

And So On.  
Two Theories of Regress Arguments in Philosophy

*Abstract*

This PhD dissertation is on infinite regress arguments in philosophy. Its main goals are to explain what such arguments from many distinct philosophical debates have in common, and to provide guidelines for using and evaluating them. Two theories are reviewed: the *Paradox Theory* and the *Failure Theory*. According to the Paradox Theory, infinite regress arguments can be used to refute an existentially or universally quantified statement (e.g. to refute the statement that at least one discussion is settled, or the statement that discussions are settled only if there is an agreed-upon criterion to settle them). According to the Failure Theory, infinite regress arguments can be used to demonstrate that a certain solution fails to solve an existentially or universally quantified problem (e.g. to demonstrate that a certain solution fails to settle all discussions, or that it fails to settle even one discussion). In the literature, the Paradox Theory is fairly well developed, and this dissertation provides the Failure Theory with the same tools.

Cover painting:  
'Going around in circles' by Sanne Rous (2010)

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*And So On.  
Two Theories of Regress Arguments  
in Philosophy*

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## Foreword

The Tortoise was saying, “Have you got that last step written down? Unless I’ve lost count, that makes a thousand and one. There are several millions more to come.” (Carroll 1895)

[...] and so on ad infinitum, so that, since we have no place from which to begin to establish anything, suspension of judgement follows. (Sextus Empiricus, *Outlines of Pyrrhonism*)

If you say ‘and so on’, you yourself do not know more than ‘and so on’. (Wittgenstein 1956)

1, 2, 3, 4,

and so on to infinity.

If there is an infinite regress, people usually write this phrase, or some variant of it, because they do not want to go to infinity themselves. For myself, I prefer simply ‘and so on’, accompanied by a bit of handwaving. The phrase suggests that the idea is clear, that from that point onward the regress is obvious. The reader knows how to go on.

But do we really know how to go on in each and every case? No doubt most of us, except perhaps Wittgenstein’s pupil (see his 1953: §185), do know how to go on in cases involving natural numbers. For many regresses, though, I am not so sure. In this dissertation on regress arguments, I collect and spell out a variety of cases deriving from all corners of philosophy: from concerns about morality to problems about rationality, from Sextus to Russell to contemporary philosophers.

Still, even if one does know how to go on, it is not clear what follows. If there is an infinite regress, *then what?* What is to be concluded from it? As one philosopher put it after having described such a regress:

How *does* “the story go on from here”? (Johnson 1978: 68)

As another philosopher ‘solved’ this issue:

Here the narrator, having pressing business at the Bank, was obliged to leave the happy pair. (Carroll 1895: 280)

In other words, we want to know not only what regresses are, but also what kinds of conclusions can be drawn from them. This is the most important query in this dissertation, and I explore two different answers to it.

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Specifically, I develop two theories of regress arguments, which will be called the *Paradox Theory* and the *Failure Theory*.

I readily admit that this dissertation is no especially academic production embedded in cutting-edge, quickly evolving discussions in our field. Also, it is not my own deepest production; not a resolute attempt to open up our way of looking at the world and ourselves. I have tried to do such things elsewhere, modestly, in my side project on Pyrrhonian scepticism, i.e. the view that propagates global suspension of belief.

This dissertation is of a different nature. First, it is intended as a real, scientific project with a clear and, in some sense, timeless objective: to find out how regress arguments are supposed to work. *This just had to be sorted out*. I am of course not the first to address this topic, but my predecessors are few in number and have left unresolved some rather delicate issues (especially regarding the Failure Theory, which is my original contribution to the debate).

Second, the results of this study ought to be of interest to anyone who employs regresses in one's reasoning; virtually, then, to all philosophers.

Third, it aims to contribute to the progress of philosophy as a discipline. Like any other inquirer into philosophical methodology (i.e. the branch of philosophy which studies how philosophers can and should proceed), I hope that my investigation will make a difference to the philosopher's practice. Particularly, I hope that from now on disputes about any particular regress argument (concerning what it establishes, or concerning whether it can be resisted) will be more clearly motivated, and indeed more clearly framed, in terms of the Paradox or Failure Theories outlined in what follows.



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*§1*  
*Introduction*

## 1.1. Key Terms and Hypotheses

In the following I identify six key terms of this dissertation: argument schema, instance, reconstruction, evaluation, regress, and regress argument. I do not pretend to say anything new or controversial in this part. My aim is only to explicate what will be meant by the terms. At the end I set out the main hypotheses concerning the last two terms: regress and regress argument, i.e. the terms that will bring in controversy.

### 1. Argument schema, instance

In this dissertation I will be concerned with argument schemas for regress arguments. Particular regress arguments are instances of such schemas. Hence the first set of key terms: *argument schema*; *instance*. Broadly taken, argument schemas are general versions of similar arguments. Consider the following simple schema:

#### *Schema 1*

- (1) A.
- (2) If A, then B.
- (3) So, B. [1, 2; Modus Ponens]<sup>1</sup>

This well-known argument schema (or schema, in brief) is a general version of all Modus Ponens arguments. The schema contains letters such that you obtain specific arguments (i.e. instances) if you fill them out. In this case, the letters are to be replaced with sentences. For example, if we replace 'A' with 'Socrates is a philosopher' and 'B' with 'Socrates is corrupting the youth', we obtain the following instance:

- (1) Socrates is a philosopher.
- (2) If Socrates is a philosopher, then he is corrupting the youth.
- (3) So, Socrates is corrupting the youth. [1, 2; Modus Ponens]

Generally, a collection of lines is an argument schema only if, first, the lines contain letters which are to be replaced with sentences (and may be connected by logical constants such as 'if' or 'only if'), and, second, each line is either a premise (i.e. taken to be true), a hypothesis (i.e. taken into consideration), or an inference (i.e. inferred from previous lines). The

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<sup>1</sup> Throughout the dissertation, the square brackets '[', ']' indicate how the line is obtained from previous lines. Sometimes I also identify a rule of inference; in some other cases, I identify the rule separately in the main text.

distinction between premises and hypotheses will prove to be important in this dissertation. Regress arguments are typical pieces of *hypothetical reasoning*. That is, they are arguments where some claims are considered, yet not taken to be true, for the sake of deriving absurd or other kinds of consequences from them.<sup>2</sup>

Instances of such schemas can be defined simply as follows: For any collection of lines  $x$  and  $y$ ,  $x$  is an instance of  $y$  iff  $x$  can be obtained by systematically replacing all letters of  $y$  with sentences.<sup>3</sup>

Importantly, in this dissertation I will work with argument schemas stated in predicate logic rather than propositional logic. Simply put, whereas propositional logic operates with sentences, predicate logic operates with quantification and predicates. To see the difference, consider the following schema:

*Schema 2*

- (1) Socrates is F.
- (2\*) For all  $x$ , if  $x$  is F, then  $x$  is G.
- (2) If Socrates is F, then he is G. [2\*; Universal Instantiation]
- (3) So, Socrates is G. [1, 2; Modus Ponens]

The similarity between schemas 1 and 2 is that both can have the Socrates example as an instance (leaving premise (2\*) aside for a second). This was shown already for schema 1, and the Socrates example can be obtained also via schema 2 by systematically replacing 'F' with 'a philosopher' and 'G' with 'corrupting the youth'.

Nevertheless, the schemas differ in that schema 2 uses an extra line (2\*) which quantifies over *all* items, rather than *some* of them. This means that the statement applies to all items of a given domain. In this case it is said that whenever you find an item in the domain which is F, then that item is G as well (for example, whenever you find someone who is a philosopher, then you know she is corrupting the youth). In this dissertation, I will use quantification, as it provides a more precise tool to analyse arguments. Consider for example the following trilemma:

- (A) Our beliefs are unsupported by further beliefs.
- (B) Our beliefs are supported by an infinite chain of beliefs.
- (C) Our beliefs are supported by a circular chain of beliefs.

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<sup>2</sup> This is possible, as we shall see later, on the basis of the hypothetical inference rules *Reductio Ad Absurdum* and *Conditional Proof*.

<sup>3</sup> This all is commonplace. See e.g. Kitcher (1981: 516), who has it that the filling instructions (i.e. directions for filling out the schematic letters) and classification (i.e. the description of inferential characteristics) are independent of the schemas (which then are mere sets of schematic lines). But all components are the same.

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This is also known as Agrippa's Trilemma (e.g. Pritchard 2006: 33), and it purports to show that none of our beliefs is supported or justified. Still, so-called Foundationalists are happy to resist the reasoning by pointing to a fourth horn, namely that *some* of our beliefs are supported by further beliefs, and *some others* are not supported by further beliefs. Of course, it is controversial whether this last horn is as attractive as Foundationalists would have it be, but the important point here is that this option is expressible only if we are explicit on the relevant quantification.

It is worth noting that in schema 2 predicates are to express properties or relations rather than actions, though they may express actions as well:

*Schema 2\**

- (1) Socrates  $\phi$ -s.
- (2\*) For all x, if x  $\phi$ -s, then x  $\psi$ -s.
- (2) If Socrates  $\phi$ -s, then Socrates  $\psi$ -s. [2\*; Universal Instantiation]
- (3) So, Socrates  $\psi$ -s. [1, 2; Modus Ponens]

Here, ' $\phi$ ' may be replaced with 'philosophize' and ' $\psi$ ' with 'corrupt the youth'. I employ this distinction between properties/relations and actions later on, so throughout this dissertation capitals such as 'F' and 'R' are used when the predicates are to express properties/relations, and Greek letters such as ' $\phi$ ' and ' $\psi$ ' are used when the predicates are to express actions.<sup>4</sup>

Given this, the notions of schema and instance, i.e. that I will employ in this dissertation, need to be adjusted on two points. First, a collection of lines is an argument schema only if the lines are suitably quantified (when applicable) and contain letters which are to be replaced with predicates (which in turn express either properties/relations or actions). Second, a collection of lines x is an instance of schema y iff x can be obtained by systematically replacing all letters of y with predicates (rather than sentences).

## 2. Reconstruction, evaluation

The second set of key terms of this dissertation is the following: *reconstruction; evaluation*. Generally, arguments can be reconstructed, and then be evaluated. Next I consider each step in turn.

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<sup>4</sup> The fact that I use this grammatical distinction does not mean that I think properties/relations are ontologically different from actions, or, for that matter, that I think they are identical.

## 2.1. Reconstruction

Everyone will likely agree that argument reconstruction is to be guided by the following rules:

*Interpretation Rule I:* One should try to capture the original statement of the argument.

*Interpretation Rule II:* One should try to capture the context in which the argument appears (the rest of the text, the background literature, the author's intentions, etc.).

If you do not respect these rules, then you are simply not reconstructing anything, only constructing your own argument. However, even if they are necessary, it is uncontroversial to say that these Interpretation Rules alone do not always suffice. On the basis of these rules you obtain at best paraphrased texts, that is, texts in which certain terms and constructions replace certain other terms and constructions (where the former are possibly simpler or easier to understand). However, if the original statement of the argument is rather implicit, i.e. if many premises and inferences are suppressed, then more is needed. This is exactly the case for regress arguments. As Gratton observes:

The typical presentation of infinite regress arguments throughout history is so succinct and has so many gaps it is often unclear how an infinite regress is derived, or why an infinite regress is logically problematic. (2010: xi)

To make such gaps explicit, at least two extra rules are needed:<sup>5</sup>

*Charity Rule I:* If needed, one should enforce the argument (modify or supply premises and inferences) such that it becomes logically valid.

*Charity Rule II:* If possible, one should weaken the premises (make them less controversial and true) such that the argument becomes sound.

The terms 'logical validity' and 'soundness' are used in the following way. An argument is logically valid iff the conclusion follows logically from the premises/hypotheses, that is, by rules of inference that are valid according to a certain logic. Furthermore, an argument is sound iff it is logically valid and

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<sup>5</sup> The 'charity' label has been invented by Wilson (1959) and popularised by Quine and Davidson in the debate on radical interpretation (cf. Davidson 1973). For the application of Charity to argument reconstruction, cf. Rescher (1964: 162) and Feldman (1993: 115).

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the premises are true as well. In terms of truth: if an argument is logically valid, then the conclusion is true if the premises are true. If an argument is sound, then its conclusion is true full-stop.

Without these rules in place, it would be possible to say of almost any regress argument in the literature that it is logically invalid (and thus unsound) as, thanks to their gaps, their conclusions do not follow logically from their premises. Suppose someone were to make the following simple argument:

- (1) Socrates is challenging people's opinions.
- (2) So, Socrates is corrupting the youth. [1]

This argument can be regarded as logically invalid (and so as unsound) insofar as there is no familiar inference rule which takes you from (1) to (2). Still, such an evaluation is rather uninteresting. The point is not whether the argument is logically valid as actually stated, but whether there is a way in which it can be logically valid. In this simple case, the argument can easily be made logically valid by adding an extra premise 'If Socrates is challenging people's opinions, then he is corrupting the youth' and applying Modus Ponens. This modification is motivated by Charity Rule I.

A similar case can be constructed for the second rule. Suppose someone were to make the following argument:

- (1) Socrates is challenging people's opinions and God exists.
- (2) If Socrates is challenging people's opinions, then he is corrupting the youth.
- (3) So, Socrates is corrupting the youth. [1-2]

The argument is logically valid by the rules Simplification such that 'Socrates is challenging people's opinions' can be obtained from (1), and Modus Ponens can be applied as in the previous case. Still, you may reject the argument as unsound simply because you are an atheist and do not buy premise (1). Again, this is an uninteresting move, because whether or not God exists is irrelevant for the conclusion (3). That is, the same conclusion can easily be obtained from a much less controversial premise, i.e. 'Socrates is challenging people's opinions'. Making the argument sound by weakening (1) is what is motivated by Charity Rule II.

I will have more to say about such charity moves later on. Still, I want to be explicit about the assumed aim of argument reconstruction from the very start. To reconstruct an argument, I will say, is not just to interpret accurately and get people's intentions right. It is also, and primarily, to do justice to the subject matter at hand, and to see what an argument can establish rather than merely what it does or had to establish.<sup>6</sup> Or again: argument reconstruction is to be used to further our inquiries, and not just to

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<sup>6</sup> For a clear statement of these two goals, cf. Johnson (2000: 132, cf. 158).



learn something about the arguers/inquirers. The role of the Charity Rules just listed is best seen from this perspective.

For related reasons, it is worth pointing out that the Charity Rules are not uncontroversial in the literature. One of the worries is they may distort the initial statement of the argument. So there may be limits to Charity. I will address this in §6.2.3. Also, note that all four reconstruction rules are stated as plain commands. They can alternatively be formulated as decision principles. In the charity case we would have: 'For any set of reconstructions of a single argument, choose the reconstruction which is the strongest and yet the least controversial.' I have disregarded this option because, as I will show later, it need not always be the case that one of the reconstructions is to be selected (rather than another). Sometimes several reconstructions are valuable.

At any rate, in this dissertation I hope to show that the application of the Charity Rules, however one formulates them, is in case of regress arguments a rather delicate enterprise.

## 2.2. Evaluation

Once the argument is reconstructed, evaluation is a straightforward matter. The questions to be asked are, simply:

- Are the premises true?
- Does the conclusion follow from the premises/hypotheses?

Again, if the answer to the second question is affirmative, then the argument is logically valid. And if the answer to the first is affirmative as well, then the argument is sound and hence the conclusion of the argument true. So evaluation concerns two things: the premises and the inferences. Still, evaluation is not as easy as it may seem at this point. There are two complications.

First, both questions are more complicated than they appear to be. To ask whether the premises are true is usually not just to ask whether they are true in general, but whether they are true in a certain dialectical context. Such a context is the broader situation where the premises are part of an argument devised for or against a certain position of interest. Hence, to ask whether the premises are true is to ask whether the relevant parties in a given debate would (or should) subscribe to them. Next to this, to ask whether the conclusion follows logically is usually not just to ask about the application of a single inference rule, but about a number of different inference steps. Such, at least, is the case for regress arguments.

Second, evaluation is already involved in reconstruction, for you cannot apply the Charity Rules (and so know which reconstructions are logically valid and sound) before evaluating the *candidate* hypotheses/premises and inferences (i.e. those which could make the reconstructed argument logically valid and sound). Hence, even if the

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evaluation of the final reconstruction is fairly straightforward, the candidate reconstructions complicate the matter.

So much for the second set of key terms.

### **3. Regress, regress argument**

The third and main set of key terms of this dissertation is the following: *regress*; *regress argument*. However one conceives the details of these terms, the two will always be set apart: regresses are not regress arguments, and regress arguments are not regresses. This is, for example, assumed here:

An infinite regress in itself neither proves nor disproves anything; an infinite regress argument does. (Maurin 2007: 1-2)

In other words: regresses are not yet regress arguments and regress arguments are not merely regresses. Very generally, regress arguments are arguments where a conclusion is drawn from a regress. Regresses, therefore, are not yet regress arguments, as they are still to be associated with a conclusion, and regress arguments are not merely regresses, as they also consist of a conclusion.

In this dissertation I often speak of ‘regresses’ rather than ‘infinite regresses’. The reason is that I do not want to assume that all regresses need be infinite. For the same reason I speak of ‘regresses’ rather than ‘vicious regresses’ (I address these issues in §4.2). What are good definitions of regresses and regress arguments? Consider these dictionary definitions of ‘vicious regress’ for a start:

Since the existence of this regress is inconsistent with an obvious truth, we may conclude that the regress is vicious and consequently that the principle that generates it is false. (Tolhurst, *Cambridge Dictionary of Philosophy*)

A strategy gives rise to a vicious regress if whatever problem it was designed to solve remains as much in need of the same treatment after its use as before. (Blackburn, *Oxford Dictionary of Philosophy*)

These are clearly quite different descriptions, suggesting perhaps that there is no single answer to the question what regresses and regress arguments are. What regresses and regress arguments are exactly depends, indeed, on one’s theory of them, and the whole upcoming dissertation will concern this query. Still, I will provide below two different sets of hypotheses on regresses and regress arguments. So far there should be nothing new in this dissertation, or for that matter controversial. From now on this will change. Here is the first set of hypotheses:

Para–A Regresses are series of conditions which result from a number of claims and yield something absurd.

Para–B Regress arguments are arguments which demonstrate that a number of claims cannot hold together because they jointly yield an absurd regress.

The second set:

Fail–A Regresses are series of problems which result from certain solutions and which prevent the success of these solutions.

Fail–B Regress arguments are arguments which demonstrate that a certain solution never solves a given problem because it gets stuck in a regress.

These hypotheses are based on intuitions concerning what regresses and regress arguments are about. The Para-hypotheses are based on, what may be called the *Paradox Intuition*, and the Fail-hypotheses on the *Failure Intuition*. The Paradox Intuition in a nutshell: regresses cause paradoxes. The Failure Intuition: regresses cause failures. I will point out in due course where versions of both intuitions can be found in the literature. Generally, I take them to be well-established among those familiar with regress arguments. Not everyone may share both intuitions, but at least one of them seems present when people reason on the basis of a regress.

To be sure: I do not regard such hypotheses based on intuitions as unimportant. On the contrary, they are what make regresses and regress arguments interesting objects of investigation. They are interesting precisely because they are vague guesses and trigger further investigation. The question is, indeed: Can the Para- and Fail-hypotheses be made precise, and be cashed out in full-fledged theories?

Hence this dissertation.

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## **1.2. Everyday Regresses**

In the following I present five everyday regress arguments, both to give the reader unfamiliar with regress arguments some idea of how such arguments work, and to illustrate the philosophical cases which will be my main concern in this dissertation. Each story will be told twice: the first time in a way reliant on the Paradox Intuition, the second on the Failure Intuition.

### **1. Thirst**

*Paradox*

Suppose you are thirsty, that you drink a beer whenever you are thirsty, and that you become thirsty again whenever you drink a beer. This generates a regress which is absurd. Hence, either it is not the case that you drink a beer whenever you are thirsty. Or it is not the case that you become thirsty whenever you drink a beer.

*Failure*

Suppose you want to quench your thirst. As a solution, you drink a beer. Yet, as happens with beers, this generates a new thirst. So a similar problem occurs: you are thirsty and want to quench your thirst. As a solution, you drink more beers. Regress. Hence, drinking beer is a bad way to quench your thirst.

### **2. Carpet**

He is like a man who presses down the bulge in a carpet only to have it reappear elsewhere. (Armstrong 1978: 21)

*Paradox*

Suppose there is a bulge in the carpet, that whenever you find such a bulge you press it down, and that whenever you press it down another bulge appears elsewhere in the carpet. This yields a regress which is absurd. Hence, either it is not the case that whenever there is a bulge in the carpet you press it down. Or it is not the case that whenever you press down a bulge in a carpet another bulge appears elsewhere in the carpet.

*Failure*

Suppose you want to get rid of the bulge in the carpet. As a solution, you press it down. Yet, as happens with bulges in carpets, it reappears elsewhere in the carpet. So a similar problem occurs: there is a bulge in the carpet, and you want to get rid of it. As a solution, you press down more bulges. Regress. Hence, pressing down bulges in a carpet is a bad way to get rid of them.

**3. Guardians**

But who will guard the guardians? (Juvenal, *Satire 6*)<sup>7</sup>

*Paradox*

Suppose your girlfriend is unreliable, that all unreliable persons are guarded by a guardian, and that all guardians are unreliable. This yields a regress which is absurd. Hence, either it is not the case that all unreliable persons are guarded by a guardian. Or it is not the case that all guardians are unreliable.

*Failure*

Suppose you want to have your girlfriend guarded so that she can no longer commit unfaithful acts. As a solution, you hire a guardian. Yet, as happens with guardians, he cannot be trusted either. So a similar problem occurs: you want to have the guardian guarded. As a solution, you hire another guardian. Regress. Hence, hiring guardians is a bad way to have your girlfriend guarded.

**4. Autobiography**

Tristram Shandy, as we know, took two years writing the history of the first two days of his life, and lamented that, at this rate, material would accumulate faster than he could deal with it, so that he could never come to an end. (Russell 1903: §340)

*Paradox*

Suppose you write an autobiography of all days of your life, and that it takes you one year to report one day of your life. This yields a regress which is absurd. Hence, either it is not the case that you write an autobiography of all days of your life. Or it is not the case that it takes you one year to report a day of your life.

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<sup>7</sup> For context and contemporary discussion, cf. Hurwicz (2008).

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*Failure*

Suppose you want a report of your life. As a solution, you write it yourself and start with today. Yet you are so slow that it takes you one year to write a report of that single day. So a similar problem occurs: there are 365 new days to be reported. As a solution, you start reporting the new year, yet again you are so slow that it takes you 365 years to complete this task. Regress. Hence, reporting all the days of your life yourself, if you are so slow, is bad way to obtain a report of your life.

## **5. Revenge**

*Paradox*

Suppose your neighbour killed a cow of yours, that whenever your neighbour kills a cow of yours, you kill a cow of hers, and that whenever you kill a cow of your neighbour, she kills a cow of yours. This yields a regress which is absurd. Hence, either it is not the case that whenever your neighbour kills a cow of yours, you kill a cow of hers. Or it is not the case that whenever you kill a cow of your neighbour, she kills a cow of yours.

*Failure*

Suppose you want to get rid of your anger. As a solution, you kill one of your neighbour's cows. Yet, as happens with neighbours, she gets angry and kills one of your cows. So a similar problem occurs: your neighbour killed one of your cows and you want to get rid of your anger. As a solution, you kill another of her cows. Regress. Hence, taking revenge is a bad way to get rid of your anger.

### 1.3. The Use of Schemas

In this dissertation I present several argument schemas for regress arguments. Here, I will take one step back in order to motivate my inquiry into these schemas, i.e. to offer some arguments as to why the latter are desirable in the first place. I set forth two kinds of arguments: metaphilosophical and methodological. It will be useful to start with the metaphilosophical arguments, even though the methodological arguments are more important. After introducing both kinds of arguments, I identify and reject some obstacles faced by the search for such schemas.

#### 1. Metaphilosophical arguments

Regress arguments, just like other philosophical tools such as thought experiments, intuition pumps, analogies, contradictions, horned dilemmas, transcendental arguments, counterexamples and paradoxes, show up in all branches of philosophy.<sup>8</sup> Consider for instance the following cases:<sup>9</sup>

“If the form proves to be like what partakes of it, a fresh form will never cease emerging.”

“That’s very true.”

“So other things do not get a share of the forms by likeness; we must seek some other means by which they get a share.”

(Plato, *Parmenides* 132a-b)

You can never get rid of the contradiction, for, by the act of removing it from what is to be explained, you produce it over again in the explanation. And so the explanation is invalid. (McTaggart 1908: 469)

But this leads at once to an endless regress. Thus the attempt to regard our proposition as asserting identity of denotation breaks down, and it becomes imperative to find some other analysis. (Russell 1910-11: 124-5)

And then we should be confronted by a question of the same kind and the game could begin again. So the attempt to explain truth as correspondence collapses. (Frege 1918-19: 291)

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<sup>8</sup> For an introduction into this area, cf. Baggini & Fosl (2003).

<sup>9</sup> The boxes indicate the inference step from regress to conclusion, see §1.3.2 below.

*And So On*

Though all these authors use regress arguments, their concerns are clearly very different: Plato is trying to explain the connection between us and the Forms, McTaggart is concerned about paradoxes of time, Russell about the meaning of proper names, and Frege about truth. Many more examples of regress arguments will be provided in due course. Given that all these cases go under the same name, 'regress argument', it would be surprising if they (or at least a significant portion of them) had nothing in common. As argument schemas are exactly those things which arguments can have in common, to say that it is likely that regress arguments have something in common is to say that it is likely that there is an argument schema, or set of schemas, of which they are an instance.

It would be likewise surprising if, say, thought experiments (or a significant portion of them) were to have no common features. Among those who believe that thought experiments are arguments (or closely related to arguments), these common features have indeed been discussed in terms of argument schemas. Here is for example Häggqvist's proposal (2009: 63):

- (1) A certain counterfactual scenario C is possible.
- (2) Theory T predicts a result W in C.
- (3) But W is false in C.
- (C) Hence: T is false. [1-3]

A well-known instance of this schema from Putnam (1973) would run as follows (Häggqvist 2009: 68):

- (1) It is possible that we have Twin Earth Doppelgängers.
- (2) If psychology determines reference, then, if we had Twin Earth Doppelgängers, they would refer to water with 'water'.
- (3) If we had Twin Earth Doppelgängers, they would not refer to water with 'water'.
- (C) Hence, psychology does not determine reference. [1-3]

Of course, Häggqvist's proposal is not uncontroversial.<sup>10</sup> The main point to be taken from this, however, is just that the debate on regress arguments as I will present it here (namely as a debate on argument schemas) may well run parallel to this debate on thought experiments.

The first argument for regress argument schemas is this. Such schemas are desirable because they can serve as an answer to the question what regress arguments from a variety of philosophical debates have in common. As Clark puts the query:

Where, we wonder, is the shared, common content to be found in applications as diverse as these? (1988: 369)

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<sup>10</sup> Cf. e.g. Gendler (2000: 18-27) and Williamson (2007: ch. 6) for alternative proposals.



This is a metaphilosophical argument because it unifies debates from epistemology, metaphysics, philosophy of logic, philosophy of language, ethics, etc., debates that would otherwise be disconnected from one another. This disconnection is unfortunate, however, if the argumentative strategies (regress arguments in this case) appear to have to same structure. As we shall see, in terms of argument schemas this means that what the arguments have in common is the form taken by their hypotheses/premises and inferences, and what differs in them is the actual content of the predicates which replace the schematic letters.

