much more complicated. According to his theory, the process of argument assessment at least involves four roles: the arguer, the audience, the critic and the evaluator. The arguer puts forth his/her argument—Argument$_1$ (A_1). The audience, evaluator or critic evaluate this argument. To make the question simpler, no more attention will be paid to the distinctions within audience in the present paper, viz., distinctions between interactive and non-interactive audience, or between universal and particular audience. Under this limit, there exist at least two possibilities. The first possibility is that the audience play the role of the evaluator and the critic at the same time. In this condition, the audience/evaluators/critics reconstruct A_1 into A_2 (standing for Argument$_2$) by adding a premise q. Then the evaluation of A_1 turns to an evaluation of A_2. To make it clearer, we can describe this process as the following chart.
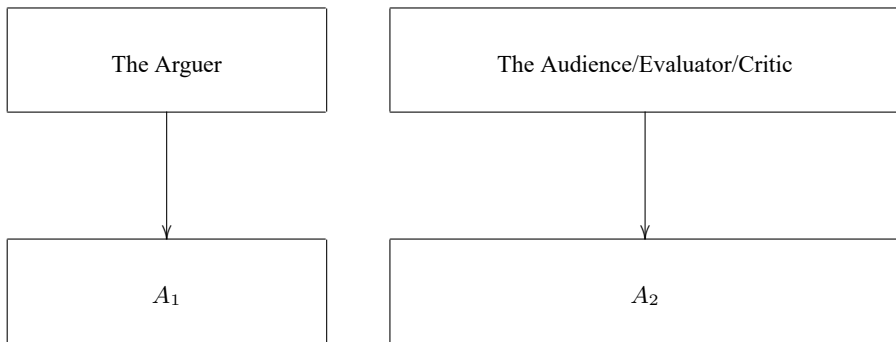

Figure 3: Situation where the evaluator, audience
and critics are the same group of people

From the chart above, a question whether the assessment of A_1 is the same thing

with that of A_2 stands out. The answer to this question is greatly concerned with ideas about the added assumption. In view of this question, Hitchcock writes:

> *since our purpose is evaluation, we should look for an assumption on which the argument depends, regardless of whether the arguer had such an assumption in mind, rather than an assumption the author had in mind, which may be neither necessary nor sufficient for the conclusion's following from the premise(es).* ([14], p. 46)

Due to such consideration, he differentiates "argument's assumption" from "arguer's assumption". That is to say, he excludes the role of arguer from argument evaluation and takes no account of the question whether the arguer's A_1 is identical to the reconstructor's A_2. But the identity of arguments is a question which should not be neglected and worth of great significance.

The second possibility I want to note here is the situation where the audience is not the one who evaluates the argument. Then things will be totally different from the above (even taking no account of the critics). The process will include the following three steps. The first step is, same as the possibility 1, that the arguer proposes the argument A_1. Next the audience reconstructs an argument called A_2. Finally, the evaluator makes a judgment about argument sufficiency. This process can be diagrammed as follows.
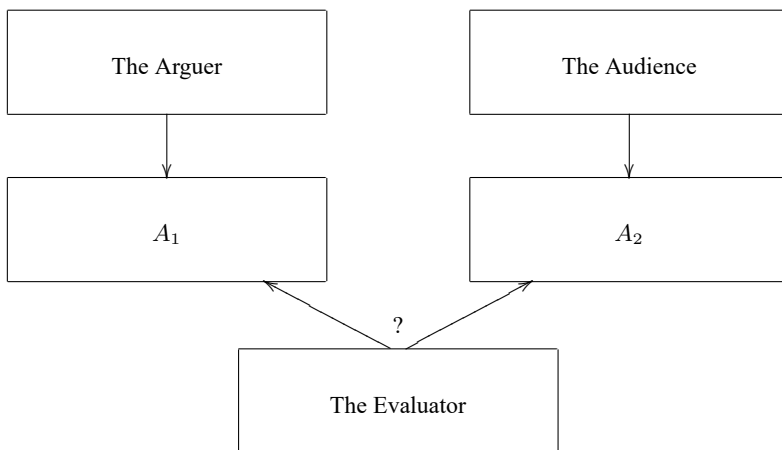

Figure 4: Situation where the audience is not the evaluator

Apart from the dubious presumption in possibility 1, the possibility 2 also involves another problem. That is, when evaluating an argument, which argument should the evaluator choose, the arguer's A_1, or the audience's A_2, or even the evaluator reconstructs a third one, A_3? The result will be entirely different due to its heavy dependence on the relationship among A_1, A_2 and A_3. So, at the very least, Hitchcock should answer these questions if he wants to insist on his QRD.