It must be admitted that, aside from a few everyday illustrations, I have limited myself to a consideration of cases only in philosophy. This does not mean, of course, that there are no (or cannot be) regress arguments in the sciences. Indeed, I see no reason why the schemas have to be filled out exclusively by philosophical terms (such as truth, knowledge, inference, paradox, freedom, morality, etc.). Still, I do suspect that regress arguments occur so often in philosophy because philosophers usually cannot rely on empirical evidence and need other tools to support and review their positions.<sup>11</sup>

The question ‘What do the various regress arguments in fact have in common?’ appears to be purely descriptive, wanting to know just what is the case and not what should be the case. It should be pointed out, however, that in what follows I will also be interested in its normative counterpart, i.e. ‘What *should* the various regress arguments have in common?’ This stress on the revision of arguments, and the role of the Charity Rules in this revision, will play an important role later on (in §6.2).

There is a second metaphilosophical argument. The meta-literature on regress arguments, i.e. literature which tries to say something about regress argument in general (rather than about a single case only), is small but still divided (and at that interestingly so, as we shall see). Consider for example the following claim made by one of the main participants in this debate:

The difference between my view and Passmore’s may be put like this. According to me, infinite regress arguments conclude to the negation of a proposition. [...] According to Passmore, they prove not that a proposition is false, but that an explanation is inadequate. (Black 1996: 111)

According to Black, there is a dispute about the form taken by the conclusions of regress arguments, specifically concerning whether they conclude to the negation of a proposition or to the inadequacy of an explanation. Now, to disagree on this is just to disagree on the concluding

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<sup>11</sup> In addition, philosophers, more than scientists, seem concerned with universally quantified claims of a certain sort (e.g. ‘can *every* proposition be justified by a further proposition?’, ‘what if *every* event is explained by a further event?’, etc.).

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line of the regress argument schema. In this dissertation I will show that this disagreement (and related ones) can be resolved if we relativize the positions of Black and Passmore to argument schemas. That is, a regress argument can conclude, I will say, either to the negation of a proposition or to the inadequacy of an explanation depending on which schema is used to reconstruct the argument. (Note already that the issue of whether an argument should, rather than can, be reconstructed in one way or in the other is separate from this.)

The second argument for regress argument schemas is this. Such schemas are desirable because the debate on regress arguments can be clarified and sharpened on their basis. Again, this may be called a metaphilosophical argument because it brings together different strands in philosophy (although in a slightly different sense than in the previous argument). Also, the question ‘What different theories of regress argument are available in the literature?’ appears purely descriptive, though again I will not deny that at the same time I will be concerned with the normative question ‘What different theories of regress argument should be available in the literature?’

In sum, from a metaphilosophical perspective regress arguments schemas are desirable because:

- They serve to answer the question of what regress arguments from a wide range of discussions have in common.
- They can clarify or sharpen several disputes in the literature on regress arguments.

## **2. Methodological arguments**

In this section I want to present three arguments for the use of regress argument schemas which are somewhat different in nature. They are methodological rather than metaphilosophical arguments, as I will explain later. The first argument is perhaps the strongest of all. To explain this argument, I shall use again the four texts cited in the previous section. In each of these we find:

- a hint at a regress (“a fresh form will never cease emerging”, “by the act of removing it from what is to be explained, you produce it over again”, “this leads at once to an endless regress”, “we should be confronted by a question of the same kind and the game could begin again”);
- an indication of a conclusion (“thus” and “so”, marked by the boxes);
- and the conclusion (“other things do not get a share of the forms by likeness”, “the explanation is invalid”, “the attempt to regard

our proposition as asserting identity of denotation breaks down”, “the attempt to explain truth as correspondence collapses”).

Clearly, regresses are used to establish a variety of conclusions. In the texts just cited we have: the failure of a version of Plato’s theory of forms, the failure of a certain theory of time, the failure of a certain theory of meaning, and the failure of the correspondence theory of truth. All four, it is worth noting, seem to express the Failure Intuition, and indeed I selected them in the previous section to trigger the search for what those arguments have in common. (I could have taken a number of cases based on the Paradox Intuition as well.)

In this section, however, I want to focus not on the commonality of the conclusions, but on the fact that these conclusions are supposed to follow from a regress. All are substantive philosophical claims, all claims, that is, which make a difference to some certain debate. Regresses, in other words, are used to make such differences. Consider these general remarks:

Amongst the most powerful weapons in the philosopher’s armoury are *reductio ad absurdum* and infinite regress arguments. (Waismann 1956: 26)

It seems natural to assume that Plato’s use of the third man argument [...] is an early exemplar, indeed the first on record, of one of the most effective tools of the philosopher’s trade, i.e. the vicious regress. (Ranking 1969: 178)

These remarks notwithstanding, it remains *far from clear* how regresses can be used to establish anything, be it substantial or not. In each of the four cases listed above (Plato, McTaggart, Russell, Frege) the regress functions as a sort black box. One may wonder: Does the conclusion indeed follow from the regress? If so, *how*?

My claim, now, is that regress argument schemas can clarify and illuminate these inferences. Specifically, such schemas are useful because they serve to abstract away all information that is irrelevant to the inference steps (namely, the specific content of a given argument), and to make explicit all that is relevant. If this is right and if knowledge about the inferences is useful to evaluate regress arguments, then argument schemas are useful to evaluate regress arguments. This is the third argument for regress argument schemas.

Philosophy (or at least its logical part) is sometimes characterised as the science of What Follows From What. It is not directly concerned with content (e.g. whether God exists or not), but with form (e.g. whether it follows from such and such that God exists or not). This focus on form underlies this third argument. The questions are: How does anything lead to a regress, and how does anything follow from a regress?

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The next argument is connected to this third one. It holds that regress argument schemas are useful because some regress arguments in the literature have ambiguous conclusions, i.e. two different conclusions are meant to follow from what appears to be a single regress, and these cases can be disambiguated on the basis of an argument schema. Consider the following case drawn from the ancient sceptics:

In order to decide the dispute that has arisen [...], we have need of an agreed-upon criterion by means of which we shall decide it; and in order to have an agreed-upon criterion it is necessary first to have decided the dispute about the criterion. [...] If we wish to decide about the criterion by means of a criterion we force them into infinite regress. (Sextus, *Outlines of Pyrrhonism*, 2.18-20)

Suppose, for example, you want to decide a dispute about whether Juvenal had a wife. To do so, you introduce another proposition, such as that Juvenal has been banished his whole life and so could not have had a wife. Of course, this second proposition is disputable too. In order to decide that new dispute, you introduce a third proposition, say that the sources about Juvenal's banishment are highly reliable. Of course, this third proposition is disputable too. Regress. Now the question is what conclusion can be drawn from it. Does it follow from this regress that one cannot decide *all* disputes? Or that one cannot decide even *one* dispute? The second conclusion is clearly stronger than the first: if one does not decide all disputes, one might still decide many of them. Argument schemas should help out here.

Here are three further interesting examples where the conclusion is ambiguous:

#### *Case 1*

Hence the attempted analysis of the relation fails, and we are forced to admit what the theory was designed to avoid, a so-called 'external' relation, i.e. one implying no complexity in either of the related terms. (Russell 1903: §214)

Hence we cannot, without an endless regress, refuse to admit that sooner or later we come to a relation not reducible to adjectives of the related terms. (Russell 1906-07: 41-2)

Here we have two different conclusions for a regress concerning relations. In the first passage, Russell suggests that the regress in question (to be spelled out later) demonstrates that it is not the case that all relations *imply* corresponding properties of their relata. In the second, he suggests that that very same regress demonstrates that never all relations can be *reduced* to the corresponding properties of their relata. Surely implication is not the same as reduction. Ambiguity.

*Case 2*

But now a higher order loophole opens. If I keep ignorant of whether there is an obligation to ascertain my obligations, I can use the Access principle to evade those epistemic obligations even if they exist. To close this meta-loophole, the defender of Access must invoke a yet higher order principle to the effect that we have an obligation to learn whether we have an obligation to learn our obligations. (Sorensen 1995: 255)

At best, the regress consists of an infinite sequence of cases, none of which refutes Access. (Sider 1995: 279)

These claims are about the Access principle which states that one is obliged to do something only if one *can know* that one is obliged to do that thing. According to Sorensen, Access is problematic because you can abuse this principle to avoid your obligations, namely by making sure that your obligations are not knowable to you. Sider responds that this need not be problematic so long as we have the obligation to refrain from avoiding our obligations. As Sorensen suggests in turn, however, this new obligation generates a regress (again, to be explained later on). Finally, Sider agrees that there is a regress here, but denies that it puts any pressure on Access (see the cited passage). Hence, we have two different assessments of a single regress.

*Case 3*

When we ask, “Does ‘rabbit’ really refer to rabbits?” someone can counter with the question: “Refer to rabbits in what sense of ‘rabbits’?” thus launching a regress; and we need the background language to regress into. (Quine 1968: 200-1)

The lesson, in my opinion, is that we cannot make sense of truth, reference or ontology relativized to a background theory or language. The trouble is that we must start a regress we cannot finish. (Davidson 1979: 234)

Without going into details at this point, Davidson seems to disagree with Quine’s view that the reference of words (such as ‘Gavagai’) is relative to a background language. Quine seems to acknowledge that this relativity of reference thesis generates a regress (for the reference of the background language is relative to yet a further background language, and so on), but not to regard the regress as vicious. Davidson, by contrast, contends that the regress is vicious and that it shows that the relativity of reference thesis does not make sense. These are again two very different assessments.

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In these three cases, what is the right conclusion? Or might both make sense? If the latter, then what premises are to be associated with what conclusions? Such questions can be answered, indeed, with the aid of argument schemas. Later in this dissertation, I will argue that in each case above either conclusion makes sense, but only in the context of a different argument schema (§5). This is the fourth argument in favour of such schemas.

The fifth and final argument for regress argument schemas is that by means of them one can easily see what to do if you do not want to buy the conclusion of a regress argument. That is, the schemas display clearly what premises might be attacked (such that the truth of the conclusion is no longer established by them). Or, to put it in a different way: the schemas define what exactly can be disagreed about when there is a dispute about regress arguments. For a full version of this important argument, I again refer to further parts of this dissertation (§4.1.5).

All in all, in this section I have presented three more arguments for regress argument schemas, this time methodological in nature. Such schemas are useful because:

- Regress arguments have substantive conclusions, and without such schemas we do not know whether and how they follow.
- Some regress arguments have multiple (potential) conclusions, and these can be disambiguated on the basis of such schemas.
- By such schemas it can be seen what premises may be attacked if you do not want to buy the conclusion of a regress argument.

These three points make the search for argument schemas a methodological enterprise. This means that it takes issue with how certain arguments can and should be used. Or again: regress argument schemas provide us with a method or tool to evaluate and sharpen regress arguments. This aspect is broadly normative, rather than descriptive, for it concerns not what is the case (i.e. unintelligible inferences, ambiguous conclusions, and unclear debates), but rather what can and should be the case (i.e. intelligible inferences, unambiguous conclusions, and clear debates).

At this point, a word on the literature is in order. How does this search for argument schemas relate to previous undertakings? As far as I know, three other PhD dissertations have been devoted to regress arguments in philosophy, i.e. by Black, Day and Gratton (references to their published work will be provided in due course). Black's approach comes closest to mine in that he is explicit that his study on regress arguments is about argument schemas (this is less clear in Day, and Gratton invokes diagrams rather than schemas). Still, there are three important differences between these studies and mine.

First, I do not discuss one schema, but *two* (plus subversions), and consider all claims on how regresses are to be used and evaluated relative to

those two schemas. This *pluralist* view that I will advocate will be contrasted with the positions by Black, Day, Gratton, and others.

Second, I include more case studies than do these earlier authors, drawn from all sorts of philosophical debates, and do so in a way that is both relatively economical and does not interrupt the main presentation of my results (see §3).

Last, none of the three studies is explicit on the normative aspect of their project in the sense just explained (though to some degree they clearly are). Compare for example Gratton's research questions:

Two very general questions guided this work: (1) How are infinite regresses generated in infinite regress arguments? (2) How do infinite regresses logically function as premises in an argument? (2010: xi)

These are descriptive questions and clearly different from their normative counterparts (i.e. from questions as to how regresses can and should be generated, and how in turn conclusions can and should be generated from the regresses). Still, *both* aspects will concern me in this dissertation, and my position in the end much depends on this normative emphasis.

### 3. Obstacles

Even if regress argument schemas are to be valued for all these reasons, the search for them is not without obstacles. Below I will discuss two problems. The first problem is a circularity problem and is the more pressing of the two.

Take the reconstruction rules again. The Interpretation Rules say: Try to capture the original statement and context of the argument. The Charity Rules say: Try to revise the argument such that it becomes logically valid and sound. Clearly, there is a tension between these rules. By the Interpretation Rules, we should respect how the various regress arguments are actually presented in the literature. By the Charity Rules, we should revise, rather than respect, these regress arguments. Or in other words, by Interpretation we should be descriptive (ignoring what can and should be the case, and capturing just what is the case), and by Charity we should be normative (ignoring what is the case, and capturing just what can and should be the case). A similar tension may be found here:

I have given examples from some philosophers whose language suggests that recurring questions are somehow involved in generating an infinite regress, and have argued that such questions are not involved. However, they can suggest some parts of a regress formula. (Gratton 2010: 157)

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Specifically, Gratton's contention here is that regresses should be stated not in terms of questions and answers (even if the original texts suggest so), but directly in terms of regress formulas (to be explained later on). Gratton's basic motivation for this is his view that questions do not entail infinite regresses. I shall not take up this specific issue here. Important here is that he chooses at this point for Charity rather than Interpretation. I had to make similar choices. Let me note just two instances where I part ways from Gratton's choices.

First example. Plato devises a regress argument against a certain conception of ignorance:

[...] Or are you going to start all over again and tell me that there's another set of pieces of knowledge concerning pieces of knowledge and ignorance, which a man may possess shut up in some ridiculous aviaries or waxen devices, which he knows so long as he possesses them though he may not have them ready to hand in his soul – and in this way end up forced to come running round to the same place over and over again and never get any further? (*Theaetetus* 200b-c)

Gratton claims that Plato's regress argument does not work basically because the new problems generated by the solution are insufficiently similar to the initial problem (2010: 161). According to Gratton, the relevant problems and solutions are the following:

*Problem:* It seems contradictory that sometimes one does not know what one knows.

*Solution:* The contradiction disappears as soon as we introduce the distinction between active and passive knowledge: one can fail to have active knowledge that one possesses passively.

*New problem:* It seems contradictory that sometimes one has active knowledge but is mistaken about it.

As I will explain in §4.2.1, it is correct that regress arguments do not work if the problems are not similar. As in this case the problems are dissimilar, it is indeed hard to see what might be a regress argument here. Nevertheless, another reading of the relevant problems is possible:

*Problem:* It needs to be explained how one can be ignorant about a piece of knowledge.

*Solution:* The explanation is that one can be ignorant about what one possesses in one's soul.

*New problem:* It needs to be explained how one can be ignorant about what one possesses in one's soul.



I do not want to claim that this reading is a better interpretation of Plato's words (although that would be nice). I do, however, hope my reading is a more charitable reading of the text, namely a reading which presents a reconstruction that has a chance of being sound.

Second example. Gratton uses Ryle's regress argument as the typical case for his regress argument schema (2010: 2-4). It can be observed that Gratton's reading ignores the context in which Ryle presents his argument, i.e. the discussion of whether knowledge-how requires knowledge-that. This is in line with his general approach described here:

I avoided as much as possible addressing the philosophical content and historical background of the arguments examined. (2010: xi)

However, as I will show later, if the context is also taken into account, then Ryle's argument may well be constructed in a rather different way (which differs not merely qua content, but also qua form).

At any rate, the contention here is that in many cases argument reconstruction is no straightforward matter and involves choices between interpretation and charity on behalf of the reconstructor. But how, then, is the tension to be resolved (i.e. how are choices between interpretation and charity to be made), and non-arbitrarily at that? Before anticipating my solution to this, I would like to point to a related circularity problem I encountered.

On the one hand, how is one to set up an argument schema if not by generalizing over actual cases from the literature? Yet on the other, how is one to generalise over actual cases if not by using an argument schema? To solve this problem (i.e. of generalizing over actual cases and *also* setting up argument schemas), I had to do both at once, switching back and forth between tentative statements of the argument schemas and the actual cases. This circularity problem, then, proved manageable.

The circle between Interpretation and Charity, however, cannot be solved by such a reflective equilibrium. If these principles are in conflict, both cannot have what they want (not even just half of it). Either the text is to be respected, or the argument is to be respected. There are three options:

- Defend that Interpretation always wins out.
- Defend that Charity always wins out.
- Defend that sometimes Interpretation wins out, and sometimes Charity.

The first two are radical solutions because they have to show why one aspect of argument reconstruction is more important than the other in every case. The third is no easier to defend, because in that case you might need a criterion which non-arbitrarily rules when Interpretation wins out, and when Charity. I will eventually take up the second horn of this trilemma: whenever there is a conflict between Charity and Interpretation, then, I will maintain,

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Charity always wins out over Interpretation (at least in the case of reconstructing regress arguments).

This was the circularity problem, and at this point it is not yet solved: all I have done is anticipate my solution. The other, second obstacle goes less deep, but is nevertheless interesting.

Sometimes it was suggested to me (at conferences and other occasions) that the project cannot but be a failure. In particular, regress arguments would be too diverse, and so it was anticipated that no general argument pattern would be forthcoming.<sup>12</sup> For my research project, of course, I had to suppose that this scepticism was misplaced. Even if it were to turn out that there are as many schemas as instances (i.e. that there are no schemas with more than one instance), then the (negative) result of the project would be that regress arguments are indeed too diverse.

Nonetheless, in this dissertation I will show that there are two main argument schemas for regress arguments, and that each and every case from the literature can be reconstructed in terms of both schemas. Accordingly I will present regress arguments as a fairly homogeneous class of arguments.

Apart from this contingent outcome, there is one argument as to why the scepticism about argument schemas is misplaced no matter what the outcome of my research. Namely: even if regress arguments are extremely diverse, there is always the possibility of setting up a schema which is so general that all fit it. Here is such a general schema (or rather proto-schema, as it does not contain schematic letters, among other elements):

- (1) Some premise/hypothesis.
- (2) Regress. [1]
- (C) Some conclusion. [2]

Of course, this schema is rather uninformative, as at least the following questions remain unanswered: What kind(s) of premises/hypotheses lead to a regress? What kind of line is a regress? What kind(s) of conclusions can be drawn from a regress? How do those conclusions follow? The question, basically, is whether more specific schemas are available, that is, whether there are schemas specific enough to be informative and non-trivial (i.e. such that not almost anything can be an instance of it), but still general enough to capture many instances.

A final kind of scepticism which I had to judge misplaced is that even if I were to identify some general feature of many regress arguments, it might still be the case that regress arguments happen to be based on a logical mistake. Merely to note that philosophers from Plato to Hume to Russell have used these arguments would be no help here, because logical mistakes can occur anywhere. So let us see.

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<sup>12</sup> For similar criticism to argument schemas for thought experiments, cf. Cappelen (2012: 197-9).

## 1.4. Overview

This dissertation is divided into seven main parts. In the following I summarise briefly the contents of each.

<i>Part</i>	<i>Summary</i>
1. Introduction	In this part, I introduce regress arguments by several everyday examples, define the key terms of this dissertation, and motivate its main goal: the search for regress argument schemas. I also formulate two sets of hypotheses on regresses and regress arguments, which will be crystallised into full theories in what follows.
2. Schemas	In this part, I set out the two main argument schemas (plus subversions) which are labelled as the Paradox Schema and the Failure Schema. The former schema derives from the literature, and the latter is my original contribution. This constitutes the key part of the dissertation as all further aspects of the two theories of regress arguments rely on these schemas.
3. Instances	In this part, I present instances of the schemas from the previous part. First I make my approach explicit, identify the filling instructions for both schemas, and then spell out a selected number of classic instances in full.
4. Analysis	In this part, I compare the two schemas on the basis of the case studies, and pin down both what they have in common and what makes them different. Specifically, I compare their premises/hypotheses, their conclusions and their dialectics. After that, I explain how each schema pertains to the questions: What are regresses, when are they vicious, and do they have to be infinite?
5. Applications	In this part, I employ the schemas to clarify some important debates, among them the debates on Carroll's Tortoise and Epistemic Infinitism.
6. Meta-debate	In this part, I first defend the Failure Schema against a number of concerns anticipated in the literature. Next I answer the query: If regress arguments can be reconstructed along the lines of both the Paradox and the Failure Schema, then which way is to be preferred? My position called Revisionist Pluralism basically says this: If you want to refute a universally or existentially quantified statement, then use the Paradox Schema. And if you want to show that your opponent fails to solve a

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	universally or existentially quantified problem, use the Failure Schema.
7. Epilogue	I conclude the dissertation with what the two theories (each based on one of the schemas) have to say about how regress arguments are to be used and evaluated.

§2  
*Regress Argument Schemas*

## 2.1. Desiderata

In the following I specify what kind of argument schemas I am looking for. Ten desiderata will be listed. Many of these follow directly from §1.3, that is, the schemas must fulfil such and such desiderata in order to be useful.

### 1. First set

The argument schemas have to fulfil a number of desiderata. To begin with, the schemas must be such that:

- a regress occupies one of their lines;
- the regress is derived from premises/hypotheses;
- a conclusion is drawn from the regress.

These desiderata derive from Gratton (2010: xi), and can be motivated in two ways. First, they can be used to demarcate regress arguments from non-regress arguments. This means that nothing is a regress argument unless it fulfils these three desiderata (for example, if no regress occupies one of the lines), and, vice versa, that anything which does fulfil them is a regress argument. In terms of argument schemas: given that regress arguments are a specific kind of argument, the schemas must fulfil these desiderata in order to have regress arguments as their instances.<sup>13</sup>

Second, the schemas must fulfil these desiderata in order to be useful from a methodological point of view. That is, on the basis of such schemas we can check whether and, if so, how substantive conclusions follow from regresses, disambiguate these conclusions, and see what premises may be attacked if someone committed to (some of) them does not want to buy their apparent conclusion (see the methodological arguments from §1.3).

Please note that at this stage there are no further restrictions on the schemas. In principle, then, it is possible to set up an argument schema which is logically invalid, which has no example from the literature as an instance, and which cannot explain any dispute about regress arguments in the literature (e.g. identify the exact point of controversy between Quine and Davidson regarding a regress noted in §1.3.2). However, a schema which is logically invalid is uninteresting from the point of Charity Rule I, and a schema which has no actual instances and cannot explain (or help to resolve) disputes about regress arguments (such as Quine/Davidson dispute) is useless

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<sup>13</sup> As we shall see, though, regresses will play only a minimal *logical* role in regress arguments: a few steps will suffice to draw conclusions from them.

from a methodological point of view. Here, then, are three further desiderata. The schemas should:

- be logically valid;
- have several cases from the literature as an instance;
- be able to explain disputes about regress arguments.

Now we have six desiderata. They will be the desiderata that will form my concern in a larger part of this dissertation: §§2-5. Specifically, I will discuss two main arguments schemas (plus subversions) which fulfil all six. These schemas will be labelled the *Paradox Schema* and the *Failure Schema*. As we shall see, each of the schemas can be coupled with one of the intuitions about regress arguments identified in §1.1.3, that is, respectively, with the Paradox Intuition and the Failure Intuition. To my knowledge, no other argument schemas which fulfil these six desiderata are on the market.

## 2. Second set

The follow-up question is this: If several regress argument schemas fulfil the foregoing desiderata, *then which is the most fruitful?* This is a new question as yet unaddressed in the literature on regress arguments. But in fact it is just a version of the problem of argument reconstruction: If there is more than one way in which an argument can be reconstructed, then how is it to be done? (If there are different argument schemas available according to which an argument can be made explicit, then which is the most fruitful?) The problem is especially pressing if both schemas happen to be logically valid.

I will approach the issue by introducing some further desiderata for the argument schemas. Particularly, the schema should:

- be as simple as possible;
- produce plausible premises/hypotheses;
- produce conclusions that are hard to resist;
- produce conclusions that can play an interesting role in a debate.

These desiderata are plausible, because a schema which fulfils them produces better arguments than a schema which does not.<sup>14</sup> And by Charity Rule II, we should look not only for logically valid arguments (as Rule I motivates), but for sound ones, that is, for the best possible arguments. Here, I assume without further argumentation that simple arguments are better than complex ones, arguments with plausible premises/hypotheses better than those with implausible ones, arguments which are hard to resist better than arguments

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<sup>14</sup> Speaking literally, of course, schemas do not produce anything. What is meant is that instances of the relevant lines have such and such features.

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which are not, and arguments with interesting conclusions better than those with uninteresting ones. They basically work thus:

*Schema choice.* For any two argument schemas, if it is possible to reconstruct an argument on the basis of either, then one should use the schema that is such and such (e.g. the simplest).

These last four desiderata will form my concern in §6.2 of this dissertation. To be sure: it need not be the case that the desiderata converge. For example, the schema which produces the arguments with the most plausible premises and most interesting conclusions may not be the schema which produces the simplest arguments. As a consequence, it may turn out that the Paradox Schema and the Failure Schema score well on different points, so that they are fruitful in their own right.

I will nevertheless turn the tables in favour of one of the schemas. That is, although I will argue that *both* schemas can have good, sound instances, I will also explain why regress arguments that take the form of the Failure Schema are often better arguments, and hence that often the latter schema is a more fruitful way of reconstructing regress arguments. (Such is my qualified pluralist view.)



## 2.2. The Paradox Schema

In the following I present one of the regress argument schemas: the Paradox Schema. Next, I address queries about its logical validity and its boundaries. Finally, I refer to the literature where parts or versions of the Paradox Schema have been investigated.

### 1. Schema

Recall the following hypothesis from §1.1:

Para–B Regress arguments are arguments which demonstrate that a number of claims cannot hold together because they jointly yield an absurd regress.

Gratton’s diagram (1997: 205, 2010: 4) can be taken as a specification of this hypothesis. Here is my reading of his diagram:

#### *Proto Paradox Schema*

- (1) Regress formula 1.
- (2) Regress formula 2.
- (3) Trigger.
- (4) Regress. [1-2]
- (5) Result. [3, 4]
- (6) (5) is false.
- (C) (1) is false. [1-6]

From now on the premise/hypothesis distinction will be important (see §1.1). In this proto-schema, there is one hypothesis (for Reductio Ad Absurdum, as I will explain later): line (1). There are three premises: lines (2), (3) and (6). And finally three main inferences: lines (4), (5) and (C). We shall see about the ins-and-outs of the inferences soon, but the main idea is: given that (1), (2) and (3) together lead to a contradiction with (6), we have to reject the hypothesis, which is line (1). In this sense, this schema is a specification of Para–B above.

Still, the above is only a proto-schema, for something is a full argument schema only if its lines are quantified statements with schematic letters. In the following, therefore, all lines are replaced with such statements. From now on I shall refer to this as the Paradox Schema. Whenever I talk about Paradox arguments in this dissertation, I talk about instances of this

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semi-first-order schema. A full first-order rendering will be presented below.<sup>15</sup>

*Paradox Schema*

- (1) For all items  $x$  of type  $K$ ,  $x$  is  $F$  only if there is a new item  $y$  of type  $K$  and  $x$  and  $y$  stand in  $R$ .
- (2) For all items  $x$  and  $y$  of type  $K$ ,  $x$  and  $y$  stand in  $R$  only if  $y$  is  $F$ .
- (3) There is at least one item of type  $K$  that is  $F$ .
- (4) Regress:
  - (a)  $a$  is  $F$ .
  - (b)  $a$  and  $b$  stand in  $R$ , where  $a \neq b$ . [ $a$ , 1]
  - (c)  $b$  is  $F$ . [ $b$ , 2]
  - (d)  $b$  and  $c$  stand in  $R$ , where  $a \neq b \neq c$ . [ $c$ , 1]
  - (e)  $c$  is  $F$ . [ $d$ , 2]And so on.
- (5) An infinity of items of type  $K$  are  $F$ . [3, 4]
- (6) (5) is false: No infinity of items of type  $K$  are  $F$ .
- (C) (1) is false: It is not the case that for all items  $x$  of type  $K$ ,  $x$  is  $F$  only if  $x$  stands in  $R$  to a new item  $y$  of type  $K$ . [1-6]

My interpretation of Gratton's proto-schema, here, largely overlaps with the proposal by Black (1996: 100-1).<sup>16</sup> To obtain instances of this schema 'items of type  $K$ ' is to be replaced with a certain domain, and the capitals 'F' and 'R' are to be replaced with predicates which express properties of and relations between the items in that domain. Before explaining the inferences, let me provide one simple instance of the schema:

*Guardians (Paradox instance)*

- (1) For all people  $x$ ,  $x$  is reliable only if there is a guardian  $y$  and  $x$  is guarded by  $y$ .
- (2) For all people  $x$  and  $y$ ,  $x$  is guarded by  $y$  only if  $y$  is reliable.
- (3) At least one person is reliable.
- (4) Regress:
  - (a) My girlfriend is reliable.
  - (b) She is guarded by guardian no. 1. [ $a$ , 1]
  - (c) No. 1 is reliable. [ $b$ , 2]

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<sup>15</sup> Throughout the dissertation, I try to be as clear as I can. Still, if certain instances of the schema are ambiguous, then their meaning should be determined on the basis of the formalisation.

<sup>16</sup> There are three main differences. First, in Black's schema, lines (1) and (2) are integrated into one line. Second, Black employs an extra assumption that specifies certain properties of the relation 'R'. Third, he seems to employ only hypotheses (rather than premises) given that his concluding line runs 'either (1), (2), (3) or (6) is false'. I shall motivate my choices in due course.

- (d) No. 1 is guarded by guardian no. 2. [c, 1]
- (e) No. 2 is reliable. [d, 2]
- And so on.
- (5) There is an infinity of reliable persons. [3, 4]
- (6) There are not so many reliable persons.
- (C) (1) is false: It is not the case that anyone who is reliable is guarded by a guardian. [1-6]

Hence, if we take Juvenal's case as an instance of the Paradox Schema we obtain an argument for the claim that there is at least someone who is reliable but not guarded by a guardian. Further instances, but of a philosophical nature, will be provided in §3.

## 2. Validity

Is the Paradox Schema logically valid? That is, is its conclusion (C) true if the premises (2), (3) and (6) are true? It can be shown that it is valid in a classical way. In this section I will explain the inferences of the Paradox Schema, i.e. lines (4), (5) and (C), both in an informal and formal way. I shall identify the rules on which the inferences rely and draw the attention to a suppressed premise. This premise is suppressed in the Paradox Schema above, because it is virtually never a point of discussion: its truth is accepted by both proponents and opponents of a given instance.

I should note that a sketch of the inferences can be found in Black (1987, 1988: 421-2, 1996: 99-103), and some steps are identified in Gratton (2010: ch. 2). It seems important, however, to check whether all steps of the Paradox Schema are logically valid. For if this were not the case, then all regress arguments which are instances of this schema may be based on a logical mistake and, moreover, the relevant conclusions may not be established by the premises at hand.

### 2.1. Informal explanation

#### *Paradox's (4)*

The regress in (4) follows from the first two lines (1) and (2):

- (1) For all Ks x, x is F only if x stands in R to a new K y.
- (2) For all Ks x and y, x stands in R to y only if y is F.

Both (1) and (2) state *necessary conditions*. Line (1) has it that the fact that x and y stand in R is a necessary condition for the fact that x is F, and line (2) that the fact that y is F is a necessary condition for the fact that x and y stand in R. I shall explain the meaning of the term 'necessary condition' later on (§4.2.1). Here it suffices to say that 'A only if B' means at least 'if A is true,

### *And So On*

then B is true as well', such that it allows us to derive 'B' from 'A' and 'A only if B' by Modus Ponens. The conditions may be sufficient as well as being necessary. Their sufficiency, however, can play no role in generating a regress. Consequently, if you want to generate a regress, the conditions may not be *merely* sufficient.

The lines (1) and (2) may have variants, and may be multiplied as well. For example, the following set of lines would also generate a regress: For all Ks x, x is F only if x is G; x is G only if a new K is H; and x is H only if x is F.

It is important however that the regress formulas taken together, no matter their number, should at least entail that: For any K, K is F only if there is a new K that is F. For example, it is possible to generate a regress by the formula that anyone is reliable only if there is someone else who is reliable. Indeed, (1) and (2) can always be integrated into one in order to simplify the derivation. However, in many instances this is not very useful given that relevant parts of the dialectic might be lost in the simplification. In particular, someone who is ready to accept/reject (1) (e.g. that someone is reliable only if guarded by a guardian), need not accept/reject (2) (e.g. that someone is guarded by someone else only if the latter is reliable), and vice versa.

Importantly, in my construction regresses are generated *hypothetically*, i.e. on the basis of the hypothesis (a) of (4) (such as 'my girlfriend is reliable'). The latter hypothesis is meant to be completely arbitrary. For example, in the guardian case one could run the same argument on the basis of the hypothesis that my brother is reliable. To my knowledge, this hypothetical construction has not been used before in the literature. On Gratton's account, for example, regresses are not generated on the basis of a hypothesis, but on the basis of a premise, namely premise (3) (i.e. the trigger). In my construction, in contrast, (3) plays no role in generating a regress, but in the step from regress to conclusion, as we shall see next.<sup>17</sup>

### *Paradox's (5)*

This line is called the result, i.e. what follows from the regress. It follows from (3) and (4) in two main steps. First, and as just noted, it follows from the regress that: For any K, K is F only if another K is F. Logically speaking, we do not need the whole regress for this: as a and b are arbitrary items (e.g. my girlfriend and guardian no. 1), it follows at once from 'a is F only if b is F' that 'For all Ks, K is F only if a new K is F'. Hence, it is slightly misleading to depict regresses as an open list of lines (ending with 'and so on'). Nevertheless, I have decided to stick to this presentation as it is illustrative for reconstructing particular cases.

Second step: Paradox arguments rely on the following suppressed premise:

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<sup>17</sup> I do think that (3) *can* play a role in generating regresses (e.g. when the latter are generated non-hypothetically; or when one does not make use of (7) below), yet in the construction I propose, (3) does not play this role.

- (7) If at least one K is F and any K is F only if a new K is F, then an infinity of Ks are F.

Given that we just obtained the second conjunct of the antecedent, and that the first conjunct is supplied by premise (3), (5) follows at once: An infinity of Ks are F. (7) says for example: If there is in fact a reliable person and if for any reliable person there is a new reliable person, then there is an infinity of reliable persons.

It is important to point out that ‘y’ in line (1) is to range over *new* items, i.e. items not yet used in the derivation (cf. Gratton 2010: 33). So in the guardian case, (1) should read: For all people x, x is reliable only if there is a new, not yet used guardian y and x is guarded by y. For if the item introduced were one already used in the derivation, the regress would run into a bigger or smaller loop (e.g. guardians that would guard one another). Furthermore, if this were the case, it would not follow that an infinity of items are F.<sup>18</sup>

As noted at the beginning of this section, this premise (7) is suppressed in the schema, because its truth is virtually never a matter of dispute: it is often a common background assumption in the debate. Moreover, if one finds (7) controversial, then it is worth noting that the infinity is not really an issue in most cases. Important for the next step to (C) is that it follows that *too many* items of type K are F, i.e. more items than there are in fact (e.g. that it follows that there are too many reliable people, i.e. more reliable people than are in fact available). More about this below.

One last qualification regarding line (5). Namely: more results entailed by the regress might be taken into consideration. Specifically, in many cases it follows from the regress not only that an infinity of Ks are F, but also that an infinity of pairs of Ks stand in R. The regress of guardians, for example, not only entails that there is an infinity of reliable persons, but also that an infinity of persons are guarded by a guardian, and indeed that there is an infinity of guardians. This is relevant because the argument might also run that the regress entails a bad result because there is no infinity of guardians. This brings us to the last step.

#### *Paradox's (C)*

The last step to (C) consists of three parts. First it is shown that the result entailed by the regress is unacceptable, as it conflicts with independent considerations, i.e. something else that one does not want to give up. For example, in the guardian case I assumed that there is no infinity of reliable persons. This may be the case for various reasons. Perhaps an infinity of reliable persons is psychologically, physically or even logically impossible.

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<sup>18</sup> Another, more formal way to block loops would be to impose some properties on the relation. See below.

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Perhaps you have empirical evidence as to whether or not this is the case. What route you eventually take to line (6) is unimportant for the main line of reasoning.

Second step: lines (5) and (6) form a contradiction. This is the paradox that the name of the schema speaks of: the claims (1), (2), (3) (i.e. which together entail (5)) and (6) are jointly inconsistent. By the classic definition, paradoxes consist of claims which appear individually plausible, yet jointly inconsistent (Sainsbury 1987: 1).<sup>19</sup> In this dissertation I will mainly retain the ‘jointly inconsistent’ part of this definition, and not assume that it is always the case that regress arguments concern claims which appear individually plausible (even though they may, of course). For example, line (1) of the guardian case does not, I think, appear very plausible: For all people  $x$ ,  $x$  is reliable only if there is a guardian  $y$  and  $x$  is guarded by  $y$ .

Last step: given the contradiction, at least one of the assumptions has to be rejected by *Reductio Ad Absurdum*. In the schema it is given that lines (2), (3) and (6) are premises, and that line (1) is the hypothesis to be rejected. There are, to be sure, variants of the Paradox Schema which do not conclude with the rejection of (1), but rather the rejection of (2), (3) or (6). This debate would lead us into the question of what is to be taken as a premise, and what as a hypothesis (i.e. for *Reductio Ad Absurdum*). For example, if one wants to reject (3), i.e. the trigger, then (3) is the hypothesis and (1), (2) and (6) premises.

Importantly, (3) has to be an existentially quantified statement. It does not say: some particular  $K$  is  $F$  (e.g. one particular person that one may have in mind is reliable). It rather says: an arbitrary item of type  $K$  is  $F$  (e.g. at least one person is reliable, whoever it is). In the guardian case, for example, if you want to keep (1), (2) and (6) in place, it is not enough to reject the statement ‘my girlfriend is reliable’ because similar arguments can be constructed on the basis of ‘I am reliable’, ‘you are reliable’, etc. Instead, what is needed in that case is a rejection of ‘at least one person is reliable’.

At this point, I have explained the inferences of the Paradox Schema in a semi-formal way. As we shall see next, all relevant inference rules are valid according to classical predicate logic such that the Paradox Schema is valid by this logic. The Paradox Schema hosts no logical mistakes, meaning that (C) can indeed be obtained via (1)-(6).

## 2.2. Formal explanation

Here, I present a formal rendering of the Paradox Schema. Some explanations are in order. To begin with, I will employ standard natural deduction abbreviations of the inference rules (see the table below). I will use the propositional calculus by Nolt et al. (1988: ch. 4), and the first-order extension by Gamut (1982: 142-7). This means that I will employ a strict

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<sup>19</sup> The term ‘paradox’ has explicitly been used in connection with regress arguments by Black (1996: 101) and Cling (2009).

distinction between premises and hypotheses (cf. Gamut 1982: 132-3, Nolt et al. 1988: 87, Batens 1992: 67, Woods et al. 2000: 129). All portions of hypothetical reasoning will clearly be marked by vertical lines.<sup>20</sup>

PREM	Premise
HYP $\neg$ I	Hypothesis for $\neg$ I
HYP $\rightarrow$ I	Hypothesis for $\rightarrow$ I
$\neg$ I	Reductio Ad Absurdum: $A_{\text{HYP}}, \dots, B \wedge \neg B \vdash \neg A$ <sup>21</sup>
$\rightarrow$ I	Conditional Proof: $A_{\text{HYP}}, \dots, B \vdash A \rightarrow B$
$\rightarrow$ E	Modus Ponens: $A, A \rightarrow B \vdash B$
$\wedge$ I	Conjunction: $A, B \vdash A \wedge B$
$\wedge$ E	Simplification: $A \wedge B \vdash A$
$\exists$ I	Existential Generalisation: $[a/x]A \vdash \exists xA$
$\exists$ E	Existential Instantiation: $\exists xA, [a/x]A \rightarrow B \vdash B$
$\forall$ I	Universal Generalisation: $[a/x]A \vdash \forall xA$
$\forall$ E	Universal Instantiation: $\forall xA \vdash [a/x]A$

The rules of Existential Instantiation ( $\exists$ E) and Universal Generalisation ( $\forall$ I) should be applied carefully as they do not apply across the board. For example, from ‘there is a philosopher in the room’ one cannot just conclude ‘Socrates is in the room’ and from ‘Socrates is in the room’ one cannot just conclude ‘all philosophers are in the room’. Nevertheless, sometimes it is allowed to use  $\exists$ E and  $\forall$ I. In this case, we would be allowed to apply  $\exists$ E and  $\forall$ I if we would use the label ‘Socrates’ to refer to an arbitrary philosopher. Here are correct, formal applications of  $\exists$ E and  $\forall$ I:<sup>22</sup>

(1)	$\forall x(Fx \rightarrow \exists yGy)$	PREM
(2)	$\exists xFx$	PREM
(3)	$Fa$	HYP $\rightarrow$ I
(4)	$Fa \rightarrow \exists yGy$	1; $\forall$ E
(5)	$\exists yGy$	3, 4; $\rightarrow$ E
(6)	$Fa \rightarrow \exists yGy$	3-5; $\rightarrow$ I
(7)	$\exists yGy$	2, 6; $\exists$ E
(8)	$\forall x(Fx \rightarrow \exists yGy)$	6; $\forall$ I

<sup>20</sup> It should be noted that this distinction, and the corresponding hypothetical rules  $\neg$ I and  $\rightarrow$ I, are not part of *all* formalisations of the propositional calculus (such as the one by Copi 1953).

<sup>21</sup> In the table, ‘A’ and ‘B’ are placeholders for formulas, the subscript ‘HYP’ indicates that the formula is a hypothesis (rather than a premise), and ‘ $[a/x]A$ ’ refers to the formula which results when all free occurrences of the variable ‘x’ in A are replaced with occurrences of the constant ‘a’.

<sup>22</sup> In these first-order proofs, all numbers on the right side of the page indicate how a line is obtained from previous lines (I shall drop the square brackets here).

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In this case, we may conclude from (2) and (6) to (7) by  $\exists E$ , given that 'a' in (6) forms an arbitrary item, that is, given that 'a' does not occur in the premises (such as (2) itself), nor in any undischarged hypothesis, nor in the conclusion, i.e. (7). Also, we may conclude from (6) to (8) by  $\forall I$ , again given that 'a' in (6) forms an arbitrary item, that is, given that 'a' does not occur in the premises, nor in any undischarged hypothesis (for these specific restrictions, cf. Gamut 1982: 142-7, Batens 1992: 170, Woods et al. 2000: 209-11).

Next, the numberings of the lines (1)-(C) correspond to the numberings of my semi-first order schemas presented above (the latter line up closely with the dialectic of regress arguments, see §4.1.5). Given that I wanted to keep my semi-formal schema as readable and applicable as possible, at two points it will slightly differ from the upcoming formalisation. First, in the latter all suppressed premises and inferences are made explicit (i.e. no lines will be suppressed or superfluous). Second, in the formalisation the regress is no longer taken as an open list of lines. The latter is illustrative for reconstructing particular cases, yet, as we shall see, the 'and so on' serves no logical purpose. Finally, some of the predicates and premises will need some additional explanation (particularly line (7)). These explanations are provided right after the formalisation.

#### *Key*

$Kx$ : x is of type K

$Fx$ : x has property F

$Rxy$ : x stands in relation R to y

$IR$ : an infinity of Ks are F

#### *Example:*

$Kx$ : x is a proposition

$Fx$ : the dispute about x is settled

$Rxy$ : the dispute about x is settled by y

$IR$ : the dispute is settled about an infinity of propositions



*Paradox Schema*

(2)	$\forall x \forall y ((Ky \wedge Rxy) \rightarrow Fy)$	PREM
(3)	$\exists x (Kx \wedge Fx)$	PREM
(7)	$(\exists x (Kx \wedge Fx) \wedge (\forall x ((Kx \wedge Fx) \rightarrow \exists y (Ky \wedge Fy \wedge Rxy)))) \rightarrow IR$	PREM
(6)	$\neg IR$	PREM
(1)	$\forall x ((Kx \wedge Fx) \rightarrow \exists y (Ky \wedge Rxy))$	HYP $\neg I$
(i)	$Ka \wedge Fa$	HYP $\rightarrow I$
(ii)	$(Ka \wedge Fa) \rightarrow \exists y (Ky \wedge Ray)$	1; $\forall E$
(iii)	$\exists y (Ky \wedge Ray)$	i, ii; $\rightarrow E$
(iv)	$Kb \wedge Rab$	HYP $\rightarrow I$
(v)	$\forall x ((Kb \wedge Rxb) \rightarrow Fb)$	2; $\forall E$
(vi)	$(Kb \wedge Rab) \rightarrow Fb$	v; $\forall E$
(vii)	$Fb$	iv, vi; $\rightarrow E$
(viii)	$Kb \wedge Fb \wedge Rab$	iv, vii; $\wedge I$
(ix)	$\exists y (Ky \wedge Fy \wedge Ray)$	viii; $\exists I$
(x)	$Kb \wedge Rab \rightarrow \exists y (Ky \wedge Fy \wedge Ray)$	iv-ix; $\rightarrow I$
(xi)	$\exists y (Ky \wedge Fy \wedge Ray)$	iii, x; $\exists E$
(xii)	$(Ka \wedge Fa) \rightarrow \exists y (Ky \wedge Fy \wedge Ray)$	i-xi; $\rightarrow I$
(xiii)	$\forall x ((Kx \wedge Fx) \rightarrow \exists y (Ky \wedge Fy \wedge Rxy))$	xii; $\forall I$
(xiv)	$\exists x (Kx \wedge Fx) \wedge (\forall x ((Kx \wedge Fx) \rightarrow \exists y (Ky \wedge Fy \wedge Rxy)))$	3, xiii; $\wedge I$
(5)	$IR$	xiv, 7; $\rightarrow E$
(8)	$IR \wedge \neg IR$	5, 6; $\wedge I$
(C)	$\neg (\forall x ((Kx \wedge Fx) \rightarrow \exists y (Ky \wedge Rxy)))$	1-8; $\neg I$

As noted, lines (1)-(3) may have variants in terms of one- or many-place predicates and their number (this does not hold for the Failure Schemas that will be presented in §2.3). Also, it is easy to see how variants of the Paradox Schema can be constructed where line (2), (3) or (6), rather than (1), is the hypothesis for reductio. Note that the distinction between types (here: ‘K’) and properties (here: ‘F’) is not meant to be a fundamental distinction (i.e. that types and properties are different kinds of things). The type ‘K’ just refers to the domain at issue (such as the domain of propositions). This domain has to be explicit in the schema in order to capture Failure I arguments (to be discussed below). For the sake of uniformity, I decided to include ‘K’ in the formalisation of all schemas.

Line (7) requires some explanation. First, ‘IR’ is a placeholder for the schematic sentence ‘there is an infinity of Ks that are F’. I should flag that this is no full first-order expression (as ‘infinity’ is no familiar first-order term). As we shall see below, it can nevertheless be stated in first-order terms when the whole line (7) would be true.

In my construction line (7) is taken as a premise for two reasons: first, to assure logical validity and, second, in actual debates it is virtually always taken for granted, i.e. those who wish to resist the charge of a regress do not usually attack (7), but other premises (see §4.1.5).

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As it stands, though, (7) has many false instances. For it merely says (assuming all items are from the same domain K): if there is one item that is F and if for any item x that is F, there is a y that is F and x stands in R to y, then an infinity of items are F. Here is for example one dubious instance: if there is at least one bald person, and if for any bald person x there is a bald person y and x has exactly the same DNA as y (such that  $x=y$ ), then there is an infinity of bald persons.

To be sure, the fact that instances of (7) may be false forms no problem for the logical validity of the argument. Rather, the problem is that (7) does not say what it should say, namely that ‘y’ has to be a new item in the domain. Unfortunately, the phrase ‘there is a new item y’ cannot be captured by a familiar logical constant. For often it does not merely mean ‘there is an item y and y is distinct from x’, but rather ‘there is an item y that is distinct from *all other items mentioned earlier in the regress*’. To capture this formally, we have to assume certain properties of the relation ‘R’ which block all loops (i.e. that may prevent the regress from being infinite). Now, the properties that will do the job are that R is asymmetric and transitive:<sup>23</sup>

- (a)  $\forall x \forall y (Rxy \rightarrow \neg Ryx)$   
 (b)  $\forall x \forall y \forall z ((Rxy \wedge Ryz) \rightarrow Rxz)$

Yet, the problem with this is that not all relations in regress arguments are transitive (consider e.g. the relation ‘the dispute about x is settled by y’). In the following, I shall explain two distinct solutions to this problem.

*First solution.* We could require that the transitive closure of R, i.e.  $R^*$ , rather than R itself, is irreflexive. Roughly, items x and y stand in the transitive closure  $R^*$  of a relation R just in case there is a chain of R-pairs of arbitrary length between x and y. Furthermore, if  $R^*$  is irreflexive, then no item can be reached via R to itself, whether this be directly or indirectly via a whole series of pairs related by R (e.g. no guardian can guard himself, directly or indirectly via other guardians; or the dispute about a proposition cannot be settled by that same proposition, directly or indirectly via other propositions). Black (1996: 100), who employs this notion in this context, provides a useful example that shows that R having a transitive closure  $R^*$  does not entail R itself being transitive: fatherhood is not transitive, even though the transitive closure, let us call this relation ‘ancestor’, is irreflexive (nobody is an ancestor of him- or herself). Here is how one can describe the transitive closure of R, i.e.  $R^*$ , being irreflexive in first-order logic:

- (c)  $\forall x \forall y (Rxy \rightarrow R^*xy)$   
 (d)  $\forall x \forall y (\exists z (R^*zy \wedge Rxz) \rightarrow R^*xy)$   
 (e)  $\forall x \neg R^*xx$

---

<sup>23</sup> Or irreflexive and transitive. Cf. Sanford (1975: 534-5, 1984: 109-13), MacKay (1980: 374-5), Black (1987, 1988), Post (1993), Gratton (2010: ch. 2), and Aikin (2011: 23-32).

*Second solution.* We could introduce an additional relation ' $<$ ', distinct from  $R$ , whose only job is to order the  $K$ s, and make sure that all items introduced in the regress are new items (such that they form an infinite, non-circular series). To do this, ' $x < y$ ' can be read as 'x occurs earlier in the regress than y' and has to satisfy the following conditions:<sup>24</sup>

- (f)  $\forall x \forall y ((x \neq y \wedge Kx \wedge Ky) \rightarrow (x < y \vee y < x))$
- (g)  $\forall x \forall y (x < y \rightarrow (Kx \wedge Ky))$
- (h)  $\forall x \forall y \forall z ((x < y \wedge y < z) \rightarrow x < z)$
- (i)  $\forall x \neg x < x$

Moreover, the advantage of this solution is that it allows us to formulate both 'IR' and ' $\neg$ IR' in first-order terms:

$$\begin{aligned} \text{IR} & \quad \exists x (Kx \wedge Fx) \wedge \forall x ((Kx \wedge Fx) \rightarrow \exists y (x < y \wedge Ky \wedge Fy)) \\ \neg \text{IR} & \quad \exists x (Kx \wedge Fx \wedge \forall y ((Ky \wedge x < y) \rightarrow \neg Fy)) \end{aligned}$$

For example: The dispute about at least one proposition is settled and the dispute about any proposition is settled only if there is a new proposition which is such that the dispute about it is settled vs. For at least one proposition  $x$ , the dispute about  $x$  is settled and, for all new propositions  $y$ , the dispute about  $y$  is not settled.

Now back to our problem: though (7) makes the schema valid, it has many false instances. At this point we can say, in more precise terms, that (7) is true whenever (a)-(b), (c)-(e), or (f)-(i) are true (or all).<sup>25</sup>

Another final option, as suggested by Cling (2009: 343), would be to drop the idea of 'infinity', and to replace 'there is an infinity of  $K$ s that are  $F$ ' with 'there is an endless regress of  $K$ s that are  $F$ ' (where the latter, but not the former, includes finite, circular regresses). If we change this in both (6) and (7), then we would not need to block loops and place restrictions on the relation, and yet we still obtain a contradiction in (8) such that we can apply  $\neg$ I.<sup>26</sup> This solution will work in all cases where infinity is not really an issue (for this, see §4.2.3 below).

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<sup>24</sup> (f) ensures that *all*  $K$ s stand in  $<$ ; (g) that *only*  $K$ s stand in  $<$ ; and (h) and (i) that  $<$  is transitive and irreflexive.

<sup>25</sup> All credits for (c)-(e) go to Bert Leuridan, and all credits for the second solution (f)-(i) to Christian Straßer.

<sup>26</sup> Cling (2009) proposes a schema that is very much in the spirit of the Paradox Schema. Rather than using (6) (i.e. ' $\neg$ IR'), he uses a premise of the form ' $\text{IR} \rightarrow \neg \exists x (Kx \wedge Fx)$ '. This also leads to a contradiction, namely with (3).

*And So On*

### 3. Boundaries

The question of boundaries is this: Why does the Paradox Schema begin at line (1) and stop at (C)? Why not *more* lines, or *fewer* for that matter? There are two arguments here.

The first argument is that the Paradox Schema had to consist of at least (1)-(5), because otherwise it would not fulfil the first three desiderata from §2.1. To recall those: the schema had to be such that the regress occupies one of the lines, i.e. (4); that it is derived from premises/hypotheses, i.e. (1)-(2); and that from it some conclusion is drawn, i.e. (5).<sup>27</sup>

The second argument, due to Gratton (2010: 9), is that the Paradox Schema has to consist of (1)-(C) if it is to have Reductio Ad Absurdum arguments as instances. Reductio Ad Absurdum arguments are arguments where some hypothesis is assumed for the purpose of deriving unacceptable consequences from it (which in most cases is a straight contradiction, in others merely something disadvantageous). The hypothesis is rejected on that basis. Take the Omnipotence Paradox as a simple example:

- Omnipotent beings should be able to do anything whatever.
- It is logically impossible to accomplish the following two tasks at once: create a stone that one cannot lift, and lift it.

By these, we obtain a paradox: omnipotent beings should be able to but cannot do anything whatever. To avoid or resolve the paradox, something needs to be rejected. So either we reject that omnipotent beings should be able to anything whatever (i.e. even logically impossible things), or we reject that no one can create a stone that one cannot lift, and then lift it.<sup>28</sup>

Now, if regress arguments are to be special cases of such arguments, then the boundaries of the former are the boundaries of the latter. That is, in such a case, regress arguments should contain both the hypothesis to be rejected and the conclusion where it is actually rejected (plus what lies in between). These are (1) and (C).