Secondly, it involves circular reasoning and inconsistency in the process of finding q. We may wish to put the above conditions (a)(b)(c) in a different way. $(a_1)(b_1)(c_1)$ are corresponding to (a)(b)(c) (in Section 2.2) respectively.

(a_1) The stated premises: P_1, $P_2...P_n$;

The conclusion: C

The drawing of C from P_1-P_n: one of the possible interpretations is that "C, because P_1-P_n"

Then according to (a), we can get:

q, because $[(P_1–P_n)$ and C and "C, because $P_1–P_n$"]

(b_1) From $(P_1–P_n)$ and q, we get C. That is C, because $[(P_1–P_n)$ and $q]$.

(c_1) Evidence for and against q is independent of C.

From (a_1) and (b_1), we can find that C is achieved by using the implicit premise q, while q is found on the ground of C. There seems to be circular reasoning here. Besides, if taking (c_1) into consideration, then you will find it is inconsistent with (a_1), because (a_1) requires that the process of getting q should be based on C, while (c_1) demands that q should be independent of C. Alternatively speaking, the conditions proposed by Hitchcock involve two problems, a circular reasoning and inconsistency.

4   Misapplication of Reconstructive Deductivism

This section will put emphases on the concrete application of reconstructive deductivism in some arguments which are traditionally considered to be non-deductive, namely inductive arguments, conductive arguments, and arguments from analogy. In each part, a general scheme of the certain argument will be given firstly, and followed with my analysis.

4.1   Deductive reconstruction in inductive arguments

As to the term inductive arguments in this section, we mainly refer to inductive generalization. Groarke ([8], p. 12) defines inductive generalization as follows:

These Xs are Y.

Therefore, all X are Y.

Then he redefines it to be deductive by adding an unexpressed premise that "Other Xs are like these Xs (with respect to Y)". Thus, the scheme of inductive generalization becomes:

These Xs are Y.

Other Xs are like these Xs (with respect to Y).

Therefore, all X are Y.

It seems plausible, but this deductive reconstruction remains disputable. Firstly, it dissolves the difference between induction and deduction. Groarke needs to show that people indeed transform inductive arguments into deductive ones in this way. Also, inductive argument is characteristic of inconclusiveness of the inference from premises to conclusion. After reconstruction, it becomes necessary entailment which goes against the property of original inductive arguments. What's more, the justification of the added premise is questionable. It is of great difficulty to show its acceptability. This is why I hold that Groarke's NQRD cannot work for those arguments which are inductive per se.

As to the question whether this conclusion is also applicable to Hitchcock's QRD, my answer is positive. QRD differentiates itself from NQRD in several senses as discussed in Section 2, one of which is that QRD only works for enthymemes (see Figure 2). It infers that Hitchcock himself also refuses a deductive reconstruction of inductive arguments.

In brief, I contend that both QRD and NQRD cannot work for inductive arguments, QRD itself ruling out inductive arguments while NQRD facing multiple problems when used to reconstruct inductive arguments.

4.2   Deductive reconstruction in conductive arguments

According to Wellman ([17]), conductive arguments have three distinct patterns. And in all these three patterns, the relationship between premises and conclusion is inconclusive.

Taking into account of Hitchcock's view that "distinction between 'inductive' and 'conductive' is a distinction between two types of inductive validity" ([11], p. 9), a conclusion can be reached that conductive arguments can be appraised with inductive validity and they are not enthymemes in Hitchcock's sense (see Figure 2). That is to say, conductive arguments are not within the scope of application of Hitchcock's QRD. Therefore, the remainder of this section focuses on NQRD's application on the three patterns of conductive arguments.

For the first pattern of conductive argument, it only has one premise for the conclusion. Its model can be depicted as:

P_1, therefore, C.

For NQRD, this pattern can be recast to be deductively valid by adding a general assumption that "*if P_1 then C*". Even if we drop any doubts on the acceptability of this added assumption, the deductive recasting changes the inconclusive characteristic of the original conductive argument. Meanwhile, it also goes against people's daily practice in reasoning.