It is worth pointing out, however, that Gratton (2010: 9-11) acknowledges the existence of regress arguments that consist of lines (1)-(5) only. These arguments are the so-called *benign* regress arguments. The latter have in common with full Paradox instances that a regress is entailed by premises, and a result in turn by the regress, but they differ in that benign regress arguments do not show that this result is unacceptable (and so neither show that something is to be rejected). Take for instance the following simple argument:

- (1) There is Socrates.

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<sup>27</sup> For the motivation of these desiderata, see again §2.1.

<sup>28</sup> For many more examples of paradoxes, cf. Rescher (2001) and Clark (2002).

- (2) Anything has proper parts (i.e. parts not identical to the whole of which they are a part).
- (3) Regress: Socrates has proper parts, the proper parts of Socrates have proper parts, the proper parts of the proper parts of Socrates have proper parts, etc. [1-2]
- (4) Socrates has an infinity of proper parts. [3]

This is a regress argument in that it fulfils the three basic desiderata for something to be a regress argument. Still, this can be expanded to a full instance of the Paradox Schema only if it is also be shown that Socrates' proper parts are not infinite.

It may be useful here to invoke the following distinction between *positive* and *negative* regress arguments:

- A regress argument is negative if it consists of instances of lines (1)-(C) of the Paradox Schema (where (C) is a rejection).
- A regress argument is positive if it consists of instances of lines (1)-(5) of the Paradox Schema (where (5) is not a rejection).

Such negative/positive terminology is admittedly somewhat arbitrary (cf. Sanford 1984: 100, Nolan 2001: 523); at least, that is, if negative arguments are meant to be negations and positive arguments are not. For regress formulas are universally quantified statements, and, provided that the domain is non-empty, the negation of such a statement (e.g. 'it is not the case that for all persons  $x$ ,  $x$  is reliable only if  $x$  is guarded by a guardian') is equivalent to an existentially quantified statement which is not a negation ('there is at least one person  $x$  such that  $x$  is reliable and not guarded by a guardian').

There is however one area where this equivalence may fail, namely in cases with vague properties (also known as Sorites cases). Consider the following argument adapted from Sanford (1975: 521-4). I have reframed the case in Paradox-format:<sup>29</sup>

*Sorites (Paradox instance)*

- (1) For any possible person  $x$ , if  $x$  is short, then there is another possible person  $y$  and  $y$  is one millimeter taller than  $x$ .
- (2) For any possible persons  $x$  and  $y$ , if  $x$  is short and  $y$  is one millimeter taller than  $x$ , then  $y$  is short.
- (3) Regress:
  - (a) Person no. 1 is short.
  - (b) Person no. 2 is one millimeter taller than no. 1. [a, 1]
  - (c) Person no. 2 is short. [a, b, 2]
  - (d) Person no. 3 is one millimeter taller than no. 2. [c, 1]

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<sup>29</sup> Given that we do not use a step to 'there is an infinity of short possible persons', we do not need a trigger in this case.

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- (e) Person no. 3 is short. [c, d, 2]  
And so on.
- (4) Person no. 9999 is short. [3]
- (5) Person no. 9999 is tall.
- (C) (2) is false: It is not the case that for any possible persons x and y, if x is short and y is one millimeter taller than x, then y is short. [1-5]

From this one may want to conclude:

- (C\*) There are at least two possible persons x and y such that x is short and y is one millimeter taller than x, and y is tall.

But this assumes the existence of a clear borderline case between shortness and tallness. Sanford's point here is that universally quantified statements such as (2) can be false even if there are no clear counterexamples. Yet, apart from such Sorites cases, equivalence may be presumed between universally and corresponding existentially quantified statements.

Likewise: the negation of a trigger statement is the negation of an existentially quantified statement (e.g. 'it is not the case that there is an x such that x is reliable'), and, provided that anyone is either reliable or not (i.e. provided the Excluded Middle is applicable), this is equivalent to a universally quantified statement ('for all persons x, x is unreliable'). In both cases, there is a negative and a positive way of expressing the same thing.

Finally, the distinction between positive and negative regress arguments is also relative to the schema of which they are an instance. So in §2.3.3, we shall see that the positive/negative distinction can be cashed out in another way as well.

#### **4. Literature**

Finally a note on the literature. The Paradox Schema has been discussed most extensively by Black (1996) and Gratton (2010) (both draw from earlier work, see the references list). Of course, they did not obtain the schema from scratch but took their inspiration from cases in the literature. Black (1996: 96) cites for example the following of Aristotle:

[...] we do not choose everything for the sake of something else (for at that rate the process would go on to infinity, so that our desire would be empty and vain). (Aristotle, *Nicomachean Ethics* 1094a)

This would be an instance of the Paradox Schema because Aristotle concludes to the negation of the claim that everything is chosen for the sake

of something else (in particular, the Highest Good is not chosen for the sake of anything else). And Gratton (2010: 2) refers to the following text by Ryle:

The regress is infinite, and this reduces to absurdity the theory that for an operation to be intelligent it must be steered by a prior intellectual process. (1949: 32)

This would be an instance of the Paradox Schema because Ryle concludes to the negation of the claim that all intelligent actions are steered by prior intelligent processes.

As I shall explain later (in §6), there is a clear difference between acknowledging the Paradox Schema and holding that all regress arguments can or should be reconstructed in terms of it. Black and Gratton uphold both claims. Yet, there are others who acknowledge or suggest something close to the Paradox Schema, yet deny that *all* regress arguments can or should be reconstructed in terms of it. They hold that certain regress arguments take a different form. Among this group are, most prominently, Sanford (1984), Schlesinger (1983) and Day (1986). Further references will be provided in due course.

*And So On*

## 2.3. The Failure Schemas

In the following I present a second regress argument schema: the Failure Schema. I shall distinguish between two variants of this schema, i.e. I and II. Next, I address queries about the logical validity and boundaries of each variant. Finally, I identify the origins of the schemas; though the schemas themselves are my own contribution to the literature.

### 1. Schemas

Recall the following hypothesis from §1.1:

Fail–B    Regress arguments are arguments which demonstrate that a certain solution never solves a given problem because it gets stuck in a regress.

Here is a first step towards the specification of this hypothesis:

#### *Proto Failure Schema*

- (1)        Problem.
- (2)        Solution.
- (3)        Extra premise.
- (4)        Regress. [1-3]
- (5)        Failure. [4]
- (C)        If (2), then (5). [2-5]

The reasoning here starts from a certain problem that is to be solved, and a certain solution that is considered for this problem. It can then be shown that this solution entails a regress if an additional premise is in place. Finally, it follows from the regress that the problem is never solved by the solution under consideration (and hence that the problem calls for some other solution). Again, the premise/hypothesis distinction proves to be important here. This time, lines (1) and (3) are the premises, and line (2) is the hypothesis (now for Conditional Proof, as I shall explain). The conclusion (C) basically says: If you assume the solution proposed in (2), then you will fail to solve the problem at issue. In this sense, this schema is a specification of Fail–B above.

Crucially, this schema has two varieties, which I shall give the extra label ‘I’ and ‘II’. Informally, they can be rendered thus:



- In Failure Schema I, a *general* problem is never solved because the solution under consideration generates a regress of more instances of the general problem.
- In Failure Schema II, a *particular* problem is never solved because the solution under consideration generates a regress of more and more problems which are to be solved in order to solve the initial one.

So the main difference is this: in one case it is concluded that a general problem is never solved, in the other that a particular problem is never solved. Before explaining what is meant by ‘general’ and ‘particular’ here, and how the difference between the two conclusions can be explained in terms of full argument schemas, let me first set out an instance of both:

*Beer (Failure I instance)*

- (1) You have to quench all your thirsty feelings.
- (2) For any thirsty feeling x, if you have to quench x, you drink a beer to quench x.
- (3) For any thirsty feeling x, if you drink a beer to quench x, then the beer generates a new thirsty feeling y.
- (4) Regress:
  - (a) You have to quench thirsty feeling no. 1.
  - (b) You drink beer no. 1. [a, 2]
  - (c) You have to quench thirsty feeling no. 2. [b, 3, 1]
  - (d) You drink beer no. 2. [c, 2]
  - (e) You have to quench thirsty feeling no. 3. [d, 3, 1]
 And so on.
- (5) You always have to quench a new thirsty feeling in addition to quenching any thirsty feeling. [4]
- (C) You will never quench *all* your thirsty feelings if you drink a beer every time you have to quench a thirsty feeling. [1-5]

This is an instance of Failure Schema I because there is a general problem in line (1) and the solution under consideration in line (2) entails more instances of the general problem (i.e. more thirsty feelings to be quenched), such that it is eventually concluded in (C) that, given the solution under consideration, the general problem is never solved.

*Guardians (Failure II instance)*

- (1) For at least one person x, you should have x guarded.
- (2) For any person x, if you should have x guarded, you hire a guardian for x.
- (3) For any persons x and y, if you hire a guardian y for x, then you first should have y guarded in order to have x guarded.

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- (4) Regress:
- (a) You should have your girlfriend guarded.
  - (b) You hire a guardian no. 1 for your girlfriend. [a, 2]
  - (c) You should have guardian no. 1 guarded first. [b, 3]
  - (d) You hire a guardian no. 2 for no. 1. [c, 2]
  - (e) You should have guardian no. 2 guarded first. [d, 3]
- And so on.
- (5) For any person  $x$ , you first should have a regress of persons guarded in order to have any person guarded. [4]
- (C) You will never have *any* person guarded if you hire a guardian every time you should have someone guarded. [1-5]

This is an instance of Failure Schema II as there is a particular problem in line (1) and the solution under consideration in line (2) entails new, similar problems which are to be solved before the initial one is solved (i.e. more persons to be guarded before you will have your girlfriend guarded). Thus it is eventually concluded in (C) that, given the solution under consideration, the initial, particular problem is never solved.

It could be noted that line (2) of either argument will be proven false as soon as the beers or guardians run out. However, this is unimportant for the following reasons. First, I am interested in the general line of reasoning and use these cases only as illustrations. Second, (2) is assumed only as a hypothesis, i.e. it is not regarded as true, but only considered in order to derive a failure from it. So the reasoning is that *if* you would consequently apply a certain solution, then you would never solve the problem, no matter whether or not in fact you apply that solution. Also, this reasoning holds whether or not it is possible for you to apply the solution (e.g. to invoke so many beers or guardians). I will return to this point several times in this dissertation.

To obtain the argument schemas, all variable parts of the arguments must be replaced with schematic letters. Specifically, in the schemas ‘items of type  $K$ ’ stands for a specific domain, the Greek letters ‘ $\varphi$ ’ and ‘ $\psi$ ’ stand for predicates which express actions involving the items in that domain, and ‘you’ stands for an arbitrary person or agency that can solve problems. The two schemas are presented below. Whenever I talk about Failure arguments in this dissertation, I talk about instances of these semi-first-order schemas. A full first-order rendering will be presented soon.<sup>30</sup>

#### *Failure Schema I*

- (1) For all items  $x$  of type  $K$ , you have to  $\varphi$   $x$ .
- (2) For all items  $x$  of type  $K$ , if you have to  $\varphi$   $x$ , then you  $\psi$   $x$ .

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<sup>30</sup> The same disclaimer applies: if certain instances of the schemas are ambiguous, then their meaning should be determined on the basis of the formalisations. Also, for the latest statement of these schemas, cf. Wieland (2013d).

- (3) For all items  $x$  of type  $K$ , if you  $\psi$   $x$ , then there is a new item  $y$  of type  $K$ .
- (4) Regress:
- (a) You have to  $\phi$   $a$ .
  - (b) You  $\psi$   $a$ . [ $a$ , 2]
  - (c) You have to  $\phi$   $b$ , where  $a \neq b$ . [ $b$ , 3, 1]
  - (d) You  $\psi$   $b$ . [ $c$ , 2]
  - (e) You have to  $\phi$   $c$ , where  $a \neq b \neq c$ . [ $d$ , 3, 1]
- And so on.
- (5) For all items  $x$  of type  $K$ , you always have to  $\phi$  a new item of type  $K$  in addition to  $\phi$ -ing  $x$ . [4]
- (C) If you  $\psi$  all items of type  $K$  that you have to  $\phi$ , then you will never  $\phi$  all items of type  $K$ . [1-5]

*Failure Schema II*

- (1) For at least one item  $x$  of type  $K$ , you have to  $\phi$   $x$ .
- (2) For all items  $x$  of type  $K$ , if you have to  $\phi$   $x$ , then you  $\psi$   $x$ .
- (3) For all items  $x$  of type  $K$ , if you  $\psi$   $x$ , then there is a new item  $y$  of type  $K$ , and you first have to  $\phi$   $y$  in order to  $\phi$   $x$ .
- (4) Regress:
- (a) You have to  $\phi$   $a$ .
  - (b) You  $\psi$   $a$ . [ $a$ , 2]
  - (c) You first have to  $\phi$   $b$ , where  $a \neq b$ . [ $b$ , 3]
  - (d) You  $\psi$   $b$ . [ $c$ , 2]
  - (e) You first have to  $\phi$   $c$ , where  $a \neq b \neq c$ . [ $d$ , 3]
- etc.
- (5) For all items  $x$  of type  $K$ , you first have to  $\phi$  a regress of new items of type  $K$  in order to  $\phi$   $x$ . [4]
- (C) If you  $\psi$  all items of type  $K$  that you have to  $\phi$ , then you will never  $\phi$  any item of type  $K$ . [1-5]

Three main differences are apparent between these two schemas. First, and as we already knew, the problems in (1) differ. The problem in Failure I is a universally quantified task (or, as I called it, ‘general problem’), whereas the problem in Failure II is an existentially quantified one (or ‘particular problem’). In the set-up of the schemas, therefore, I decided to take problems as tasks that are not yet, but have to be, accomplished, and solutions as potential strategies/actions to accomplish those tasks.<sup>31</sup>

Second, even though the regresses in both schemas look the same (i.e. if we ignore the term ‘first’, then the lines (a), (b), (c), etc. are simply identical), they are generated differently. The main line responsible for this

<sup>31</sup> It is also possible to frame problems in a different way, namely as arguments with counterintuitive conclusions, and solutions, then, as counterarguments against such arguments. Cf. §6.1.3 below.

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difference is (3), which is substantially longer in Failure II. I shall explain this in the next section where I consider the inference steps of the two schemas.

Third, the conclusions in (C) differ. Moreover, Failure II's conclusion is considerably stronger than Failure I's conclusion in that the former entails the latter, but not vice versa. That is, if you will never  $\phi$  any K, then (provided that there is at least one such item) it cannot be the case that you  $\phi$  all Ks. For example, if you will never have anyone guarded, then it cannot be the case that you have your girlfriend guarded (for example). Yet, if you will never  $\phi$  all Ks, it may still be the case that you  $\phi$  some of them. If you will never quench all of your thirsty feelings, it may still be the case that you quench some (or even many) of them.

## 2. Validity

Are the two Failure Schemas logically valid? Is their conclusion (C) true if their premises (1) and (3) are true? It can be shown that they are valid in a classical way. Again, I shall explain the inferences, i.e. lines (4), (5) and (C), both in an informal and formal way.

### 2.1. Informal explanation

#### *Failure I's (4)*

The regress in (4) follows from (1)-(3). Lines (2) and (3) could be integrated into one in order to simplify the derivation, namely as: For all Ks x, if you have to  $\phi$  x, then there is a new K-item y (e.g. 'for any thirsty feeling x, if you have to quench x, then there is a new thirsty feeling y'). In that case, however, we would lose the dialectic and fail to distinguish what is the solution for the problem from what is additional. In contrast to the Paradox Schema, which has variants regarding one- and many-place predicates as well as variants regarding the number of lines that generate the regress, the Failure Schemas have no such variants: all predicates and lines are fixed (as they have a strict problem/solution structure).

Again, the regress in (4) is generated hypothetically, i.e. on the basis of the hypotheses (2) and (a) of (4) (such as 'you have to quench thirsty feeling no. 1'). The latter hypothesis is meant to be completely arbitrary, as one could run the same argument on the basis of the hypothesis that you have to quench thirsty feeling, say, no. 7. The manner in which regresses are generated Failure I-wise differs significantly from how they are generated Failure II-wise (to be explained soon). In this Failure I case, any problem is generated because of an interplay between lines (1) and (3): (3) generates a new K such that it is to be  $\phi$ -ed by (1) (as (1) says that all items of that type have to be  $\phi$ -ed). This is depicted on the left side of Figure 1 (where (a) refers

to an initial problem 'you have to  $\phi$  a', (b) to the solution 'you  $\psi$  a', and (c) to the newly generated problem 'you have to  $\phi$  b').

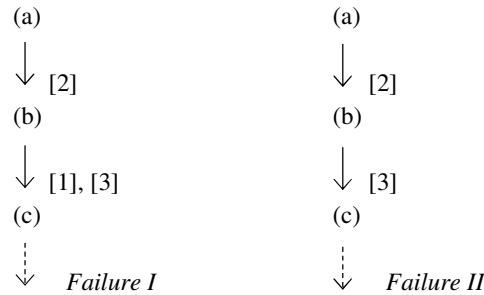


Figure 1: Entailment of problems and solutions

*Failure I's (5)*

(5) follows from (4) at once. First it follows from the first steps of the regress that if you have to  $\phi$  a, then you have to  $\phi$  another K, namely b. Given that a and b are two arbitrary items here, we may generalise this for any K:

(5) For all Ks x, you always have to  $\phi$  a new K in addition to  $\phi$ -ing x.

Hence, just as in the Paradox case, we do not need the whole regress: a few steps suffice to obtain (5). Again, I have decided to stick to the presentation of regresses as open lists of lines as this is illustrative for reconstructing particular cases.

*Failure I's (C)*

(C) follows in two steps. First assume:

(6) If for at least one K you have to  $\phi$  it and if for all Ks x, you always have to  $\phi$  a new K in addition to  $\phi$ -ing x, then you will never  $\phi$  all Ks.

This premise is suppressed in the schema, for its truth seems completely general. That is, whether or not (6) holds does not seem to depend on specific instances. Consider for example the following instances: If you have to write down at least one number and if there is always yet another number to be written down, then you will never write down all numbers. Or: If you have to report at least one day and if there is always yet another day to be reported, then you will never report all days. Such instances of (6) are virtually never a

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point of dispute. Still, I will point to some controversial instances later on in §4.2.2.

Now if we also assume that for at least one K you have to  $\phi$  it (which is fairly uncontroversial given premise (1) that you have to  $\phi$  all Ks), then given that we obtained the second conjunct of (6)'s antecedent in the previous step (i.e. (5)), it follows that:

(8) You will never  $\phi$  all Ks.

That is: you fail to solve the problem from line (1). Please note that this result is not inconsistent with (1): it is not inconsistent to say that a problem has to be solved and that a given solution never solves it (i.e. that you have to  $\phi$  all Ks, but never succeed in this). To be sure, (1) would conflict with (8) if it would imply that you  $\phi$  all Ks. However, (1) does not imply this.

The final step of Failure I arguments is that (C) follows from (2) to (8) by Conditional Proof. It says: If you consider the solution of line (2) as a hypothesis, then you obtain line (8).

*Failure II's (4)*

In this case, the regress in (4) follows from lines (2) and (3) only: all of the regress-generating work is done by premise (3), which is substantially longer than the parallel line in Failure I (i.e. it comprises the extra clause 'you first have to  $\phi$  y in order to  $\phi$  x'). That is, unlike Failure Schema I, it generates the new problems in the regress without the interference of line (1) (cf. the right side of Figure 1). No Failure II regress is entailed without the complete premise (3). That is, the regress would not follow if you have to  $\phi$  x of type K, you  $\psi$  x, yet one of the following would fail:

- there is a new item y of type K;
- you first have to  $\phi$  y in order to  $\phi$  x.

Take the guardian case where you should have your girlfriend guarded. But now suppose that it fails to be the case that there is a new person (e.g. because the guardian is not a person), or that it fails that you first should have the guardian guarded in order to have your girlfriend guarded (e.g. because the guardian is reliable and not in need of any further guardian). In neither case would a regress ensue. The phrase 'you first have to  $\phi$  b in order to  $\phi$  a' derives from Sextus:

In order to decide the dispute that has arisen [...], we have need of an agreed-upon criterion by means of which we shall decide it; and in order to have an agreed-upon criterion it is necessary first to have decided the dispute about the criterion. (*Outlines*, 2.20)

Note that ‘you first have to  $\phi$  b in order to  $\phi$  a’ admits of some alternative phrasing such as ‘you  $\phi$  a only if you  $\phi$  b first’, ‘ $\phi$ -ing b is a necessary means to  $\phi$ -ing a’ and ‘your  $\phi$ -ing a depends upon your  $\phi$ -ing b, but not vice versa’. These phrases indicate a *instrumental* take of ‘first’, i.e. the latter term induces an instrumental (i.e. means/end) order, rather than a temporal order. For example, it need not be the case that the problem of  $\phi$ -ing b needs be solved earlier in time. What matters is the *asymmetry* between the problems:  $\phi$ -ing b is to be a necessary means to  $\phi$ -ing a, and not the other way around. For example, making sure that the guardian of your girlfriend is guarded is meant to be a necessary means to making sure that your girlfriend is guarded, and not the other way around.<sup>32</sup>

I have to clarify something about premise (1) (‘for at least one K, you have to  $\phi$  it’) here. It does not mean: You have to  $\phi$  some particular K (e.g. to have one particular person guarded that one may have in mind). It rather says: You have to  $\phi$  an arbitrary item of type K (e.g. to have at least one person guarded, whoever it is). In my construction, (1) plays no regress-generating role and will be used only later on in the argument. Hence, line (a) of (4) (e.g. ‘you should have your girlfriend guarded’) is not to be seen as following from (1) (but rather as a hypothesis on the basis on which a regress can be generated).

#### *Failure II's (5)*

First it follows from the first steps of the regress in (4) that if you have to  $\phi$  a, then you first have to  $\phi$  another K, namely b, in order to  $\phi$  a. Given that a and b are two arbitrary items here, we may generalise this for any K: For all Ks x, you have to  $\phi$  a new K first in order to  $\phi$  x. Now assume:

- (7) If for all Ks x, you first have to  $\phi$  a new K in order to  $\phi$  x, then you first have to  $\phi$  a regress of new Ks in order to  $\phi$  x.

By this we immediately obtain:

- (5) For all Ks x, you first have to  $\phi$  a regress of new Ks in order to  $\phi$  x.

In this dissertation I take (7) as a premise. Still, its motivation might be sketched as follows. Suppose you first have to  $\phi$  b in order to  $\phi$  a, and that you first have to  $\phi$  c in order to  $\phi$  b, then by transitivity you first have to  $\phi$  c in order to  $\phi$  a. For example: If you should have guardian no. 1 guarded in order to have your girlfriend guarded, and if you should have guardian no. 2 guarded in order to have no. 1 guarded, then you should have no. 2 guarded

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<sup>32</sup> For this point in a different context, cf. Van Cleve (2003: 50, n. 12). The fact that time plays no essential role, i.e. in regress arguments generally, does not mean of course that it cannot play any role in some of them (cf. some of the everyday cases in §1.2).

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in order to have your girlfriend guarded. Now, if you repeat this procedure, then it follows that you should have a whole regress of guardians guarded in order to have your girlfriend guarded. And this is a specific instance of (7).

This premise (7) might also be formulated in terms of the notion of a ‘supertask’: If for all Ks x, you first have to  $\phi$  a new K in order to  $\phi$  x, then you first have to carry out a supertask in order to  $\phi$  x. Later in §4.2, I shall argue that Failure regresses can indeed be seen as a special kind of supertask.<sup>33</sup>

*Failure II's (C)*

(C) follows in two steps. First assume:

- (6) If for at least one K you have to  $\phi$  it and if for all Ks x, you first have to  $\phi$  a regress of new Ks in order to  $\phi$  x, then you will never  $\phi$  x.

This states that if you have to carry out a single task and if it so happens that there is a regress of means required to accomplish it, then you will never accomplish that task. Just like the corresponding Failure I line, this premise is suppressed as its truth is virtually never a matter of dispute. Instances are, for example: If there is a regress of persons to be guarded in order to have anyone guarded (which you should), then you will never have anyone guarded. Or: If there is a regress of decisions to be made in order to make any decision (which you should), then you will never make any decision. But again, I shall point to a few controversial instances of (6) in §4.2.2.

Now given that the first conjunct of (6)’s antecedent is supplied by premise (1), and that we obtained the second conjunct in the previous step (i.e. (5)), it follows that:

- (8) You will never  $\phi$  any K.

That is: you fail to solve the problem from line (1). As in the other case, this result is not inconsistent with (1): it is not inconsistent to say that a problem has to be solved and that a given solution never solves it (or, in this case, to say that you have to  $\phi$  any K, but will never succeed in doing so). The final step of Failure II arguments is that (C) follows from (2) to (8) by Conditional Proof. It says: If you consider the solution of line (2) as a hypothesis, then you obtain line (8).

As I will argue later in §4.2.3, the term ‘never’ is to be construed non-temporally (just as ‘first’ is no time indicator, see above). Saying that you will never  $\phi$  any K is saying that at no point in a regress (i.e. as governed by lines (1)-(3) of the Failure Schemas) will it be the case that you  $\phi$  at least one/all K(s). Or again, for any point in the regress will it be the case that a

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<sup>33</sup> I also use this notion in my formalisation below.



solution entails a new problem that must be solved in order to solve the initial one. And this holds even if the solutions take no time at all.

Alternatives for ‘never’ might be ‘do not’ and ‘cannot’. Replacing ‘never’ with ‘do not’ seems plausible: if you will never  $\phi$ , then you do not  $\phi$  either. Yet, replacing ‘never’ with ‘cannot’ is not plausible: if you will never  $\phi$ , then it might still be the case that you can or cannot  $\phi$ . Still, sometimes ‘cannot’ is used. Compare the following two passages:

This question cannot be answered until we move up to the next level, and so on ad infinitum. What this means is that our original question cannot be answered. (Dodd 1999: 150)

If we continue in this way, of course, we are led to an infinite regress and we will never have an answer to our original question. (Chisholm 1982: 64)

I have opted for the ‘never’ version for several reasons. First, the ‘never’ version does not depend on the issue whether you can or cannot  $\phi$  so many Ks (e.g. answer to so many questions). You just never  $\phi$  (e.g. never answer to the original question), no matter what your capacities. This point is easily overlooked, so in the following I shall spell out a ‘cannot’ reconstruction of the guardian case.<sup>34</sup>

#### *Guardians (Cannot)*

- (1\*) You can have someone guarded only if you can hire a guardian for x.
- (2\*) You can hire a guardian for x only if you can have him guarded.
- (3\*) So, you can have someone guarded only if you can hire a whole regress of guardians. [1\*-2\*]
- (4\*) You cannot hire a regress of guardians.
- (5\*) So, you cannot have anyone guarded. [3\*-4\*]

In contrast to this, Failure arguments do not rely on premise (4\*), i.e. your capacity to hire a regress of guardians. Rather, they rely on the idea that if you should have a regress of persons guarded in order to have anyone guarded, then you will never have anyone guarded *in the sense that* at no point in the Failure regress will it be the case that a solution entails no new problem that must be solved in order to have any initial one solved.

To explain this further, let us distinguish between *objective* and *subjective* failures. S subjectively fails when she follows a strategy to solve a certain problem yet she does not succeed because the strategy is not something she manages to handle (but there need not be something wrong with the strategy apart from that). In contrast, S objectively fails when she

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<sup>34</sup> For this format, cf. Wieland (2011d).

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follows a strategy solve a certain problem yet she does not succeed because the strategy is simply a bad one (in this case, she might well be able to handle the strategy). Now, Failure arguments appeal to the latter, objective kind of failures.

A second main reason to work with Failure arguments, rather than such cannot-arguments, is that it is not clear how to obtain all-conclusions (i.e. corresponding to Failure I conclusions) such as 'you cannot have all persons (rather than any person) guarded' on the basis of cannot-arguments.

So far, I have explained the inferences of the two Failure Schemas in a semi-formal way. Next we shall see, in a formal way, that all relevant inference rules are again valid according to classical predicate logic such that the two schemas are valid by this logic. In both cases, (C) can be obtained via (1)-(5).

## 2.2. Formal explanation

All the same preliminaries apply as in the Paradox case (i.e. the abbreviations of the rules, the calculi used, etc.). Again, some of the predicates and premises will need some additional explanation (particularly Failure I's (6) and Failure II's (7)). These explanations are provided right after the formalisations.

*Key*

Kx: x is of type K

Tx: S has to carry out task T regarding x

Ax: S performs action A regarding x

FAIL-I: S fails to carry out T regarding all Ks

*Example:*

Kx: x is a dispute

x: S has to settle x

Ax: S invokes a proposition to settle x

FAIL-I: S fails to settle all disputes

*Failure Schema I*

(1)	$\forall x(Kx \rightarrow Tx)$	PREM
(3)	$\forall x(Ax \rightarrow \exists y(Ky \wedge x \neq y))$	PREM
(7)	$\exists x(Kx \wedge Tx)^{35}$	PREM
(6)	$(\exists x(Kx \wedge Tx) \wedge (\forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge x \neq y)))) \rightarrow$ FAIL-I	PREM
(2)	$\forall x((Kx \wedge Tx) \rightarrow Ax)$	HYP $\rightarrow$ I
(i)	$Ka \wedge Ta$	HYP $\rightarrow$ I
(ii)	$(Ka \wedge Ta) \rightarrow Aa$	2; $\forall$ E
(iii)	$Aa$	i, ii; $\rightarrow$ E
(iv)	$Aa \rightarrow (\exists y Ky \wedge a \neq y)$	3; $\forall$ E
(v)	$\exists y Ky \wedge a \neq y$	iii, iv; $\rightarrow$ E
(vi)	$Kb \wedge a \neq b$	HYP $\rightarrow$ I
(vii)	$Kb$	vi; $\wedge$ E
(viii)	$Kb \rightarrow Tb$	1; $\forall$ E
(ix)	$Tb$	vii, viii; $\rightarrow$ E
(x)	$Kb \wedge Tb \wedge a \neq b$	vi, ix; $\wedge$ I
(xi)	$\exists y(Ky \wedge Ty \wedge a \neq y)$	x; $\exists$ I
(xii)	$(Kb \wedge a \neq b) \rightarrow \exists y(Ky \wedge Ty \wedge a \neq y)$	vi-xi; $\rightarrow$ I
(xiii)	$\exists y(Ky \wedge Ty \wedge a \neq y)$	v, xii; $\exists$ E
(xiv)	$(Ka \wedge Ta) \rightarrow \exists y(Ky \wedge Ty \wedge a \neq y)$	i-xiii; $\rightarrow$ I
(5)	$\forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge x \neq y))$	xiv; $\forall$ I
(xv)	$\exists x(Kx \wedge Tx) \wedge (\forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge x \neq y)))$	7, 5; $\wedge$ I
(8)	FAIL-I	xv, 6; $\rightarrow$ E
(C)	$\forall x((Kx \wedge Tx) \rightarrow Ax) \rightarrow$ FAIL-I	2-8; $\rightarrow$ I

*Additional key*

Rxy: S first has to carry out T regarding y in order to carry out T regarding x

STx: S first has to carry out supertask ST in order to carry out T regarding x

FAIL-II: S fails to carry out T regarding any K

*Example:*

Rxy: S first has to settle y in order to settle x

STx: S first has to settle an infinity of disputes in order to settle x

FAIL-II: S fails to settle any dispute

<sup>35</sup> Strictly speaking, the second conjunct is superfluous given (1). Yet, it simplifies the derivation (and puts no extra demands on the premise set).

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Failure Schema II

(1)	$\exists x(Kx \wedge Tx)$	PREM
(3)	$\forall x(Ax \rightarrow \exists y(Ky \wedge Ty \wedge Rxy))$	PREM
(7)	$\forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge Rxy)) \rightarrow \forall x((Kx \wedge Tx) \rightarrow STx)$	PREM
(6)	$(\exists x(Kx \wedge Tx) \wedge \forall x((Kx \wedge Tx) \rightarrow STx)) \rightarrow \text{FAIL-II}$	PREM
(2)	$\forall x((Kx \wedge Tx) \rightarrow Ax)$	HYP $\rightarrow$ I
(i)	$Ka \wedge Ta$	HYP $\rightarrow$ I
(ii)	$(Ka \wedge Ta) \rightarrow Aa$	2; $\forall E$
(iii)	$Aa$	i, ii; $\rightarrow E$
(iv)	$Aa \rightarrow \exists y(Ky \wedge Ty \wedge Ray)$	3; $\forall E$
(v)	$\exists y(Ky \wedge Ty \wedge Ray)$	iii, iv; $\rightarrow E$
(vi)	$(Ka \wedge Ta) \rightarrow \exists y(Ky \wedge Ty \wedge Ray)$	i-v; $\rightarrow$ I
(vii)	$\forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge Rxy))$	vi; $\forall I$
(5)	$\forall x((Kx \wedge Tx) \rightarrow STx)$	vii, 7; $\rightarrow E$
(viii)	$\exists x(Kx \wedge Tx) \wedge \forall x((Kx \wedge Tx) \rightarrow STx)$	1, 5; $\wedge I$
(8)	FAIL-II	viii, 6; $\rightarrow E$
(C)	$\forall x((Kx \wedge Tx) \rightarrow Ax) \rightarrow \text{FAIL-II}$	2-8; $\rightarrow$ I

In all three schemas, I am operating with conjunctions of predicates (rather than a single one): ‘K’ and ‘F’ in the Paradox Schema, and ‘K’ and ‘T’ in the Failure Schemas. The reason for doing so should be clear from Failure Schema I: conjunctions allow me to generate regresses Failure I-wise (that is, on the basis of lines (3) and (1) of Failure I, while Failure II arguments only employ (3) of Failure II, cf. Figure 1). This technique has not been used before in the literature. Yet, without conjunctions it does not seem possible to capture Failure I arguments (such as Tarski’s answer to the Liar Paradox, or McTaggart’s attack on the A-theory of time, as we shall see later on).

Just like ‘IR’, ‘FAIL-I’ and ‘FAIL-II’ are placeholders for schematic sentences: ‘S fails to carry out T regarding all Ks’ and ‘S fails to carry out T regarding any K’ respectively. Again, these are no full first-order expressions. Yet, it is easy to remedy this by introducing a new predicate ‘C’ where ‘Cx’ stand for ‘S carries out T regarding x’. In terms of this, ‘FAIL-I’ and ‘FAIL-II’ can be expressed simply as follows:

$$\text{FAIL-I} \quad \neg \forall x(Kx \wedge Cx)$$

$$\text{FAIL-II} \quad \neg \exists x(Kx \wedge Cx)$$

For example: It is not the case that, for all disputes x, S settles x vs. It is not the case that, for at least one dispute x, S settles x. Importantly, this additional predicate ‘C’ cannot be fully expressed in terms of the predicates ‘T’ and ‘A’. For example, ‘ $\neg \exists x(Kx \wedge Tx)$ ’ (i.e.  $\neg$ (1) of Failure Schema II, and  $\neg$ (7) of Schema I) means ‘It is not the case that for at least one K, S has to carry T regarding that K’, and ‘ $\neg \forall x((Kx \wedge Tx) \rightarrow Ax)$ ’ (i.e.  $\neg$ (2) of Failure I and II) means ‘It is not the case that for all Ks x, if S has to carry T regarding

x, then S performs A regarding x'. As we can see, these do not say what FAIL-I and FAIL-II say.<sup>36</sup>

Another important thing to note here is that 'T' (i.e. the task that S has to carry out) does not carry modal or deontic connotations. At least, in my construction none of the inferences relies on such considerations.<sup>37</sup> For example, the inferences do not make use of the consideration that ought-implies-can (i.e. that if S has to carry out T, then S should be able to carry out T). According to the Failure Theory, to press this point again, 'S fails to carry out T regarding any/all K(s)' does not mean 'S lacks a certain ability', but rather 'S never carries out T in the sense that there is always a further task of the same sort to be accomplished in order to accomplish T regarding any/all K(s)'.

One main difference between the two Failure Schemas lies in the predicates R and ST. R and ST cannot be expressed purely in terms of the predicate T, given that R and ST induce an ordering on tasks (i.e. something that the tasks themselves do not have). ST refers to one kind of supertask, namely the kind where an infinite series of tasks is generated in terms of the predicates T and R, i.e. on the basis of the following line in Schema II:

$$(vii) \quad \forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge Rxy))$$

which is the antecedent of:

$$(7) \quad \forall x((Kx \wedge Tx) \rightarrow \exists y(Ky \wedge Ty \wedge Rxy)) \rightarrow \forall x((Kx \wedge Tx) \rightarrow STx)$$

Again, I have taken this line as a premise in order to ensure logical validity, and because in actual debates it is virtually always taken for granted, i.e. those who wish to resist the charge of a regress do not usually attack (7), but other premises (see §4.1.5). Nevertheless, a worry can be constructed similar to the one about Paradox's (7), namely that it has many false instances, given that its antecedent, i.e. (vii), is too readily satisfied (consider e.g. 'if for all persons that you have to count, there is a person that you have to count and you have to count them at once, then for all persons that you have to count, you have to carry out a supertask'). So the question is whether we can state in first-order terms when (7) is true.

This time, we may safely assume that R is both asymmetric and transitive in all cases: if S first has to settle  $d_2$  in order to settle  $d_1$ , then it is not the case that S first has to settle  $d_1$  in order to settle  $d_2$ ; and if S first has to settle  $d_2$  in order to settle  $d_1$  and S first has to settle  $d_3$  in order to settle  $d_2$ , then S first has to settle  $d_3$  in order to settle  $d_1$ . These two properties suffice to block potential loops of tasks and to obtain: S first has to settle an infinity of disputes in order to settle  $d_1$ , that is, S first has to carry out a supertask in

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<sup>36</sup> This partly explains, as we shall see in §4.1, why Failure arguments are not Paradox arguments.

<sup>37</sup> Still, it seems worth exploring whether a *different* Failure Theory can be constructed in deontic logic.

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order to settle  $d_1$ . For the first-order formulation of these two properties, see (a)-(b) in §2.2.2. By this, we are able to say when (7) is true: (7) is true whenever (a)-(b) are true.

As we can see, Failure I's premises (3) and (6) explicitly assume that  $x$  and  $y$  are distinct items. First, (6)'s antecedent would automatically be satisfied without this assumption (which is undesirable, because in that case FAIL-I would follow at once). Second, in this schema we have no asymmetric or irreflexive relation  $R$  that can assure that  $x \neq y$ .

However, there still remains a problem about (6), as its antecedent does not say what it should say. It should say that there is always a *new* task of the same kind to be carried out, while in fact it merely says that for each task, there is a *distinct* task of the same kind to be carried out (and in the latter case two tasks of the same kind would be sufficient). To solve this, we could employ the '<'-solution from §2.2.2. If this additional relation '<' satisfies the properties (f)-(i), then it makes sure that all  $K$ s introduced in the regress are *new* items. Importantly, this problem does again not affect the logical validity of the schema: even if (6) would not really say what we want to express with it, it does make the schema logically valid.<sup>38</sup>

### 3. Boundaries

Why do the Failure Schemas not have *more* or *fewer* lines? In this case, the question is more specific: Why start with problems, and end with failures? As in case of the Paradox Schema, there are two considerations.

First, the Failure Schemas had to consist of at least (1)-(5), because otherwise it would not fulfil the first three desiderata from §2.1. To recall again these three: the schema had to be such that the regress occupies one of the lines, i.e. (4); that it is derived from premises/hypotheses, i.e. (1)-(3); and that from it some conclusion is drawn, i.e. (5).

Still, the question is why not stop at line (5), where it is concluded that there is always another problem to be solved, i.e. another  $K$  that you have to  $\varphi$ ? The basic answer here is that line (5) does not itself state that the solution under consideration has failed. This is brought out only by the further step to (C): You will never  $\varphi$  any/all  $K(s)$  if you carry out the considered solution.

Clearly this answer is not as strong as in case of the Paradox Schema (where the latter borrows the boundaries of familiar Reductio Ad Absurdum arguments), yet still it corresponds to the intuition behind this schema: the Failure intuition.

If this is right, then the Failure Schemas should not have *fewer* lines. But the question remains: should it have *more* lines? Specifically, the issue is why no extra steps need to be added, such as the following two:

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<sup>38</sup> Next to this, perhaps it is not entirely implausible to suppose that one never solves all problems of a given kind if there is a regress that loops between two (or any other finite number of) tasks that have to be accomplished.

- (i) If the solution never solves the given problem, and if it is also shown that there is an alternative regress-free solution that does solve the problem, then this favours the alternative solution.
- (ii) If the solution never solves the given problem, and if it is also shown that no alternative solution is possible, then it can be concluded that the problem cannot be solved.

Let me first explain (i). If the argument demonstrates that you will never solve the given problem if you carry out solution such and such, then from this you may draw the conclusion that you have to find and favour an alternative, better solution to the given problem. In terms of the schemas:  $\psi$ -ing all Ks that you have to  $\phi$  is a bad solution to  $\phi$ -ing all/any K(s), and you have to find another solution to  $\phi$ -ing all/any K(s). For example: hiring a guardian for all persons that you should have guarded is a bad solution to have anyone guarded, and you should find another solution to have your girlfriend (or anyone else) guarded.

To further explain (i), let us again invoke the distinction between negative and positive regress arguments. According to Sanford, the distinction is this:

- A regress argument is negative if its conclusion is that “a certain philosophical account, definition, theory, or explanation will not do because it leads to an infinite regress.” (1984: 100)
- A regress argument is positive if its conclusion is that “something of a special sort must exist. If something of this special sort did not exist, there would be an infinite regress.” (ibid)

I would like to generalise these claims as follows:<sup>39</sup>

- A regress argument is negative if its conclusion is that a certain solution will not do because it leads to a regress.
- A regress argument is positive if its conclusion is that an alternative solution will do because it does not lead to a regress.

In terms of the Failure Schema, negative regress arguments are arguments that stop at (C), and positive regress arguments are arguments that expand the argument along the lines of (i). In the former case it is merely concluded that a considered solution will never solve the given problem, and in the latter it is added that this favours an alternative solution that does solve the problem. A selected group of passages hint at such expanded arguments. Consider for example:

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<sup>39</sup> To be sure, the second citation can also be read in terms of the Paradox Schema, i.e. that there is at least one item to which the regress formula does not apply. See §2.2.3 above.

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[...] and such a regress is plainly vicious. Likeness at least, therefore, must be admitted as a universal, and, having admitted one universal, we have no longer any reason to reject others. (Russell 1911-12: 9)

The links are united by a link, and this bond of union is a link which also has two ends; and these require each a fresh link to connect them with the old. The problem is to find how the relation can stand to its qualities; and this problem is insoluble. (Bradley 1893: 28)

Russell's text is an example of the (i) expansion: he concludes against Resemblance Nominalism and in favour of Realism about Universals in order to solve the problem of how it is possible that distinct items can have the same property/relation (i.e. the Problem of Universals). Bradley's text is an example of (ii): there is, according to Bradley, no non-regressive solution that can explain how relations can form a unity with their relata (the Unity Problem, as it is sometimes called), and so the problem must be left unsolved. Another famous example of (ii) is the following:

The one based on infinite regress is that in which we say that what is offered as support for believing a given proposition is itself in need of such support, and that support is in need of other support, and so on ad infinitum, so that, since we have no place from which to begin to establish anything, suspension of judgment follows. (Sextus, *Outlines*, 1.166-7)

Sextus argues that no solution will ever solve the problem of how our beliefs are justified or supported, and so the problem must be left unsolved. Moreover, if no belief is ever justified to anyone, or so Sextus and the ancient sceptics concluded, we must suspend them (more about scepticism in §4.1.4).

More possible expansions are conceivable:

- (iii) If the solution never solves the given problem, and it is also shown that the solution serves no other purposes next to this, then that solution is never to be used.
- (iv) If the solution never solves the given problem, and if theory T is committed to this solution, then T entails that the problem is never solved, and this then forms a reason to disfavour T.

I have found no philosophical examples of (iii), but in terms of the two practical illustrations cited above, the idea is this. If drinking beer and hiring guardians were useless for whatever purpose, then the idea would be that those actions are just never to be performed.



Expansion (iv) is more common in the literature. For example, in Russell's case just cited the theory which is committed to the regress is Resemblance Nominalism. So, by the regress argument, Resemblance Nominalism entails that the Problem of Universals is never solved (be it a general or particular problem), and so this constitutes a reason to disfavour Resemblance Nominalism. I will return to (iv) when I address the issue of viciousness (§4.2.2), i.e. the issue of when regresses are bad for theories.

The moral for the question of boundaries is as follows. As we just saw, the course of regress arguments (i.e. those which are instances of one of the Failure Schemas) may differ after (C), and so it is better to stop at what they have in common, namely (C). To be sure, if it can be shown that all instances of the Failure Schemas can be expanded in the four ways sketched above, then in that respect the Failure Schemas have four varieties and the expansions may be added as optional lines to the schema (or rather, as a disjunction of options).

#### 4. Literature

As noted, the Failure Schemas are developed only in this dissertation. In my view, this is substantial progress for two reasons. First, several philosophers have thought that the task could not be done, and have expressed various worries about Failure-like ideas. Yet, as I shall argue later in §6.1, in my view these worries can be countered. Moreover, they can be countered on the basis of the two Failure Schemas just set out. Second, as I will show below, the Failure intuition underlying these schemas, namely the Failure Intuition, is far from uncommon and has been expressed several times in the literature.<sup>40</sup> Now, the Failure Schemas demonstrate that this intuition can be made precise.

To begin with, if we ignore some general remarks by Russell (1903: §329) to be discussed later in §6.1.1, then it can be said that Passmore (1961: ch. 2) initiated the metaphilosophical debate on regress arguments. Passmore's proposal of what to expect from regress arguments is very close to the Failure take. According to him, regresses

demonstrate only that a supposed way of explaining something or 'making it intelligible' in fact fails to explain. (1961: 33)

As 'you have to explain x' and 'you have to make x intelligible' are examples of tasks, explaining and making things intelligible might be taken as cases of problem solving. As a consequence, Passmore's claim may be read more generally (which is exactly the Failure rationale): regresses demonstrate that

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<sup>40</sup> Note that in §1.3.1 I already provided four actual cases that express the Failure Intuition.

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a considered solution in fact fails to solve a given problem. I will have much more to say on Passmore later on (in §6.1.2).

As a second source, the distinction between the Paradox and the Failure Schema may be traced back to Day's distinction between *product* vs. *process* regress arguments (1986: 51-2). According to Day:

- Product regress generating arguments demonstrate that a given set of premises entails an infinity of items.
- Process regress generating arguments demonstrate that a given procedure (analysis, explanation, definition, etc.) can be iterated endlessly.

So, Day's product arguments correspond to the first two steps of the Paradox Schema (i.e. the entailment of the regress and the specific result of an infinity of items), and his process arguments correspond to the first step of the Failure Schema (i.e. the entailment of a regress of similar solutions). He does not make the distinction explicit, however, in terms of argument schemas.

As a third source, I would mention Gratton's problem and response regresses (1994b, 1997: 216-7, 2010: ch. 6). Note that he uses the term 'responses' rather than 'solutions'. His reason is as follows:

It is odd to speak of solutions because it suggests success in solving a problem, but if the same type of problem keeps recurring, then there does not seem to be a genuine solution. (2010: 159, cf. 1994b: 314)

So Gratton makes the following assumption:

- If a solution entails a problem which is of the same type as the problem it is meant to solve, then it is no genuine solution.

This may look plausible, yet all regresses generated in Failure Schema I are counterexamples to it. Take for example the particular problem that I have to get rid of a bulge in the carpet. Pressing it down will solve this problem even if it generates a similar kind of problem, namely that another particular bulge appears elsewhere in the carpet. In this case, of course, we have to assume that we can clearly discriminate among bulges. Yet, as I may well have chosen a philosophical example to show where this holds, we can safely assume it for purposes of illustration. Philosophical counterexamples will be provided later on (in §4.1.3).

Another way of pressing this point is to ask: No genuine solution *to what*? What exactly is the problem that is to be solved? Do you want to get rid of all the bulges in the carpet? Or only one particular bulge (in an especially unfortunate place, say)?

Also, even if the assumption above were to hold, it seems fine to speak of solutions, for bad solutions are solutions after all.

At any rate, Gratton's position is that most regress arguments are not of this variety. Compare:

I have not examined these infinite regress arguments in this paper because I have found only a few, and my goal is to identify and clarify the characteristics common to most infinite regress arguments. (1997: 222, n. 35, cf. 2010: 159)

At this point, we do not yet know whether this is right or wrong. Basically the question is which schema has the most regress arguments from the literature as an instance. We shall see about this soon in §3. It might be useful to know that even though Gratton's problem and response regress arguments resemble instances of the Failure Schema, there are also some crucial differences, which I shall identify in §6.1.3.

Lastly, let me point out that the distinction between Failure I and II arguments, which is quite crucial given that one kind is much stronger than the other, has gone *wholly* unnoticed in the literature. Yet, attempts to capture the reasoning of either can be found in various places. I have selected two texts each for Failure I and II. For Failure I:

A philosophical explanation of predication must, if it is to be successful, explain all instances of predication. The theory of forms fails to do this. [...] The argument purports to show that no matter how often you iterate the explanation in order to include the predication just introduced, you will always introduce a new, unexplained predication. (Day 1987: 156-7)

Thus, if the regress is vicious, it is vicious because it prevents Resemblance Nominalism from accomplishing its explanatory project of accounting for all properties in terms of resembling particulars: such a project remains forever incomplete. (Rodriguez-Pereyra 2002: 108)

These two texts appeal to the reasoning of Failure I because they mention a universally quantified problem (which is marked). It is also worth pointing out that Day and Rodriguez-Pereyra use variants of 'never' (marked as well). The next two texts appeal to the reasoning of Failure II because they mention an existentially quantified problem (marked).

If, to establish the truth of any proposition, A, one must establish, as a necessary condition, the truth of an infinite number of propositions B...n, the regress is vicious, because one is, as a consequence, logically incapable of ever establishing the truth of A. (Johnson 1978: 80)

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A regress is said to be vicious if, for example, in order to have something, there is always an additional something one is first required to have. In general, in a vicious regress, one could never be in a position to have anything at all, or the requirements for having the first or any additional thing could never be met. (Ruben 1990: 127)

All in all, the Failure Schemas, too, have their traces in the literature.

*Looking ahead*

This closes the key part of this dissertation. In the remainder of this dissertation, I shall proceed as follows. Next, in §3, I will present classic instances of the argument schemas presented in this part. Then, §4 will provide further theoretical details of the schemas. In §5, the schemas will be put to work: I shall show how they can be used to clarify existing controversies about particular regress arguments. In §6, I will defend my Failure Theory from objections levelled in the literature. Finally, in §7, I shall briefly summarise the two theories of regress arguments developed in this dissertation.

§3  
*Instances*

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In the following I present philosophical instances of the schemas from the previous part. First, I explicate my approach, i.e. say what rules my reconstructions shall follow. Second, I provide filling instructions for the argument schemas and a number of full instances (from Sextus, Carroll, Russell, Wittgenstein, and Ryle).

### 3.1. Argument Reconstruction

At this point I regard as finished the work set by Charity Rule I. That is, in the foregoing I have set out two ways in which the missing steps in actual regress arguments can be supplied such that logically valid arguments are obtained. Importantly, this does not mean that the work set by Charity Rule II is finished as well, and I will leave the latter unaddressed until §5. This also means that all I say below about argument reconstruction does not yet touch upon the issue of argument evaluation (except at one point, namely the tentative choice between Failure I and Failure II, on which I will say more below).

In this part I will use the argument schemas to reconstruct a number of case studies. I will not each time apply Charity Rule I, but rather immediately check whether the argument can be reconstructed as an instance of the schemas. In other words, I will start from the schemas and try to fill them out. To reconstruct, then, is to fill out an argument schema, and the latter is to fill out all its schematic letters. Let me specify this for the Paradox and Failure Schemas respectively.

#### *Paradox Reconstruction*

<i>Steps</i>	<i>Instructions</i>
1	Identify the regress formulas and trigger.
2	Draw a regress (the first five steps, say).
3	Identify what follows from the regress.
4	Determine whether these results are unacceptable.
5	Identify what is eventually to be rejected.

At each step choices are demanded of the reconstructor. For example, in the last step it must be decided what to reject, i.e. which of the regress formulas (or perhaps the trigger) has to go. In my reconstructions in §3.4, below, I simply follow the position of the relevant philosopher (if available). A full reconstruction, however, would have to incorporate further argumentation to justify this choice. That choices are involved means that the reconstruction procedure as just specified does not determine a unique reconstruction of an

argument. Still, in most cases this does not affect the conclusion, as the conclusion is to be a rejection of the hypothesis identified in the first step.

On first sight, the tasks for filling out a Failure Schema appear even simpler:

*Failure Reconstruction*

<i>Steps</i>	<i>Instructions</i>
1	Identify the problem, considered solution, and extra premise.
2	Draw a regress (the first five steps, say).
3	Draw the conclusion that the solution fails.

However, this is a bit more complicated than it seems, because it also needs to be checked whether a given case should be taken as an instance of Failure I or II. It is important to point out already that, logically speaking, any case can be stated in terms of both Failure Schema I and II. However, whether a given case should be stated in specifically one of or the other must be decided on the basis of the plausibility of one specific line. Namely:

- Does premise (3) of Failure Schema II apply? If Yes, then do it Failure II-wise. If No, do it Failure I-wise.

The idea is as follows. If the instance of ‘For any  $K x$ , if you  $\psi x$ , then there is a new  $K y$ , and you first have to  $\phi y$  in order to  $\phi x$ ’ looks plausible (or at least worth considering), then the given case is to be spelled out in terms of Failure Schema II. If the instance is implausible, then the given case is to be spelled out in terms of Schema I.

Basically, the motivation of this criterion is that Schema II yields stronger, and so more interesting, conclusions (again: its conclusion entails its I-counterpart, but not vice versa), and so by Charity Rule II any case should be stated in II-format wherever plausible. I will say more on this point later on (see §6.2), and will here provide just two examples: Sextus’ regress argument for the claim that a natural way of justifying propositions fails, and Tarski’s regressive solution to the Liar Paradox.

First, Sextus’ case is taken as an instance of Failure Schema II, because the following instance of line (3) of Failure II looks plausible:

- For any propositions  $x$  and  $y$ , if you provide a reason  $y$  for  $x$ , then you first have to justify  $y$  in order to justify  $x$ .