For the second pattern, it has several premises in favor of the conclusion and these premises are independent of each other. The model of this pattern of conductive

argument can be generalized as:

$P_1, P_2...P_n$; therefore, C.

The same reconstruction can be made to the original conductive argument, but it will face the same problems as the first pattern does.

With regards to the third pattern, the situation becomes somewhat more complicated. The third pattern of conductive argument features reasons for and against the conclusion at the same time. Additionally, all the reasons, whether positive or negative, are independent of one another. Its scheme can be roughly illustrated in the following way:

(1) $P_1, P_2...P_n$;
(2) $Q_1, Q_2...Q_n$;
(3) The logical strength of $(P_1, P_2...P_n)$ outweighs that of $(Q_1, Q_2...Q_n)$;
(4) Therefore, C.

$P_1, P_2...P_n$ stand for reasons for the conclusion C, while $Q_1, Q_2...Q_n$ represent the reasons against the conclusion C.

Of course, if you want, you can reconstruct the above one into a deductive argument too by claiming that "*if 'the logical strength of* $(P_1, P_2...P_n)$ *outweigh that of* $(Q_1, Q_2...Q_n)$*' then* C". We call this kind of recasting Strategy One. Apart from the problems mentioned above, it still needs to explain the following situation. From the construction strategy that reconstructive deductivism takes, we can also recast the third pattern as:

(1) $P_1, P_2...P_n$;
(2) $Q_1, Q_2...Q_n$;
(3) The logical strength of $(P_1, P_2...P_n)$ outweighs that of $(Q_1, Q_2...Q_n)$;
(4*) If $(P_1, P_2...P_n)$ then C;
(5*) If $(Q_1, Q_2...Q_n)$ then $\sim C$;
(6*) If "The logical strength of $(P_1, P_2...P_n)$ outweighs that of $(Q_1, Q_2...Q_n)$", then C.

For classification, let's call this Strategy Two. In this strategy, we can get C from (1) and (4*); (3) and (6*). We also can get $\sim C$ from (2) and (5*). Given the traditional understanding that deductive validity is an all-or-nothing affair, it would be impossible for deductivism to allow for two opposite conclusions at the same time. So what we get, C or $\sim C$, becomes a puzzle. Besides, deductive reconstruction also fails to convince that people use conduction to reason in this way. Or at least, the reconstructive deductivists need to answer why other strategies of deductive reconstruction, such as Strategy Two, cannot work.

In a word, conductive argument is beyond the reach of QRD, while applying NQRD to conductive argument seems to simplify its analysis and evaluation. It dis-

torts the basic characteristics of conductive arguments, like inconclusiveness, convergence. Also, it fails in describing people's reasoning practice objectively. To say the least, if NQRD works, it should show its advantages over other alternative deductive reconstruction strategies.

4.3   Deductive reconstruction in analogy

Despite of various differences between QRD and NQRD, both of them rely on an addition of an implicit premise to reconstruct arguments deductively. Thus, an analysis of the added premise will apply to both.

As to the arguments from analogy, a large quantity of research can be found. Here, we invoke Govier's works on its scheme. Govier ([5]) distinguishes inductive analogy from a priori analogy and summarizes their models. Due to the commonality between these two, I will focus on the deductivist reconstruction of a priori analogy. The model Govier ([5], p. 142) gives about a priori analogy is as follows.

A has x, y, z.
B has x, y, z.
A is W.
Therefore, B is W.

A very modest supplementation will be as follows.

(1) A has x, y, z.
(2) B has x, y, z.
(3) A is W.
(4) It is in virtue of x, y, z, that A is W.
(5) Therefore, B is W.

From statement (4), it will be a very short step to get a universal statement

(4$'$) All things which have x, y, z are W.

For now, the primary articulated model will be presented in the following way.

(1) A has x, y, z.
(2) B has x, y, z.
(3) A is W.
(4$'$) All things which have x, y, z are W.
(5) Therefore, B is W.

By adding the statement (4$'$), an analogy becomes a deductively valid argument. It is also on the basis of the above reconstruction that some scholars, like Stebbing ([16]), claim that there are no arguments from analogy at all. However, Barker ([1]) and Govier ([4]) argue against this view. Their reasons, though not really conclusive, can

be divided into four aspects. Firstly, it is not an easy case to find a proper universal statement which is known to both arguer and audience and meanwhile sufficient to make the argument deductively valid. Secondly, the acceptability of the universal statement itself is full of suspicion. Thirdly, the reconstruction above makes the statements (1) and (3) logically redundant. Lastly, the reconstruction presupposes that particular cases have to be known by having universal generalizations applied to them.