Suppose you have to justify the proposition that Socrates corrupts the youth. In Sextus’ case, justification is explicitly dialectical: to have a justification for a proposition is to justify it and to have resolved the disagreements about

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it.<sup>41</sup> So in this case you have to resolve the disagreements about the proposition that Socrates corrupts the youth in order to justify it. Now suppose that you provide the following reason: the youth no longer respect authority. Surely you cannot resolve any disagreement on the basis of this proposition if your opponents do not accept it. And so you justify the initial proposition only if you first justify its reason (which is what (3) of Failure II says).

If this is right, Sextus' case is to be taken as a II-case which has the conclusion that you will never justify any proposition. One could state it in I-format as well, though this would be uninteresting given that the II-conclusion entails the I-conclusion: If you will never justify any proposition, then it is trivial that you will never justify all propositions.

Second example: Tarski's case is taken as an instance of Failure I, because the following does not look plausible:

- For any language L, if you deny that L is semantically closed, then you first have to resolve the Liar Paradox in L's metalanguage M in order to resolve the Liar Paradox in L.

Put simply, if a language is semantically closed, then it is possible to state whether or not sentences are true within that very same language. English, for example, is such a language, as I can say in English that the English sentence 'Socrates is mortal' is true (or not). Furthermore, this feature is exactly one of the key elements generating the Liar Paradox. Namely, it is possible to state the following sentence in English:

This sentence is false.

The Liar Paradox is as follows: If the above sentence is true, then what it says is the case: it is false (i.e. as well as true). If the sentence is false, then it says what is the case and so it is true (i.e. as well as false). To block the Liar Paradox, consequently, one could deny that the given language is semantically closed (i.e. deny that it can speak of its own sentences as to whether or not they are true), and introduce a metalanguage to be able to express this. However, if there are worries about the initial language arising from the Liar Paradox, then the same worries should arise for the metalanguage, which invites a regress.

Now the issue is whether this is a case of Failure I or II. If the above instance of (3) of Failure II is plausible, it is a II case. Yet this does not seem plausible: Why should you resolve the Liar Paradox in M in order to solve it in L? As soon as you deny that L is semantically closed the Liar Paradox is blocked within L, no matter whether M is paradoxical or not. If this is right, then Tarski's case must be taken as an instance of Failure I

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<sup>41</sup> Cf. Lammenranta (2008). This dialectical conception is not uncontroversial, see §5.4.



which has the conclusion that you will never resolve all, rather than any, Liar Paradoxes (even if you resolve many of them).

As we shall see in §3.3, thanks to the criterion that we should look for Failure II-arguments whenever they seem plausible, Failure Schema II will have many more instances than Failure Schema I.<sup>42</sup> Still, it is important to keep Failure Schema I apart, as certain cases are *only* plausible in this format. Tarski's case is a good example. Other familiar cases which happen to be Failure I cases include Plato's Third Man, Russell's regress argument for the irreducibility of asymmetric relations, and McTaggart's regress argument against the so-called A-theory of time (to be explained later on).

To be sure: my upcoming collection of instances is incomplete. I have found other regress arguments, and am sure there are (and surely can be) many more. Still, my collection, which builds on Gratton (2010), is more extensive than anything in the literature. I think it is important to consider many cases at once as they form the data (so to speak) of the theories about regress arguments. Any *general* theory about regress arguments would be irrelevant if there were not a great variety of specific cases.

Sometimes I have included a case where the initial text does not speak of 'regress' (e.g. the cases by Plato and Wittgenstein). In that case, I have followed the secondary literature in assuming the presence a regress argument (and perhaps such moves can be justified by Charity as well). I have also included several odd cases, such as Plato's aviary case. It does not matter that no one believes that knowledge can be compared with birds in aviaries. My focus is on the general line of reasoning.

Importantly, and related to the last point, I do not endorse any of the regress arguments in this dissertation (nor for that matter reject them). Hopefully this will be clear later on when I identify possible strategies to resist these arguments (§4.1.5), and especially when I turn to the topic of argument evaluation (§6.2). For reasons of space, I will not present all instances in full, but restrict myself to five classic cases, and merely identify, in the other cases, relevant instances of the schematic letters.

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<sup>42</sup> Of course, if my choices in cases like these are incorrect, then the cases must be restated in either version I or II.

### 3.2. Paradox Filling Instructions

Consider the first line of the Paradox Schema:

- For all Ks x, x is F only if such and such (e.g. there is a new K-item y and y is G or x and y stand in R).

To obtain instances of such a line (and of the others), ‘items of type K’ is to be replaced with a specific domain, and the capitals ‘F’, ‘G’, ‘R’ with predicates which express properties/relations of the items in that domain. In the following I provide a table with examples (references to the main sources are included). The cases are ordered historically, rather than thematically.

<i>items of type K</i>	<i>x is F</i>	<i>x is G/y is G/x and y stand in R</i>	<i>main sources</i>
distances to the Tortoise	Achilles traverses x	Achilles runs x/ the half of x	Zeno of Elea, Aristotle, <i>Physics</i> , 239b, cf. Huggett 2008
sets of large things	the members of x are large	the members of x participate in the form Largeness	Plato, <i>Parmenides</i> , 132a-b, cf. Vlastos 1954, Rickless 2007
pieces of knowledge	one is ignorant about x	one does not know that one has x in one’s soul	Plato, <i>Theaetetus</i> , 200b-c
actions	x is good	x is performed for the sake of y	Aristotle, <i>Nicomachean Ethics</i> , 1094a, <i>Metaphysics</i> , 994a
principles	x is demonstrated	x is proved by y	Aristotle, <i>Metaphysics</i> , 1006a, cf. Johnstone 1994
beliefs	x is justified to someone	one has a reason y for x	Sextus Empiricus, <i>Outlines</i> , 1.166-7, cf. Klein 1999, 2007
disputes	x is decided	there is an agreed-upon criterion to decide x	Sextus Empiricus, <i>Outlines</i> , 2.18-20, cf. Chisholm 1982, Amico 1993
things	x moves/is caused	x is set in motion/is caused by y	Aquinas, <i>Summa</i> , I, v.2, §3, cf. Reichenbach 2004
ideas	x is indubitable	x is clearly and distinctively perceived	Descartes, <i>Meditations</i> , cf. Van Cleve 1979,

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			Newman & Nelson 1999
sovereign powers	x is subjected to legal limits	there is a judge who monitors whether x transgresses the laws	Hobbes, <i>Leviathan</i> , Part 2, ch. 29, cf. Hampton 1986
anything	x exists (analogy: x is supported)	x designed by God (analogy: x is supported by a Tortoise)	Hume, <i>Dialogues</i> , §4, cf. Locke, <i>Essay</i> , Book 2, ch. 23, §2, Russell 1927
ideas	x is inductively justified	x is derived from past facts and a Uniformity principle	Hume, <i>Enquiry</i> , §4, <i>Treatise</i> , Book 1, ch. 3, cf. Norton 2013
mental states	one is conscious of x	x taken as an object by a higher-order mental state y	Brentano 1874: Book 2, §2, cf. Textor 2006, Zahavi 2006
relations	x and y stand in R	R is related to x and y by R*	Bradley 1893: chs. 2-3, cf. Vallicella 2002, Maurin 2012
sets of premises	a conclusion follows from x	x contains the additional premise 'if the members of x are true, then the conclusion must be true'	Lewis Carroll 1895, cf. Thomson 1960, Smiley 1995
asymmetric relations	relata a and b stand in x	a and b have properties corresponding to x	Russell 1903: §214, 1906-07, 1959
propositions	x is of the form '[proper name] is [description]'	x states an identity of denotation	Russell 1910-11
A-series	x is non-contradictory	the members of x are past, present and future at different times	McTaggart 1908, 1927: ch. 33, cf. Dummett 1960, Rankin 1981
propositions	x is true	x corresponds with reality	Frege 1918-19, cf. Dummett 1973, Künne 2003: §3.3.2
languages	x is free from the liar paradox	no sentence in x speaks of its own truth	Tarski 1944, cf. Beall 2007
actions	x is performed intelligently	the agent employs knowledge that x is to be performed in such and such a way	Ryle 1945, 1949: ch. 2, cf. Stanley & Williamson 2001
actions	x is performed voluntarily	the agent acts on a volition to do x	Ryle 1949: ch. 3, cf. Locke, <i>Essay</i> , Book 2, ch. 21, §25
linguistic or mental items	the meaning of x is fixed	there is a method of projection between a	Wittgenstein 1953: §141, cf. Stokhof

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		mental image of x and that to which x applies	2000: §2.6
rules	one follows x rather than another rule y	one specifies x mentally or linguistically	Wittgenstein 1953: §§185-6, 201, cf. Kripke 1982: ch. 2, Varzi 2008
heterological paradoxes	x is resolved	sentences which generate x are meaningless	Mackie & Smart 1953, cf. Grelling & Nelson 1908
words	the reference of x is fixed	the reference of x is fixed by a background language	Quine 1968, cf. Davidson 1979
expectations	person A has x about person B's behaviour	B has an expectation about A's x	Lewis 1969, cf. Binmore 1987
persons	x is wholly mistaken	x is being deceived by an evil demon	Lehrer 1971, cf. Johnson 1978
sets of items	members of x have the same property/ relation	the members of x instantiate the same universal/ belong to the same class/ etc.	Armstrong 1974, 1978
languages	one is able to learn x	one possesses a language of thought to learn x	Fodor 1975, cf. Laurence & Margolis 1997
actions	one performs x	one performs all actions by which x is performed	Danto 1979, Sneddon 2001
rankings of candidates	x is set	there is majoritarian aggregation device which sets x	MacKay 1980, cf. Hardin 1980
visual perceptions	one has x of oneself in the mirror	one sees oneself looking at x in the mirror	Ratford 1983, Haldane 1983, Garrett 1983
experimental results	x is the correct outcome of an experiment	x is confirmed by an experiment	Collins 1985
regularities	x is explained	there is a law of nature which necessitates x	Van Fraassen 1989
decisions	x is optimal	a costly algorithm is used to make x	Smith 1991, Mongin 2000: §3
contexts	x is recognised by a computer	the computer is programmed in such a way that it selects the relevant features of x	Dreyfus 1992
actions	x is morally responsible	x is a function of one's mental make-up	Strawson 1994
obligations	one is obliged to	one can know that one	Sorensen 1995,

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	do x	is obliged to do x	Sider 1995
sets of attitudes	one has to perform an action A given one's x	x contains the extra belief that one has to perform A given x	Blackburn 1995, Schueler 1995
sets of attitudes	one must intend to perform A given one's x	one has a pro-attitude towards the instrumental rule that one must intend to perform A given x (i.e. one believes that A is a means to one's intended ends)	Railton 1997, Dreier 2001, Brunero 2005
obligations	one has x to perform an action A	A is what one regards as the best option, all things considered	Lazar 1999, cf. Davidson 1970
omnipotence paradoxes	x is resolved	omnipotent beings can gain one ability by losing another	Zamir 1999
actions	one is frequently free to do x	one is frequently free to generate a desire to refrain from performing x	Vander Laan 2001
sets of circumstances	x entails a Newcomb's problem	x contains the extra circumstance that the Predictor has made a prediction of how many boxes you will take	Maitzen & Wilson 2003
physical causes	a mental cause excludes x as a cause of physical event E	there is another physical cause of E	Kim 2003
strategies	persons have common knowledge about x	they send each other messages about x	Floridi 2004
epistemic rules	one is entitled to x	x is inferentially justified	Boghossian 2001, 2006: chs. 5-7, cf. Wright 2001, Philie 2007
seemingly absolute facts	x obtains	x obtains according to a certain theory	Boghossian 2006: ch. 4
dispositional properties	x's identity is determinate	x's identity is fixed by its relation to other properties	Bird 2007
thoughts	one thinks x	one wants that x is in accordance with rules	Boghossian 2008, Glüer & Wikforss 2009
actions	one is culpable for x	one does x from ignorance	Rosen 2004; Peels 2011

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obligations	one has x to perform an action	one's evidence that one ought to seek supports x	Kiesewetter 2011
external or mental states	one might be deceived about x	one is sceptical about x	Wilson 2012

### 3.3. Failure Filling Instructions

Consider the second line of the Failure Schemas:

- For all Ks x, if you have to  $\varphi$  x, you  $\psi$  x.

To obtain instances of such a line (and of the others), ‘items of type K’ is to be replaced with a specific domain, and the Greek letters ‘ $\varphi$ ’ and ‘ $\psi$ ’ with predicates which express actions involving the items in that domain. Again, in the following I provide a table with examples. The references remain the same as above. This time, I have used the fourth column to indicate whether the argument (presumably) takes the form of Failure Schema I or II (i.e. ‘F-I’ or ‘F-II’).

<i>items of type K</i>	$\varphi$ x	$\psi$ x	<i>schema</i>
distances to the Tortoise	traverse x	run x	F-II
sets of large things	explain why members of x are all large	appeal to the fact that all members of x partake in the form Largeness	F-I
pieces of knowledge	explain how one is ignorant about x	appeal to the fact that one does not know that one has x in one’s soul	F-II
actions	explain the purpose of x	identify the sake for which x is done	F-II
principles	demonstrate x	provide a proof of x	F-I
beliefs	justify x	provide a reason for x	F-II
disputes	decide x	employ an agreed-upon criterion to decide x	F-II
things	explain why x moves	appeal to something else that sets x in motion	F-II
ideas	demonstrate that x is indubitable	appeal to the fact that x is clearly and distinctively perceived	F-II
sovereign powers	subject x to legal limits	install a judge who monitors whether x transgresses the laws	F-I
anything	explain why x exists (why x is supported)	appeal to the fact that x is designed by God (that x is supported by a Tortoise)	F-II
ideas	justify x inductively	appeal to past facts and a Uniformity Principle to derive x	F-II
mental states	explain how one is conscious of x	appeal to the fact that x is taken as an object by a	F-II

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		higher-order mental state y	
relations	explain how x is unified with its relata	appeal to the fact that x is unified with its relata by another relation	F-II
sets of premises	demonstrate that a conclusion follows logically from x	introduce an additional premise 'if the members of x are true, then the conclusion must be true' to the argument	F-II
asymmetric relations	reduce x	reduce x to properties of x's relata	F-I
propositions of the form '[proper name] is [description]'	analyse x	appeal to the fact that x states an identity of denotation	F-I
A-series	eliminate the contradictions in x	hold that the members of x are past, present and future at different times	F-I
propositions	decide whether x is true	decide whether x corresponds with reality	F-II
languages	resolve the Liar Paradox in x	hold that no sentence in x can speak of its own truth	F-I
actions	perform x intelligently	employ knowledge that x is to be performed in such and such a way	F-II
actions	perform x voluntarily	act on a volition to do x	F-II
linguistic or mental items	explain what fixes the meaning of x	appeal to the fact that x is fixed by a method of projection	F-II
rules	explain why x is followed rather than another rule	invoke a specification of x	F-II
heterological paradoxes	resolve x	decide that sentences which generate x are meaningless	F-I
words	fix the reference of x	appeal to a background language of x	F-II
expectations	have x about your opponent's behaviour	use information about your opponent's expectations about your having x	F-II
persons	explain how it could be that x is wholly mistaken	appeal to an evil demon which could deceive x	F-I
sets of items	explain how it is possible that members of x have the same property/relation	appeal to the fact that the members of x instantiate the same universal/ belong to the same class/ etc.	F-I
languages	explain how we can learn x	appeal to a language of thought by which we can learn x	F-II



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actions	perform x	perform all actions by which x is done	F-II
rankings of candidates	settle x	use a majoritarian aggregation device to set x	F-II
visual perceptions	explain how you have x of yourself in the mirror	appeal to the fact that you see yourself having x	F-I
experimental results	check whether x is the correct outcome of an experiment	carry out an experiment to confirm x	F-II
regularities	explain x	appeal to the fact that there is a law of nature which necessitates x	F-II
decisions	make x optimally	use a costly algorithm to make x	F-II
contexts	recognise x	programme x in such a way that it selects the relevant features of x	F-II
actions	be morally responsible for x	act on the basis of your mental make-up that favours x	F-II
obligations	secure x against possible abuse of the Access principle	appeal to the obligation not to make it impossible to know one's obligations	F-II
sets of attitudes	explain why one should perform action A given one's x	appeal to the extra belief that one has to perform A given x	F-II
sets of attitudes	demonstrate that one must intend to perform A given one's x	appeal to one's pro-attitude towards the instrumental rule that one must intend to perform A given x (i.e. one believes that A is a means to one's intended ends)	F-II
obligations	demonstrate that one has x to perform an action A	appeal to the rule that one should perform A is that is what one regards as the best option, all things considered	F-II
omnipotence paradoxes	resolve x	resolve x by appealing to the fact that omnipotent beings can have one ability by losing another	F-I
actions	explain how one can frequently be free to do x	appeal to the fact that one is frequently free to generate a desire to refrain from performing x	F-II
sets of circumstances	demonstrate that x entails a	add to x the circumstance that the Predictor has made a	F-II

*And So On*

	Newcomb's problem	prediction of how many boxes you will take	
physical causes	show that a physical event has a mental cause rather than x	appeal to the fact that the mental cause excludes x	F-I
strategies	obtain common knowledge about x	send one another message about x	F-II
epistemic rules	be entitled to x	justify x by using further epistemic rules	F-II
seemingly absolute facts	explain away x	appeal to the fact that x is relative to a certain theory	F-I
dispositional properties	fix the identity of x	appeal other dispositional properties to fix the identity of x	F-II
thoughts	think x	want that x is in accordance with rules	F-II
actions	explain that one is culpable for x	show that x was performed from ignorance	F-II
obligations	show that someone has x	appeal to the fact that one's evidence that one ought to seek supports x	F-II
external or mental states	be sceptical about x	invoke the fact that one might be deceived about x	F-I

### 3.4. Selected Full Instances

In the following I present some full instances of the schemas. Specifically, I will reconstruct cases by Sextus, Carroll, Russell, Wittgenstein and Ryle. I have selected these five cases because they are classics and have inspired many other regress arguments. Sextus' case is still a central concern in epistemology; Carroll's case proved inspiring not only in philosophy of logic but also in ethics and debates of practical reasoning; Russell's case was a major event in metaphysics which established the category of relations (i.e. as distinct from properties); and Wittgenstein's and Ryle's cases still today inspire new regress arguments in philosophy of language and mind.

For each case I offer a brief introduction, then fill out all the lines of the Paradox Schema and one of the Failure Schemas such that we get complete arguments with a conclusion. I am well aware that in each case longer discussions of the arguments are desirable. At this point, however, the plain instances of the schemas should suffice. I shall consider debates which centre on the cases by Sextus, Carroll and Russell in some more detail later on in §5.

#### 1. Sextus Empiricus

Consider any of your beliefs. Are you justified in holding it? Arguably, you are justified only if you have a reason for it. But are you justified in holding that reason? By parity of reasoning, you are justified in holding it only if you have a reason for it as well (i.e. a reason for the reason of your initial belief). Regress. According to the ancient sceptics, the regress demonstrates that we will never be able to show that our beliefs are justified and that we would do better to suspend them:

The one based on infinite regress is that in which we say that what is offered as support for believing a given proposition is itself in need of such support, and that support is in need of other support, and so on ad infinitum, so that, since we have no place from which to begin to establish anything, suspension of judgement follows. (*Outlines* 1.166-7)

#### *Paradox instance*

- (1) For any proposition  $x$ ,  $x$  is justified to  $S$  only if  $S$  has a reason  $y$  for  $x$ .
- (2) For any propositions  $x$  and  $y$ ,  $S$  has a reason  $y$  for  $x$  only if  $y$  is justified to  $S$ .
- (3) At least one proposition is justified to  $S$ .

*And So On*

- (4) Regress:
  - (a)  $p_1$  is justified to S.
  - (b) S has a reason  $p_2$  for  $p_1$ . [a, 1]
  - (c)  $p_2$  is justified to S. [b, 2]
  - (d) S has a reason  $p_3$  for  $p_2$ . [c, 1]
  - (e)  $p_3$  is justified to S. [d, 2]And so on.
- (5) S has an infinity of reasons. [3, 4]
- (6) S does not have an infinity of reasons.
- (C) (3) is false: No proposition is justified to S. [1-6]

*Failure II instance*

- (1) For at least one proposition  $x$ , you have to justify  $x$ .
- (2) For any proposition  $x$ , if you have to justify  $x$ , then you provide a reason for  $x$ .
- (3) For any propositions  $x$  and  $y$ , if you provide a reason  $y$  for  $x$ , then you first have to justify  $x$  in order to justify  $y$ .
- (4) Regress:
  - (a) You have to justify  $p_1$ .
  - (b) You provide a reason  $p_2$  for  $p_1$ . [a, 2]
  - (c) You have to justify  $p_2$  first. [b, 3]
  - (d) You provide a reason  $p_3$  for  $p_2$ . [c, 2]
  - (e) You have to justify  $p_3$  first. [d, 3]And so on.
- (5) For any proposition  $x$ , you first have to justify a regress of propositions in order to justify  $x$ . [4]
- (C) You will never justify any proposition if you provide a reason every time you have to justify a proposition. [1-5]

## 2. Lewis Carroll

Consider this simple argument:

- (A) You are either here or somewhere else.
- (B) You are not here.
- (Z) Hence: You are somewhere else.

As Carroll's dialogue between Achilles and the Tortoise goes, the Tortoise is willing to accept (A) and (B), but not (Z) just because she denies that (Z) must be accepted if (A) and (B) are. So, to demonstrate that (Z) follows from (A) and (B), Achilles adds an extra premise to the argument:

- (C) If (A) and (B) are true, (Z) must be true.

Still, the Tortoise is unsatisfied. This time she is willing to accept (A), (B) and (C), but not (Z) just because she denies that (Z) must be accepted if (A), (B) and (C) are. So to demonstrate that (Z) follows from (A), (B) and (C), Achilles adds yet another premise (D) to the argument:

“You should call it (D), not (Z),” said Achilles. “It comes next to the other three. If you accept (A) and (B) and (C), you must accept (Z).”

“And why must I?”

“Because it follows logically from them. If (A) and (B) and (C) are true, (Z) must be true. You don’t dispute that, I imagine?”

“If (A) and (B) and (C) are true, (Z) must be true,” the Tortoise thoughtfully repeated. “That’s another Hypothetical, isn’t it? And, if I failed to see its truth, I might accept (A) and (B) and (C), and still not accept (Z), mightn’t I?” (Carroll 1895: 279)

*Paradox instance*

- (1) For any set of premises x, a conclusion (Z) follows logically from x only if there is a bigger set of premises also containing the premise ‘if the member of x are true, then (Z) must be true’.
- (2) For any set of premises x, x contains ‘if the member of x are true, then (Z) must be true’ only if (Z) follows logically from x.
- (3) A conclusion follows logically from at least one set of premises.
- (4) Regress:
  - (a) (Z) follows logically from (A), (B).
  - (b) There is a bigger set also containing the premise ‘If (A), (B) are true, (Z) must be true’, i.e. (C). [a, 1]
  - (c) (Z) follows logically from (A), (B), (C). [b, 2]
  - (d) There is a bigger set also containing the premise ‘If (A), (B), (C) are true, (Z) must be true’, i.e. (D). [c, 1]
  - (e) (Z) follows logically from (A), (B), (C), (D). [d, 2]
 And so on.
- (5) There is an infinity of premises. [3, 4]
- (6) There is no infinity of premises.
- (C) (3) is false: There is no set of premises such that a conclusion follows logically from it. [1-6]

*Failure II instance*

- (1) You have to demonstrate for at least one set of premises that a conclusion follows logically from it.
- (2) For any set of premises x, if you have to demonstrate that (Z) follows logically from x, then you add a premise ‘if the members of x are true, then (Z) must be true’ to the argument.

*And So On*

- (3) For any set of premises  $x$ , if you add such a premise to the argument, then you first have to demonstrate that  $(Z)$  follows logically from a new set of premises (comprising  $x$  plus the additional premise) in order to demonstrate that  $(Z)$  follows logically  $x$ .
- (4) Regress:
- (a) You have to demonstrate that  $(Z)$  follows logically from  $(A)$  and  $(B)$ .
  - (b) You add the premise 'if  $(A)$ ,  $(B)$  are true,  $(Z)$  must be true'  $(C)$  to the argument. [a, 2]
  - (c) You have to demonstrate first that  $(Z)$  follows logically from  $(A)$ ,  $(B)$  and  $(C)$ . [b, 3]
  - (d) You add the premise 'if  $(A)$ ,  $(B)$ ,  $(C)$  are true,  $(Z)$  must be true'  $(D)$  to the argument. [c, 2]
  - (e) You have to demonstrate first that  $(Z)$  follows logically from  $(A)$ ,  $(B)$ ,  $(C)$  and  $(D)$ . [d, 3]
- And so on.
- (5) For any set of premises  $x$ , you first have to demonstrate that  $(Z)$  follows logically from a regress of premise-sets in order to demonstrate that  $(Z)$  follows logically from  $x$ . [4]
- (C) You will never demonstrate that a conclusion follows logically from any set of premises if you add a premise every time you have to demonstrate that a conclusion follows logically. [1-5]

### 3. Russell

Before Russell, philosophers held that relations are reducible to properties of their relata. If you love God, to borrow Russell's example, then presumably this is nothing but a property of you, and not a relation between you and something else. This does however not work for all relations. Consider the relation 'earlier than':

If  $A$  is earlier than  $B$ , then  $B$  is not earlier than  $A$ . If you try to express the relation of  $A$  to  $B$  by means of adjectives of  $A$  and  $B$ , you will have to make the attempt by means of dates. You may say that the date of  $A$  is a property of  $A$  and the date of  $B$  is a property of  $B$ , but that will not help you because you will have to go on to say that the date of  $A$  is earlier than the date of  $B$ , so that you will have found no escape from the relation. (Russell 1959: 54-5, cf. 1903: §214, 1906-07)

*Paradox instance*

- (1) For any relation  $R$  and items  $x$ ,  $y$ , if  $x$  and  $y$  stand in  $R$ , then there are properties  $F$  and  $G$  such that  $x$  is  $F$  and  $y$  is  $G$ .