If we admit that the statements (1) and (3) are logically redundant in the argument after reconstruction, then we do get the conclusion that the argument is deductively valid. But what may come to mind is whether the original argument set forth by the arguer is the same one as the argument put forward by the reconstructor. Govier ([5]) says that "it is not necessary that a reconstruction preserve all aspects of the original", which is something to ponder further. First of all, if this is true, then what should we preserve and what we should discard? Besides, what characteristics make two arguments identical? Let's take the "concept" for an instance. Logically speaking, when two words share the same intension and extension, we treat them as referring to an identical concept. That is to say, "intension" and "extension" are two characteristics that decide whether two or more words or phrases share the same concept. These are the criteria we can use in the sense of words and phrases. If applied to groups of sentences, what criteria could be used to judge whether they are the same? Put simply, we can concentrate on "arguments" and ask which features can play such a role as "intension" and "extension" in the process of identifying concepts. If the features were clear, then it would be of great efficiency to answer the question whether the arguer's argument is identical with the reconstructor's one. These are crucial questions waiting to answer. But the identity of arguments is such a big problem, I will not give it a full discussion in this article.

Besides, we can also object to the view that statements (1) and (3) are logically redundant, but see them as reasons to get statement (4′). In the way, the original argument from analogy will become a compound argument with a consecutive use of enumerative induction and deduction. The process from statements (1) and (3) to (4′) is an enumerative induction as a sub-argument, although it may be criticized as a hasty generalization. The inference from (2) and (4′) to (5) is logically valid. If we adopt this way, the argument from analogy does not have to be understood as a deductive one after adding a universal premise, but a composite one including enumerative induction and deduction.

Except for the problems mentioned above, QRD, compared with NQRD, also face other problems. Despite of the disputable acceptability of the added premise, the three rules of QRD used to add an implicit premise are problematic in themselves, as shown in Section 3.2. Moreover, suppose we all agree on Hitchcock's viewpoint that is there are only two types of standards for argument evaluation, then we can still ask him why the deductive standard, instead of the inductive one, is preferred when we

reconstruct an enthymeme (see Figure 2), e.g., an analogical argument.

To conclude, the application of both QRD and NQRD to analogies faces many problems. And even though the reconstructive deductivism approach could be applied to the argument from analogy, regardless of the problems mentioned above, it still cannot get a deductively valid argument, but a compound one involving enumerative induction and deduction.

5   Conclusion

This paper has explored two variations of reconstructive deductivism on account of distinct usages, namely QRD and NQRD. To begin with the objections they face, the paper summarizes how QRD and NQRD illustrate their theories and give response to the objections. Then my own critical reflections on the above follow. Furthermore, I point out concrete problems that reconstructive deductivism meets when applied to the reconstruction of some non-deductive arguments.

Based on discussion above, I reinforce the view that reconstructive deductivism, no matter QRD or NQRD, is not an adequate theory of argument analysis or evaluation. By saying this, I mean, there is nothing wrong with reconstructive deductivism itself as a theory of entailment or implication, but problems arise when it is used as a theory of natural language argument. In this situation, it runs into so many theoretical and practical problems which need to be clarified and solved. It may result in the divorce of logical theory from logical practice. And it distorts characteristics of certain types of arguments after deductive reconstruction. Moreover, a reconstructive deductivism approach simplifies argument evaluation as premises evaluation. Even so, it is still worthy of diving into reconstructive deductivism (QRD and NQRD) because it does bring to light several theoretically significant problems, such as how to judge the identity between two or more arguments? How to appropriately add an implicit premise and what role does this implicit premise act in argument? All of these questions are of great theoretical importance and worthy of time and energy.

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重构演绎主义及其不当应用

谢婷

摘　　要

　　本文基于运行机制的差异将重构演绎主义区分为限制的重构演绎主义 (QRD)
与非限制的重构演绎主义 (NQRD)。文章批判性考察和分析了 QRD 与 NQRD 各
自所面临的理论困境与自我辩护，并揭示了两者在重构非演绎论证过程中的不足。
基于此，本文主张重构演绎主义无法为自然语言论证的分析与评估提供充分的理
论工具。

　　谢婷　　　华东师范大学哲学系
　　　　　　　TXieecnu@126.com