- (2) For any asymmetric R and items x, y, if x and y stand in R and there are properties F and G and x is F and y is G, then F and G stand in R.
- (3) At least two items stand in an asymmetric relation.
- (4) Regress:
  - (a) a is earlier than b.
  - (b) a happens at  $t_1$ , and b at  $t_2$ . [a, 1]
  - (c)  $t_1$  is earlier than  $t_2$ . [b, 2]
  - (d)  $t_1$  happens at second-order  $t^*_1$ , and  $t_2$  at second-order  $t^*_2$ . [c, 1]
  - (e)  $t^*_1$  is earlier than  $t^*_2$ . [d, 2]
 And so on.
- (5) There is an infinity of time-orders. [3, 4]
- (6) This is absurd.
- (C) (1) is false: It is not the case that any relation implies corresponding properties of its relata. [1-6]

*Failure I instance*

- (1) You have to reduce all asymmetric relations.
- (2) For any asymmetric relation R between items x, y, if you have to reduce R, then you reduce R to a property F of x and a property G of y.
- (3) For any asymmetric R between items x, y, if you reduce R to property F of x and property G of y, then F and G stand in R.
- (4) Regress:
  - (a) You have to reduce the earlier-than relation from a to b.
  - (b) You reduce it to the property 'happening at  $t_1$ ' of a and the property 'happening at  $t_2$ ' of b. [a, 2]
  - (c) You have to reduce the earlier-than relation from  $t_1$  to  $t_2$ . [b, 3, 1]
  - (d) You reduce it to the property 'happening at  $t^*_1$ ' of  $t_1$  and the property 'happening at  $t^*_2$ ' of  $t_2$ . [c, 2]
  - (e) You have to reduce the earlier-than relation from  $t^*_1$  to  $t^*_2$ . [d, 3, 1]
 And so on.
- (5) For any asymmetric relation R, you always have to reduce yet another asymmetric relation in addition to reducing R. [4]
- (C) You will never reduce all asymmetric relations if you reduce any of them that you have to reduce to properties of their relata. [1-5]

#### 4. Wittgenstein

What fixes the meaning of a word? Take the word 'cube'. Wittgenstein argues that its meaning is not fixed by a mental image of a cube, and also considers a somewhat expanded proposal:

Suppose, however, that not merely the picture of the cube, but also the method of projection comes before your mind? – How am I to imagine this? – Perhaps I see before me a schema showing the method of projection: say a picture of two cubes connected by lines of projection. – But does this really get me any further? Can't I now imagine different applications of this schema too? (1953: §141)

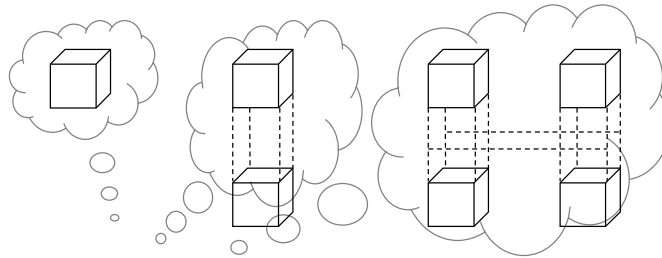


Figure 2: Methods of projection

#### Paradox instance

- (1) For any linguistic or mental item  $x$ , the meaning of  $x$  is fixed only if there is a method of projection between a mental image of  $x$  and that to which  $x$  applies.
- (2) Methods of projection are themselves mental items with fixed meanings.
- (3) The meaning of at least one word is fixed.
- (4) Regress:
  - (a) The meaning of the word 'cube' is fixed.
  - (b) There is a method of projection<sub>1</sub>: lines of projection between a mental image of a cube and a cube. [a, 1]
  - (c) Method of projection<sub>1</sub> is a mental item with a fixed meaning. [b, 2]
  - (d) The meaning of method of projection<sub>1</sub> is fixed by a method of projection<sub>2</sub>: lines of projection between a mental image of method of projection<sub>1</sub> and method of projection<sub>1</sub>. [c, 1]
  - (e) Method of projection<sub>2</sub> is a mental item with a fixed meaning. [d, 2]



- And so on.
- (5) There is an infinity of methods of projection. [3, 4]
  - (6) It is not possible for us to handle so many, rather complex mental items.
  - (C) (1) is false: It is not the case that for any linguistic or mental item  $x$ , the meaning of  $x$  is fixed only if there is a method of projection. [1-6]

*Failure II instance*

- (1) You have to explain for at least one word what fixes its meaning.
  - (2) For any linguistic or mental item  $x$ , if you have to explain what fixes the meaning of  $x$ , you appeal to the fact that it is fixed by a method of projection.
  - (3) For any linguistic or mental items  $x$  and  $y$ , if you appeal to a method of projection  $y$ , then you first have to explain what fixes the meaning of  $y$  in order to explain what fixes the meaning of  $x$ .
  - (4) Regress:
    - (a) You have to explain what fixes the meaning of the word 'cube'.
    - (b) You appeal to the fact that it is fixed by a method of projection<sub>1</sub>: lines of projection between a mental image of a cube and a cube. [a, 2]
    - (c) You have to explain first what fixes the meaning of method of projection<sub>1</sub>. [b, 3]
    - (d) You appeal to the fact that it is fixed by a method of projection<sub>2</sub>: lines of projection between a mental image of method of projection<sub>1</sub> and method of projection<sub>1</sub>. [c, 2]
    - (e) You have to explain first what fixes the meaning of method of projection<sub>2</sub>. [d, 3]
- And so on.
- (5) For any linguistic or mental item  $x$ , you first have to explain what fixes the meaning of a regress of mental items in order to explain what fixes the meaning of  $x$ . [4]
  - (C) You will never explain what fixes the meaning of any word if you appeal to a method of projection every time you have to explain what fixes the meaning of a word. [1-5]

**5. Ryle**

Suppose I want to write a dissertation. Of course, I do not want to write a dissertation in just any way whatever. I want to write in an intelligent way, i.e. in such a way that I employ knowledge of how to do such things. Now suppose, as the so-called intellectualist legend maintains, that knowledge-

*And So On*

how necessarily involves knowledge-that. If this is so, and if I want to employ knowledge of how to write a dissertation, then I have to apply knowledge that dissertations are to be written in such and such a way (e.g. that they are to be clear, thoughtful, well-organised, etc.). That is, I have to apply knowledge with propositional content. Applying knowledge with propositional content is itself, however, an action to be performed intelligently. This lands us in a regress:

The crucial objection to the intellectualist legend is this. The consideration of propositions is itself an operation the execution of which can be more or less intelligent, less or more stupid. But if, for any operation to be intelligently executed, a prior theoretical operation had first to be performed and performed intelligently, it would be a logical impossibility for anyone ever to break into the circle. (1949: 30)

*Paradox instance*

- (1) For any action x, one intelligently performs x only if one employs knowledge that x is to be performed in such and such a way.
- (2) For any action x, one employs knowledge that x is to be performed in such and such a way only if one intelligently contemplates the proposition that x is to be performed in such and such a way.
- (3) You perform at least one intelligent action.
- (4) Regress:
  - (a) I intelligently write a dissertation.
  - (b) I employ knowledge that [dissertations are to be written in such and such a way]. [a, 1]
  - (c) I intelligently contemplate the proposition that [dissertations are to be written in such and such a way]. [b, 2]
  - (d) I employ knowledge that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way]. [c, 1]
  - (e) I intelligently contemplate the proposition that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way]. [d, 2]And so on.
- (5) I perform an infinity of intelligent actions. [3, 4]
- (6) I cannot perform an infinity of intelligent actions.
- (C) (1) is false: It is not the case that for any action x, one intelligently performs x only if one employs knowledge that x is to be performed in such and such a way. [1-6]

*Failure II instance*

- (1) For at least one action x, you have to intelligently perform x.
- (2) For any action x, if you have to intelligently perform x, then you employ knowledge that x is to be performed in such and such a way.
- (3) For any action x, if you employ knowledge that x is to be performed in such and such a way, then you first have to intelligently contemplate the proposition that x is to be performed in such and such a way in order to intelligently perform x.
- (4) Regress:
  - (a) You have to intelligently write a dissertation.
  - (b) You employ knowledge that [dissertations are to be written in such and such a way]. [a, 2]
  - (c) You have to intelligently contemplate the proposition that [dissertations are to be written in such and such a way] first. [b, 3]
  - (d) You employ knowledge that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way]. [c, 2]
  - (e) You have to intelligently contemplate the proposition that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way] first. [d, 3]

And so on.
- (5) For any action x, you first have to intelligently perform a regress of actions in order to intelligently perform x. [4]
- (C) If you employ knowledge that x is to be performed in such and such a way every time you have to intelligently perform an action x, then you will never perform any intelligent action. [1-5]



*§4*  
*Analysis*

## 4.1. Comparison Schemas I: Structure

In the following I compare the Paradox and Failure Schemas on the basis of the instances from the previous part, and show how they differ. Specifically, I compare their premises/hypotheses, conclusions and dialectics. Throughout this part, I will focus on such structural features, and postpone issues related to soundness until §6.2.

### 1. Similarities

As suggested in the previous part, any case from the literature can be reconstructed both as an instance of the Paradox as well as an instance of the Failure Schema. There are several reasons for this. First, there is much left implicit in actual regress arguments found in the literature. Specifically, these arguments either have many suppressed premises, or, if not suppressed, it is often unclear how their premises are quantified, and virtually always the inference steps to the conclusion are left mysterious. Hence, it is not surprising that regress arguments can be made explicit in different ways (i.e. as instances of different schemas).

Second, so long as there are predicates available to fill the schematic letters, it is always possible to obtain instances of the schemas. For the same reason I doubt that it is possible to find a case that cannot be reconstructed Paradox or Failure-wise. Of course, whether both reconstructions are also plausible (i.e. in addition to being possible) is a separate question, and in the present part I will continue to postpone it.

In this part I compare the two argument schemas in detail, and identify their structural similarities and differences. Specifically, we shall look at their premises/hypotheses, conclusions, and dialectics (i.e. the ways their instances function in a dialogue between opponents).

The main similarities are at least three-fold. First, and just noted, the schemas are similar in that they can have all cases from the literature as instances. Second, they are similar in that they both fulfil a number of basic desiderata listed in §2.1: namely, a regress occupies one of their lines, the regress is derived from premises/hypotheses, and a conclusion is drawn from the regress. Third, in both schemas all inferences from premises/hypotheses to regress and from regress to conclusion are valid according to classical rules of inference. At some points this is not immediately clear, yet, as I argued in §2, this worry can be met as soon as some suppressed premises are made explicit.

Later we shall see some further similarities (e.g. that both schemas can account for certain disputes concerning regress arguments). Given all these similarities, the question arises: What actually are the *differences*?

The striking difference between the schemas is their *rationale*. The rationale of the Paradox Schema is that a set of statements cannot hold at once because they jointly lead, via a regress, to consequences which conflict with something else that we believe (that is, with independent considerations). The rationale of the Failure Schemas is in contrast that a certain solution never accomplishes a given problem because it gets stuck in a regress (that is, of similar problems that have to be solved first).

Yet one might still think on the basis of these informal characterizations that the two schemas do the same thing, but just in different terms (especially since both can have *all* cases from the literature as an instance). Now, one may wonder why this issue is so important. Why is it important that the schemas are really different? First, for my purposes their distinction is important because the schemas are the basis for the two theories of regress arguments (i.e. the Paradox vs. Failure Theory), and if the schemas are not really different, then there are presumably no such different theories either. Second, in §6 I will address the query: If regress arguments *can* be reconstructed in two different ways (which differ in format, not merely in content), then how *should* they be reconstructed? Clearly, this query makes no sense if the schemas are not really different.

In the following two sections I shall compare Paradox and Failure arguments in two stages: considering first those parts of them which generate the regress, and then those parts connecting regress to conclusion. I will argue that although Paradox and Failure arguments generate regresses in comparable ways, the parts of these arguments which associate a conclusion to a regress are structurally different. In both cases I first consider (and reject) a suggestion by Gratton on this issue, i.e. on whether arguments based on problem/solution regresses can be taken as a variety of Paradox arguments. After that, I present my own analysis.

## 2. Generating the regress

Next I compare the first parts of Paradox and Failure arguments, i.e. up to the first result entailed by the regress. Before presenting my own analysis, I shall consider a suggestion by Gratton concerning a parallel between Paradox's regress formulas and Failure's extra premises (i.e. line (3), which is partly responsible for the new problems in the regress):

For any problem U of the kind V, there is a response W that entails a contradiction that functions as a premise in a new problem X of the kind V. (2010: 166)

The suggestion may be spelled out along the following lines:

Trigger	An arbitrary problem of type K is to be solved.
Regress	Any problem of type K is solved by a solution

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formula 1	of type Q.
Regress formula 2	Any solution of type Q entails a problem of type K.
Result	An infinity of problems of type K and solutions of type Q.

Gratton himself rejects this mapping because, according to him, the goal of Failure arguments is not to reject such regress formulas, and hence there is no need to include them in the argument. I shall discuss this point at some length in §6.1.3.

I agree that these parallels are problematic, yet for reasons unrelated to Gratton's analysis. My first problem: Where is the difference between Failure Schemas I and II? A second problem: It is unclear why all the problems of type K must be solved. It is clear that solutions of type Q entail new problems of type K, yet so long as it is not stated that all such problems have to be solved, no worrisome regress is generated. Third problem: The result is rather different from the conclusion of a Failure argument. In order to address these problems, we should rather look for two different two sets of parallels, i.e. parallels which depend on whether Paradox arguments are compared with Failure I arguments or with Failure II arguments. Here they are.

*Parallels Paradox vs. Failure I*

Regress formula 1	All problems of type K are to be solved.
Regress formula 2	Any problem of type K is solved by a solution of type Q.
Regress formula 3	Any solution of type Q entails a problem of type K.
Result	There is always yet another problem of type K to be solved.

*Parallels Paradox vs. Failure II*

Trigger	At least one problem of type K is to be solved.
Regress formula 1	Any problem of type K is solved by a solution of type Q.
Regress formula 2	Any solution of type Q entails a problem of type K, and the latter is to be solved in order to solve any initial problem.
Result	There is always first yet another problem of type K to be solved in order for at least one problem of type K to be solved.



Let me illustrate these parallels by reference to Sextus' case. The first lines of the Failure I and Paradox reconstruction can both be rendered informally as follows: You have to justify all your beliefs; You justify all of your beliefs by providing a reason for them; Reasons are also among your beliefs; Result: You always have to justify yet further beliefs.

By contrast, the first lines of the Failure II and Paradox reconstruction can both informally be rendered like this: You have to justify at least one of your beliefs; You justify all of your beliefs by providing a reason for them; You have in turn to justify those reasons in order to justify any initial belief; Result: You always have to justify yet further beliefs in order to justify any initial belief.

On this account, the three problems with Gratton's first suggestion concerning the link between Paradox and Failure arguments are accounted for. To begin with, the difference between Failure Schemas I and II is made explicit.

Second, it is made clear why all problems must be solved (and hence why a regress is generated at all). In the Failure I case, the first regress formula accounts for this, as it simply states that each and every problem of a certain type K is to be solved. In the Failure II case, the second regress formula accounts for this, as it states that the newly generated problems are to be solved in order to solve any initial problem.

Third, the results drawn match with the results of Failure regresses. Compare: 'For any K that is F, there is another K that is F' (Paradox) vs. 'For any K that is to be  $\phi$ -ed, there is another K to be  $\phi$ -ed' (Failure). For example: 'For any proposition that is justified to you, there is another proposition that is justified to you' vs. 'For any proposition that you have to justify, there is another proposition you have to justify'. The reason for this last similarity is that the inferences from premises/hypotheses are very much the same (i.e. the rules used are mainly Modus Ponens and Universal Instantiation), and so it not surprising that similar kinds of results follow from Paradox and Failure regresses. Hence, according to this analysis, the first lines of Paradox and Failure arguments run parallel.

Nevertheless, the similarities are not always immediately apparent. Consider for instance my reconstructions of Wittgenstein's case from §3.4.4: 'The meaning of the word 'cube' is fixed' (Paradox) vs. 'You have to explain what fixes the meaning of the word 'cube'' (Failure II). Here, the Paradox-line does not describe the state to be obtained according to the Failure II-line. If it did, it would say 'It is explained what fixes the meaning of 'cube''. There are more of such irregularities, and all may have their own explanation. In this case, the irregularity is due to the fact that the problem is theoretical (of the form 'explain, find out or demonstrate how such and such can be the case') rather than practical (of the form 'do such and such'). I have chosen for the theoretical reading, here, for it seems already settled what the meaning of 'cube' is. You just have to explain something that is already settled. Contrast this with Quine's case: 'You have to fix the reference of the word 'Gavagai'' (which would, then, be a practical problem) vs. 'You have to

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explain what fixes the reference of the word ‘Gavagai’ (a theoretical problem). Here, I would opt for the practical version instead, because it seems not already settled what the reference of ‘Gavagai’ is.<sup>43</sup>

Yet, these are irregularities and do not invalidate the suggestion that Paradox and Failure regresses are generated in a similar way. Despite this fact, Paradox and Failure arguments are different kinds of arguments, as their endings do not run parallel. As I will explain next, the important structural difference between the schemas is the connection between regress and conclusion.

### **3. From regress to conclusion**

Again I will first consider Gratton’s suggestion concerning the link between Paradox and Failure arguments. This time, it does not concern the manner in which regresses are generated, but the portion following the regress:

If we believe that a solution is [...] acceptable only if it does not generate the same kind of problem it is supposed to resolve, then the regress entails a statement that conflicts with a belief. If we do not abandon the belief, then the regress entails an unacceptable statement, and so the regress is vicious. (1997: 217)

This reasoning can be unpacked as follows:

- (1) Regress.
- (2) A solution S generates the same kind of problem it is meant to solve. [1]
- (3) If S generates the same kind of problem it is meant to solve, then S is unacceptable.
- (4) S is unacceptable. [2-3]

The main similarity between this reasoning and the Paradox Schema is that a result is drawn from the regress and shown to be unacceptable. Yet the suggestion is problematic, because (3) is problematic. Let us consider (3) in more detail. At first, it seems a tempting and not uncommon assumption. Compare:

No candidate solution to a philosophical problem should raise another problem which appears just as intractable and which requires the resolution of an issue similar to that which made the original problem so intractable. (Noordhof 1998: 223)

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<sup>43</sup> Of course: in each case, if my choices are incorrect, then one may restate the arguments in their practical or theoretical format.

Now, why would anyone accept such a premise? Consider this instance:

- If a solution to eliminating the Liar Paradox entails a similar problem, then that solution is unacceptable.

Recall the Liar sentence:

L        L is false.

If L is true, then what it says is the case: it is false (i.e. as well as true). If L is false, then it says what is the case and so it is true (i.e. as well as false). Paradox. One proposal to resolve the paradox, from Tarski, is the following.<sup>44</sup> For a given language X, assume that of no sentence in X it can be stated within X that it is true or not, yet that a sentence in X is true or not can be stated in a metalanguage of X. By this, L is not possible given that it says of some English sentence, namely itself, that it is false within the same language. Yet the same paradox can still be put in the metalanguage, and so a similar problem can be generated (or, as it is also put in this debate, the paradox takes its revenge).

Also consider a slightly different proposal to resolve the paradox (cf. Cook 2007). The idea is to introduce a third semantic value (whatever its specific nature), call it ‘pathological’, and to regard L as pathological (and hence not as true or false). By this, the Liar Paradox is blocked as L is to be neither true nor false. But now consider the following sentence:

L\*        L\* is either false or pathological.

If L\* is true, then what it says is the case: it is either false or pathological (i.e. as well as true). If L\* is false, then it says what is the case and so it is true (i.e. as well as false). If L\* is pathological, then again it says what is the case and so it is true (i.e. as well as pathological). Again, the paradox takes its revenge.

The question is: If a solution to the Liar Paradox generates a similar paradox, is it then a bad solution? This very much depends on what the problem is. If the problem is to resolve the Liar Paradox in any language whatever, and concerns alike sentences L, L\*, etc., then the solution is not effective. Yet, if the problem is merely to resolve the Liar Paradox stated in English (and not stated in any other language, or not concerning any other sentence such as L\*), then the solution may well be effective.

In terms of the Failure Schemas: If the problem is a general one, solutions should not generate more instances of that problem. But if the problem is merely particular, such vengeance should cause no worry. Furthermore, counterexamples similar to Gratton’s (3) can be set up for all Failure I instances. So, if (3) is problematic because it structurally admits

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<sup>44</sup> I introduced this case in §3.1 above.

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counterexamples, then Gratton's suggestion is problematic.<sup>45</sup> Moreover, next I will argue that any such link between Paradox and Failure arguments will fail, as the portions of these arguments following the regress differ structurally.

Specifically, in case of Paradox arguments there is a *mediate* connection between regress and conclusion. Namely: in order to obtain a rejection of one of the initial hypotheses, you need an extra premise which conflicts with anything entailed by the regress (e.g. a premise that contradicts that an infinity of Ks are F). In Sextus' case, you need an extra premise like 'It is not the case that an infinity of propositions are justified to S' or 'It is not the case that there is an infinity of reasons' or 'S is psychologically unable to have an infinity of reasons available'. If no such extra premise holds, then nothing can be rejected. Indeed, the view known as 'Epistemic Infitism' maintains that the regress entails no unacceptable results and that nothing should be rejected (more on this view later: §5.4).

In the case of Failure arguments, by contrast, there is an *immediate* connection between regress and conclusion. No extra premise is needed to obtain the conclusion that the problem is never solved by the considered solution (or at least no extra *substantial* premise, as I will say later on in §6.2.2). In Sextus' case, you just never justify any proposition (so long as you provide a reason every time you have to justify a proposition), no matter whether or not an infinity of reasons can be available to you. In Ryle's case, you just never perform any intelligent action (so long as you employ knowledge-that every time you have to perform an intelligent action), no matter whether or not you can contemplate an endless series of propositions.

A similar point has been noted by Day:

This version of Passmore's argument works even if there is not an infinity of forms. All that matters is that when we analyse any case of predication it will be possible for us to find another to analyse. (1986: 50)

Day does not strictly speaking talk about Failure arguments. However, as I regard the Failure Schemas as an explication of what Passmore had to say, Day's claim may well be taken to apply to Failure arguments. The specific point about (a version of) Plato's Third Man can be put in Failure terms like this: You will never analyse all cases of predication if you invoke a form every time you have to analyse a case of predication, whether or not there is an endless number of forms. Generally: You will never  $\phi$  all/any K(s) if you  $\psi$  all Ks that you have to  $\phi$ , whether or not there is an endless number of Ks for you to  $\psi$ .

Later on I will argue, furthermore, that Failure arguments show that it is never the case that all/any problem(s) are solved in the sense that

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<sup>45</sup> For a brief version of this argument, see §2.3.4 above.

there is always yet another problem to be solved, whether or not there is in fact a solution for all of them (see §6.1.2.4).

I should say that Failure arguments do require a suppressed premise. However, this kind of premise differs from the one required by the Paradox Schema. Specifically, Failure I and II require respectively:<sup>46</sup>

- If for at least one K you have to  $\phi$  it and if for all Ks x, you always have to  $\phi$  a new K in addition to  $\phi$ -ing x, then you will never  $\phi$  all Ks.
- If for at least one K you have to  $\phi$  it and if for all Ks x, you first have to  $\phi$  a regress of new Ks in order to  $\phi$  x, then you will never  $\phi$  x.

For example: ‘If you have to justify a proposition and there is always a new proposition that you have to justify, then you will never justify all propositions’; ‘If you have to justify a proposition and there is always a new proposition that you have to justify in order to justify any proposition, then you will never justify any proposition’. Indeed, these are rather different from the premise required by the Paradox Schema (as ‘S does not have an infinity of reasons’). This means that you have to assume different things to get the arguments going. It demonstrates that the last parts of Paradox and Failure arguments do not run parallel, and that they are distinct kinds of arguments.

To support this reasoning we may check whether the relevant conclusions entail each other. For if they do still entail one another, then perhaps it might not matter much how you obtain the conclusion. If we consider the concluding lines of the two schemas, they appear very different:

PARA It is not the case that for all Ks x, x is F only if such and such.

FAIL You will never  $\phi$  all/any K(s), if you  $\psi$  all Ks that you have to  $\phi$ .

For example: ‘It is not the case that for any proposition, x is justified to S only if S has a reason y for x’ vs. ‘You will never justify any/all proposition(s), if you provide a reason for all propositions that you have to justify’. Neither of these entails the other, which means that either can hold without the other holding. Or again: there is no parallel between Paradox’s rejection of regress formulas and Failure conclusions.

It is worth stressing this point. In contrast to Paradox arguments, Failure arguments are not about rejections, not even the rejection of solutions. More precisely, they do not prove that a solution is *false*, but that it is *no good* for accomplishing a given problem (and furthermore that another solution has to be found). As a consequence, it is implausible to take the concluding line of the Failure Schema as the negation of its hypothesis (2), i.e. as: ‘It is not the case that for all Ks x, if you have to  $\phi$  x, you  $\psi$  x’ (e.g. ‘It

<sup>46</sup> These were identified in §2.3.2 above.

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is not the case that for all propositions  $x$ , if you have justify  $x$ , then you provide a reason for  $x$ ). Rather than negating hypothesis (2) on the basis of Reductio Ad Absurdum, Failure arguments merely discharge the hypothesis by Conditional Proof.<sup>47</sup>

To be sure, the concluding line of the Failure Schema is incompatible with ‘If you  $\psi$  any  $K$  that you have to  $\phi$ , then you  $\phi$  all/at least one  $K(s)$ ’ (e.g. ‘if you provide a reason for any proposition that you have to justify, then you justify all/at least one proposition(s)’). Yet this is not part of the Failure Schema. If it were assumed, then no solution could be bad or unsuccessful.

#### 4. Scepticism

There is nonetheless one point where Paradox and Failure arguments converge: namely, *scepticism*. Sceptics often employ regresses in their arguments (cf. Sextus and the ancient Pyrrhonists). Here is their position in terms of both schemas:

*Paradox Scepticism*

It is not the case that at least one  $K$  is  $F$ .

*Failure Scepticism*

You will never  $\phi$  any/all  $K(s)$ , no matter your solution.

For example: ‘It is not the case that at least one proposition is justified to someone’ vs. ‘You will never justify any proposition, whatever you do’.

Paradox sceptics maintain that the regress is unacceptable such that something needs to be rejected, yet, because it holds onto the regress formulas, it concludes by rejecting the trigger. Further examples:

- No dispute is decided.
- No inductive inference is justified.
- The reference of no word is fixed.
- No one is entitled to any epistemic rule.

Failure sceptics cannot stop at the last line (C) of the Failure Schema which says that a certain solution never solves the given problem, but have to add the extra step that *no* alternative solution can do the trick either (i.e. by showing that all other solutions have regressive consequences as well, or fail for a different reason). Further examples:

- Whatever you do, you will never decide any dispute.

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<sup>47</sup> Cf. my formalisations in §2.3, where the Failure conclusion cannot be fully captured in terms of the predicates ‘ $T$ ’ and ‘ $K$ ’.

- Whatever you do, you will never justify any inductive inference.
- Whatever you do, you will never fix the reference of any word.
- Whatever you do, you will never be entitled to any epistemic rule.

Furthermore, Paradox Scepticism entails Failure Scepticism (or more precisely: Failure II Scepticism), and vice versa. For example, ‘you will never justify any proposition, whatever you do’ entails and is entailed by ‘it is not the case that at least one proposition is justified to you’ (modulo a qualification on the notion of justification, see §5.4).

Even though Paradox and Failure arguments converge at this point, the ways in which each has arrived there have followed very different routes. As just explained, Paradox Scepticism needs to show that the regress entails an unacceptable result and that the trigger rather than the regress formulas is to be rejected. Failure Scepticism, in contrast, needs to show that all solutions to a given problem are unsuccessful.

## 5. Dialectics

In the following I will show that there is yet another difference between Paradox and Failure arguments. Specifically: they differ not only with respect to their premises and conclusions, but also play different roles in a broader dialectical context. Any argument is devised for or against a certain position. Dialectical contexts, then, are such things where all parties concerned about that position are identified, and where for all steps of the argument it is made clear which of the parties subscribe to them.

If ‘NN1’ and ‘NN2’ stand for two arbitrary persons, then the dialectical contexts of Paradox and Failure arguments are the following:

### *Paradox Dialectic*

<i>Step</i>	<i>Context</i>
Regress formula 1	NN1’s belief
Regress formula 2	NN2 argues that NN1 has to concede this
Trigger	Common sense claim
Regress	NN2 infers this from the foregoing
Extra premise	NN2 argues that NN1 has to concede this
Conclusion	NN2 concludes that NN1’s belief has to go

### *Failure Dialectic*

<i>Step</i>	<i>Context</i>
Problem	Common concern of NN1 and NN2
Solution	NN1’s proposal
Extra premise	NN2 argues that NN1 has to concede this

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Regress	NN2 infers this from the foregoing
Conclusion	NN2 concludes that NN1's proposal fails

To press the point again from §4.1.3 above, the important structural difference between the two schemas is the following. In the Paradox Schema, NN2 needs to make an extra step after the regress. In the Failure Schema, by contrast, there is no such extra step.

In both cases, NN2, i.e. the one who devises the regress argument, does all the work, and NN1 may try to resist the reasoning at any of the reasoning steps proposed by NN2. As always, there are two ways to challenge an argument: to attack one of its premises, or attack one of its inferences.

In the case of Paradox arguments, the main options for NN1 to resist the argument are to defend (i) that something else is to be rejected (for example, another regress formula), or (ii) that nothing needs to be rejected in the first place (because the regress entails no unacceptable result). Consequently, debates on Paradox arguments may centre on the following questions:

- (Q-1) Does the regress entail something unacceptable?
- (Q-2) If it does, then what should be rejected?

Consider Sextus' case taken in terms of the Paradox Schema:

*Justification (Paradox instance)*

- (1) For any proposition x, x is justified to S only if S has a reason y for x (where y is a new proposition).
- (2) For any propositions x and y, S has a reason y for x only if y is justified to S.
- (3) At least one proposition is justified to S.
- (4) Regress: [...] [1-2]
- (5) S has an infinity of reasons. [3, 4]
- (6) S does not have so many reasons.
- (C) (3) is false: No proposition is justified to S. [1-6]

The (Q-1) debate turns on premises like (6). Is it plausible to assume that S does not have so many reasons? If this is plausible, then the regress indicated by (5) is acceptable and nothing is to be rejected on this basis. To be sure, in order to give (Q-1) a full treatment all other results from the regress need be taken into consideration as well.

By contrast, the (Q-2) debate turns on whether (3) is to be rejected rather than lines (1) or (2). The sceptic would hold that (3) should be rejected. Yet Foundationalism and Coherentism both differ from scepticism on this, and propose to reject (1) instead, though for different reasons. Foundationalism rejects (1) because of its view that certain propositions (i.e.



the basic ones) are justified to someone independently of their relation to further propositions. Coherentism (or at least a simple version of it) rejects (1), or accepts only a modified version of (1), because of its view that reasons need not always be new, i.e. they may previously be used in the regress. Consequently, Coherentism allows for circles of reasons, in which case line (5) does not follow, i.e. it does not follow that there is an infinite series of propositions.

In the case of Failure arguments, the main options for NN1 to resist the argument are to defend (i) that the solution was never meant to be fully general, or (ii) that the extra premise does not hold (in Failure II cases), or the problem is too general (in Failure I cases). Consequently, debates on Failure arguments may centre on the following questions:

- (Q-3) Is the solution to apply to each and every problem of a certain kind?
- (Q-4) Are the problems generated in the regress relevant for the initial problem?

Consider the following principle from Davidson (1970):

- (R) If action *x* is what you regard as the best option, all things considered, then you ought to perform *x*.

Lazar (1999) shows that it is possible to set up a Carroll-style regress argument against the use of (R). Take the following example. If I take it that it is the best option to respect other people, all things considered, then by (R) I ought to respect other people. Now suppose I accept that I indeed take it that respecting other people is the best option, yet deny that I am obliged to respect them just because I deny (R). One possibility to force me to accept the obligation is to appeal to the following meta-principle:

- (R\*) If respecting (R) is what you regard as the best option, all things considered, then you ought to respect (R).

But of course I can resist this meta-principle in the same way, and a regress has begun. Yet, the message here is *not* that (R) is useless. On the contrary, it is that (R) is simply more basic than other rules, and should not be treated on the same footing. (R) can be used to generate obligations from all-things-considered judgments, and so the obligation to comply with (R) should not itself depend on further all-things-considered judgments and meta-principles. Or again: (R) is to be obeyed not because we have an obligation to do so, but because it is meant to be constitutive for all our obligations, i.e. without it no obligations would be possible in the first place.

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This reasoning may be controversial.<sup>48</sup> Still, the important point for my purposes is that this debate is a (Q-3) debate: it centres on the issue of whether the solution (here: appealing to (R)) applies to all problems of a certain kind (here: explaining how I have an obligation). And the suggestion is in the negative: not all my obligations are to be explained by rules, only obligations which do not concern the obligation to respect (R) are thus to be explained.

Next consider the debate concerning the Problem of Universals as construed by Armstrong (1974, 1978). Basically, this is the problem to explain how *distinct* items can nevertheless have the *same* property or stand in the *same* relation. Armstrong argued that virtually all solutions to this problem (i.e. Realism about Universals, Resemblance Nominalism, Class Nominalism, etc.) are regressive:

If a's being F is analysed as a's having R to a  $\emptyset$ , then  $Ra\emptyset$  is one of the situations of the sort that the theory undertakes to analyse. So it must be a matter of the ordered pair  $\langle a, \emptyset \rangle$  having  $R^*$  to a new  $\emptyset$ -like entity:  $\emptyset_R$ . If R and  $R^*$  are different, the same problem arises with  $R^*$  and so on ad infinitum. (1978: 70-1)

Specifically, all solutions fall prey to a Failure I regress and never solve all (rather than any) instances of the Problem of Universals. Yet, if all solutions are regressive in this sense, then *no* solution is successful. Lewis draws from this the conclusion that the problem must be too strong:

But the clincher, the one argument that recurs throughout the many refutations, is the relation regress. [...] Doing away with all unanalysed predication is an unattainable aim, and so an unreasonable aim. No theory is to be faulted for failing to achieve it. (1983: 353-4, cf. Oliver 1996: 33)

Indeed, if no solution is successful, perhaps there is something wrong with the problem. This is a (Q-4) debate: it concerns the issue of whether all newly generated problems in the regress need to be solved in the first place.

Hence, the schemas are accompanied by different possible debates. This difference between the dialectics of Paradox and Failure arguments will prove important when I turn to matters of soundness (§6.2). Important here is that (Q-1) to (Q-4) are the four main points that can be disagreed about when there is a dispute about a regress argument. That is, if you do not buy the conclusion of a regress argument, then you should start one of the debates (Q-1), (Q-2), etc.

Alongside these four, there are a few further possible debates. In principle, any premise (suppressed or not) or inference (suppressed or not)

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<sup>48</sup> For one thing, it is controversial to say that (R) is constitutive for our obligations. For this would imply that *all* our obligations are, so to speak, wholly up to us.

can be put into question. Yet these latter debates occur less often, as most suppressed premises concern common background assumptions of the debate, and the inferences are licensed by classical rules. Nevertheless, some extra options will be identified in §4.2.

Gratton defends the Paradox Schema by stating that it can explain why there is often disagreement as to whether a certain regress is problematic:

The relativized portion of my account helps to explain why there can be disagreement in establishing the viciousness of some infinite regresses: some people hold certain beliefs that conflict with the result entailed by an infinite regress, while others do not hold those beliefs. (1997: 216)

This is what I labelled a (Q-1) debate. Regresses entail something unacceptable as soon as they entail a result which conflicts with something else we believe. But the latter is usually controversial, and opens up room for disagreement.

The question is: does this favour the Paradox Schema over the Failure Schema? No. First, that there is disagreement in the literature may of course just be due to the fact that people are confused about what to draw from a regress. But more importantly, as we have just seen with (Q-3) and (Q-4) debates, there is room for disagreement about Failure arguments too.

Final point. In some places, it has been stressed that regress arguments are not as strong as they appear to be because they admit resistance (cf. Waismann 1956: 28-30, Passmore 1961: 35-7). This is, in some sense, a strange point, as it could be expected that *anything* with premises can be resisted. I take it that regress arguments can be strong arguments in the sense that they can establish substantive conclusions, i.e. conclusions that make a difference to a relevant debate (again: given that the premises hold).

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## 4.2. Regress

In the following I turn to two related queries: what are regresses, and when are they bad? Each question will be answered twice: once within the context of the Paradox theory, and once within the context of the Failure theory. I also discuss how regresses differ from circularities.

### 1. Series vs. regresses

When is a series a regress? Recall the following hypotheses from §1.1:

Para–A Regresses are series of conditions which result from a number of claims and yield something absurd.

Fail–A Regresses are series of problems which result from certain solutions and which prevent the success of these solutions.

At this point these can be made precise.

#### 1.1. Paradox regress

By the Paradox Schema, a series is a regress iff

- (i) the series consists of necessary conditions; and
- (ii) each necessary condition is entailed by the previous condition in combination with a regress formula.

Consequently, anything which does not fulfil both conditions is not to be a regress (or at least no Paradox regress). So, by (i), not all series are to be regresses. Only those series are regresses which consist of necessary conditions (this clause has been mentioned by Black 1996: 115). By (ii), not all series of necessary conditions are to be regresses. Only those series are regresses where each necessary condition is entailed by the previous condition plus a regress formula (this clause has been mentioned by Gratton 2010: 18).

Surely not all infinite series fulfil both conditions. For example, any regress such as the following can also be taken in a non-entailed way, though in that case it would not be a regress (simply because no step is entailed by the previous one):

- $p_1$  is justified to S;
- S has a reason  $p_2$  for  $p_1$ ;
- $p_2$  is justified to S;
- S has a reason  $p_3$  for  $p_2$ ;

etc.

What, then, are necessary conditions?<sup>49</sup> In this dissertation, I assume that ‘A only if B’ or ‘B is a necessary condition for A’ involves two relations. First, the relation between A and B comprises the *material conditional*: A materially implies B, which means that B is true whenever A is true (i.e. this relation holds whenever B is true or A is false). Second, the relation between A and B comprises *dependency*: A somehow depends on B. The second relation is more intimate than the first. That is, there are more facts which materially imply something than facts which depend on something. For example, my girlfriend’s being reliable materially implies that Socrates is a philosopher (the latter is true whenever the former is), but it seems implausible to think that her reliability somehow depends upon anything about Socrates (modulo far-fetched scenarios).

Consider the following case: My girlfriend is reliable *only if* she is guarded by a guardian. This, then, comprises two relations. First, my girlfriend’s being reliable materially implies that she is guarded, which means that whenever it is true that she is reliable, it is true that she is guarded (and whenever it is false that she is guarded, it is false that she is reliable). Second, my girlfriend’s being reliable depends upon her being guarded by a guardian. For example, if reliability means that she will not run away or commit unfaithful acts, then this dependency can be taken causally: her being guarded is a cause of her being reliable.

But dependency relations need not always be causal. Consider Sextus’ case: a proposition p is justified to S only if S has a reason for p. Here, p’s being justified to S depends upon S’s having a reason for p. It is not plausible to regard this as a causal dependency: S’s having a reason for p does not cause p’s being justified to S. Still, it may be regarded as a constitutive dependency: p’s being justified to S is partly constituted by the fact that S has a reason for p (however one further unpacks this).

At this point we have specified the first part of hypothesis Para–A. First, regresses are series of consequences in the sense that each necessary condition is a consequence of the former. Second, they result from a number of claims in that they are entailed by regress formulas.

So far I have not discussed how regresses in this sense yield something absurd. I will turn to this below in the section on viciousness. But it is worth stressing already here that not *all* regresses entail something absurd. Or in other words: not all infinite series which fulfil both conditions (i) and (ii) are also *vicious* regresses. Vicious regresses are just a subclass of regresses, and the criterion of viciousness is meant to distinguish them strictly from non-vicious ones.

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<sup>49</sup> Cf. Brennan (2003) for an overview of the literature on this question.

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## 1.2. Failure regress

By the Failure Schema, a series is a regress iff

- (i) the series consists of similar problems and similar solutions; and
- (ii) each problem and solution is entailed by a previous problem and/or solution in combination with one or more of lines (1)-(3).

Anything which fails to fulfil both conditions is not to be a regress (or at least no Failure regress). So, by (i), not all series are to be regresses. Only those series are regresses which consist of similar problems and similar solutions (this clause has been mentioned by Schlesinger 1983: 221). By (ii), not all series of similar problems and similar solutions are to be regresses. Only those series are regresses where each problem and each solution is entailed by previous steps in combination with one or more of lines (1)-(3) (depending on whether the regress is generated in terms of Failure I or Failure II, cf. Figure 1).

Surely not all infinite series fulfil both conditions (i) and (ii). Suppose, for example, that you have to write down all natural numbers, and as a solution do write them all down. In that case we have the following series of similar problems and similar solutions:

You have to write down number 1;  
You write down number 1;  
You have to write down number 2;  
You write down number 2;  
etc.

Yet, as these problems and solutions are given at once, and not entailed along the way, this series is not to be a regress. In the same way, the following argument is not to be a regress argument:

- (1) You have to write down all numbers.
- (2) There is an infinity of numbers.
- (3) You will never write down all numbers. [1-2]

You can get from (1) and (2) to (3) by assuming that if you have to perform an infinity of actions, then there is will always be a new action to be performed such that you will never perform all of them. This resembles a Failure I argument, but is not one for the simple reason that no line is occupied by a regress.

It is instructive to compare Failure regresses with supertasks at this point. Both consist of an infinity of tasks (or actions that have to be performed), yet they should not immediately be identified. To see this, consider a well-known supertask: Thomson's Lamp (Thomson 1954). The scenario is such that you perform the following infinite series of tasks:

You turn the lamp on;  
 After a minute, you turn it off;  
 After a half a minute, you turn it on;  
 After a quarter of a minute, you turn it off;  
 After an eighth of a minute, you turn it on;  
 etc.

Again and again, you turn the lamp off if it is on, or on if it is off at increments declining in length by one-half.

Now, there are two main differences between this kind of supertask and Failure regresses. First: Failure regresses do not merely consist of tasks that have to be accomplished, they also consist of actions that are supposed to accomplish those tasks. Second, and as just explained, the tasks in Failure regresses are not given at once, but entailed along the way. Specifically, they are entailed by the actions that are supposed to accomplish those tasks. Both aspects are missing out in Thomson's Lamp: it does not have a task/action structure, and as a consequence the new tasks are not generated along the way but given at once.

Nevertheless, this does not show that certain *other* supertasks cannot fit into the Failure framework. That is, Failure regresses might still be seen as a kind of supertask. More specifically, they are supertasks to which condition (i) and (ii) above apply. I shall give examples of such supertasks soon (see §4.2.2 below).

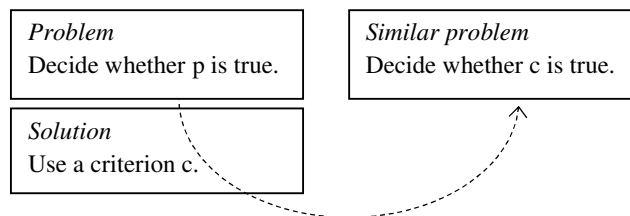


Figure 3: Problem shifting

Here is a nice, appropriate description of the relation between the problems in a regress:

What the two infinite regresses bring out is that the predicate nominalist does not in fact solve his problem, he simply shifts it. (Armstrong 1978: 21)

That is, a solution *shifts* the problem iff it entails a problem which is similar to the one it is meant to solve. This relation of problem shifting is depicted by the arrow in Figure 3.

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The question is why all problems must be similar, i.e. of the same type. For you might expect it still to follow that the problem is never solved given that each time you have to solve yet another problem (no matter what kind of problem). The explanation is that without the similarity there is no link between lines (1)-(3) of the Failure Schema, and no regress would be entailed. For example, no regress results from the following set of lines:

- (1) For all items  $x$  of type  $K$ , you have to  $\phi x$ .
- (2) For all items  $x$  of type  $K$ , if you have to  $\phi x$ , you  $\psi x$ .
- (3) For all items  $x$  of type  $K$ , if you  $\psi x$ , then there is a new item  $y$  of type  $Q$ .

In this case, if there is an item  $a$  of type  $K$ , then by (1) you have to  $\phi a$ , by (2) you  $\psi a$ , and by (3) there is a new item  $y$  of type  $Q$ , call it 'b'. Yet then, by (1), it does not follow that you have to  $\phi b$ . Here is a real example of this scenario:

- (1) For all natural languages  $x$ , you have to explain how we are able to learn  $x$ .
- (2) For all natural languages  $x$ , if you have to explain how we are able to learn  $x$ , you appeal to the fact that we master a language of thought by which we can learn  $x$ .
- (3) For all natural languages  $x$ , if you appeal to the fact that we master a language of thought by which we can learn  $x$ , then there is another language that we master.

No regress is entailed because, as it stands, (1) applies only to natural languages such as English, not to mental languages (cf. Laurence & Margolis 1997). This shows why the problems in a regress should be similar to each other. Moreover, a similar story holds for why the solutions in a regress should also be similar to each other.

At this point we have specified the first part of hypothesis Fail-A, i.e. the sense in which regresses are series of problems which result from solutions. As in the previous case, I did not specify how regresses in this sense prevent the solutions from being successful. Or in other words: so far I have not discussed how Failure regresses can be vicious.

## 2. Viciousness

Here is a familiar argumentative move:

It could be held that the paradox itself shows that there is this infinite hierarchy of types of meaninglessness. [...] This is the solution to which a certain sort of logician would be forced. But it is none the less absurd. (Mackie & Smart 1953: 65)



What virtually all regress-theorists share is their denunciation of such moves. No regress is *just* absurd, i.e. absurd full-stop without any further explanation. Sometimes the debate on regresses is presented in such a way that its chief concern is to divide vicious regresses from virtuous/benign ones. In that case, the basic task is to provide a criterion which distinguishes regresses which are harmful for a theory (and which have to be stopped by a proponent of that theory) and those which are harmless (and so cause no worry for a proponent of that theory). Compare:

An infinite regress is either vicious or virtuous. Virtuous regresses are not virtuous in the sense that their existence is cause for celebration. Instead, they are virtuous because you can tolerate them. (Maurin 2007: 3, cf. Nolan 2001: 523)

According to this approach, the various reasons to regard regresses as vicious are to be classified and evaluated. In contrast to this focus on viciousness, I have opted for a slightly different approach. As stated explicitly in §1.3.2, my focus falls not directly on theories and whether regresses might be bad for them, but rather on argument schemas in which regresses are associated with a certain conclusion. These two projects are of course connected, but need not coincide if those conclusions happen to be useless for theory choice.

Nonetheless, even if the question of viciousness need not be answered to obtain regress arguments schemas, it is still possible to answer it. In the following, I will associate the Paradox and Failure Schemas each with their own criterion of viciousness. That is, I will identify a criterion which divides vicious from virtuous Paradox regresses, and likewise one which so divides Failure regresses. In both cases the idea is rather simple:

(Vic) For any regress R and theory T, R is vicious for T iff (i) T is committed to the premises/hypotheses by which R is generated, and (ii) R entails a result which is bad for T.

Still, as we shall see, what exactly this bad result amounts to depends on the schema in terms of which the regress is generated.

### 2.1. Paradox viciousness

The criterion of viciousness for the Paradox Schema is the following (cf. Gratton 1997: 216, 2010: 101):

(Vic-P) For any regress R and theory T, R is vicious for T iff (i) T is committed to the regress formulas by which R is generated, and (ii) R entails at least one unacceptable result.

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Some clarifications are in order. First, regresses may entail more than one unacceptable result. But *one* is enough for viciousness.

Second, results are unacceptable if they are false or (what is more likely in philosophy) if they are inconsistent with something else that theory T is unwilling to abandon. Or again: results are unacceptable if the benefits of rejecting one of the propositions that generate the regress outweigh the costs of the regress and its results (cf. Nolan 2001, Cameron 2008). Whenever this is the case, T is in trouble, for its commitments are inconsistent: it is committed to claims that entail R and to claims inconsistent with what R entails. Consider for example the regressive claim that for every x, there is a singleton {x} (i.e. the set of itself). This generates regresses such as: Socrates, {Socrates}, {{Socrates}}, and so on. The question is whether the benefits of rejecting the claim that anything has a singleton outweigh the costs of such regresses (in this case infinitely many sets). The regress of singletons is vicious, then, only if the costs are too high.

This criterion is very general and can capture many specific criteria such as the following: Regresses are vicious whenever they entail something absurd or counter-intuitive, paradoxical or logically impossible, beyond human capacities, uneconomical, etc.

To illustrate these points, let us consider Vander Laan's regress argument in Paradox-format:

*Restrictivism (Paradox instance)*

- (1) For any action x, one is frequently free to perform x only if one is frequently free to generate a desire to refrain from performing x.
- (2) One is frequently free to perform at least one action.
- (3) Regress:
  - (a) I am frequently free to pick up the phone.
  - (b) I am frequently free to generate a desire to refrain from answering the phone. [a, 1]
  - (c) I am frequently free to generate a desire to refrain from generating a desire to refrain from answering the phone. [b, 1]
  - (d) I am frequently free to generate a desire to refrain from generating a desire to refrain from generating a desire to refrain from answering the phone. [c, 1]And so on.
- (4) I am frequently free to generate an infinity of desires. [2, 3]
- ...

Vander Laan argues that the result (4) is unacceptable (and hence that the regress is vicious by (Vic-P)) for three reasons (2001: 208). First, one cannot be frequently free to generate an infinity of desires as generating so many desires are beyond anyone's capacity. Second, one cannot be frequently free to generate an infinity of desires as they are increasingly complex. It is hard

to imagine even just the third-order desire described in (d), let alone to possess it. Third, if generating desires takes time, and if this happens successively, then in order to generate an infinity of desires one needs an infinite amount of time. As this is not available, one cannot generate an infinity of desires. Hence, according to Vander Laan, the regress is thrice vicious.

Furthermore, as (1) is to follow from more basic principles which are granted in the overall discussion, Vander Laan infers that (2) must be rejected: It is not the case that we are frequently free. And so did he establish his view: Restrictivism.<sup>50</sup>

Also consider another case: the regress argument against Cartesian scepticism by Wilson (2012):

*Cartesian scepticism (Paradox instance)*

- (1) For any external or mental state *x*, if one might be deceived about *x*, then one is sceptical about *x*.
- (2) For any external or mental state *x*, one is sceptical about *x* only if one might be deceived about one being sceptical about *x*.
- (3) Regress:
  - (a) I might be deceived about there being an external world.
  - (b) I am sceptical about there being an external world. [a, 1]
  - (c) I might be deceived about my being sceptical about there being an external world. [b, 2]
  - (d) I am sceptical about my being sceptical about there being an external world. [c, 1]
  - (e) I might be deceived about my being sceptical about my being sceptical about there being an external world. [d, 2]

And so on.
- (4) I am both sceptical about something and, at the same time, sceptical about being sceptical about that thing. [3]

...

Wilson argues that the result (4) is unacceptable (and so that the regress is vicious by (Vic-P)) because it is psychologically unstable. One cannot both at once be sceptical about something and be sceptical about being sceptical about that thing. Suppose I am sceptical about there being an external world. In that case, I claim that one can neither claim that there is an external world, nor claim that there is not. Suppose I am sceptical about my being sceptical about there being an external world. In that case, I claim that one can neither claim that I am sceptical about there being an external world, nor claim that I

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<sup>50</sup> These principles are: 'S is free to perform an action *x* only if (i) S has a desire to refrain from performing *x*, or (ii) S is free to generate a desire to refrain from performing *x*' and 'S rarely has a desire to refrain from performing *x*' (i.e. S rarely fulfils the first disjunct) (cf. Van Inwagen 1994, Fischer & Ravizza 1996).

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am not sceptical about there being an external world. Yet, for me to claim both at once that I am sceptical about there being an external world *and* to claim that one cannot claim that I am sceptical about there being an external world is psychologically unstable. Generally, each pair subsequent to (b)/(d) above suffers from the same problem.

Furthermore, as the regress is vicious, Wilson rejects (1) which is to express Cartesian scepticism: the possibility of deception should not be a reason for scepticism.

Yet, regresses are not always vicious. They are non-vicious exactly when they do not entail *any* unacceptable result. That is, they are non-vicious when it is shown that each and every necessary condition for the trigger situation is unproblematic.

Consider, for example, McTaggart's attack on the existence of time. His reasoning rests on the distinction between A and B-series of time: A-series are orderings on the basis of the temporal properties being past, present and future. B-series are orderings on the basis of the temporal relations earlier-than (or later-than) and simultaneously-with. Part of McTaggart's argument here is based on a regress, namely the part against the A-theory of time, i.e. the view that posits only A-series. According to McTaggart, any such theory generates a regress:

If we avoid the incompatibility of the three characteristics by asserting that M is present, has been future, and will be past, we are constructing a second A-series, within which the first falls, in the same way in which events fall within the first. [...] The second A-series will suffer from the same difficulty as the first, which can only be removed by placing it inside a third A-series. The same principle will place the third inside a fourth, and so on without end. (1908: 469)

Now, against McTaggart's assessment, this regress may be classified as non-vicious for the A-theorist so long as an infinity of A-series is not regarded as absurd, impossible, uneconomical, or unacceptable in any other way (for an argument along these lines, cf. Smith 1986). In §5.5, I will present one extended example that can plausibly be regarded as non-vicious in the sense of (Vic-P).

## 2.2. Failure viciousness

The criterion for the Failure Schemas:

(Vic-F) For any regress R and theory T, R is vicious for T iff (i) T is committed to the solution S by which R is generated, and (ii) R entails that S fails.

Again, some clarifications are in order. First, this criterion looks more specific than (Vic-P). But this is only apparent. It is true that (Vic-P) can apply to all case studies reconstructed Paradox-wise, but it is equally true that (Vic-F) can apply to all case studies reconstructed Failure-wise.<sup>51</sup> Second, suppose there is a theory which satisfies clauses (i) and (ii). In that case, T is committed to a regressive solution that fails, and this is why the regress is bad for T. Consider the following case:

Thus, if the regress is vicious, it is vicious because it prevents Resemblance Nominalism from accomplishing its explanatory project of accounting for all properties in terms of resembling particulars. (Rodriguez-Pereyra 2002: 108)

This example can be spelled out as follows:

- (1) You have to account for all properties/relations.
- (2) For any property/relation x, if you have to account for x, then you appeal to the resembling particulars which have x.
- ...
- (C) If you appeal to resembling particulars every time you have to account for a property/relation, then you will never account for all properties/relations. [1-5]

Resemblance Nominalism is committed to the solution specified in (2), and so this theory entails that the problem specified in (1) is never solved. The regress is bad exactly because it plays a crucial role in this entailment. Rodriguez-Pereyra has put this nicely: the regress is bad because it *prevents* the theory from solving the given problem. This is a well-suited term for Failure regresses: at each step yet another problem needs be solved (in order for the initial one to be solved), and this prevents the initial problem from ever being solved.

Importantly, solutions might fail in different ways: they might fail to solve all problems of a certain kind ('fail' in the sense of Failure I), or fail to solve any problem of a certain kind ('fail' in the sense of Failure II). When it comes to theory choice, this difference matters: Failure II failures are worse. Suppose there are two theories, T1 and T2, that both have to accomplish the same universally quantified task, but that T1 fails in the Failure I-way while T2 fails in the Failure II-way. That is to say: T1 solves

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<sup>51</sup> Note that, as they stand, (Vic-P) and (Vic-F) are incompatible. For (Vic-F) implies that a regress is virtuous so long as it does not entail that the given solution fails (even if it does entail other unacceptable results, whatever they may be). There are two solutions to this query. First, the criteria could be turned into sufficient conditions. Second, the criteria could be relativized to Paradox and Failure regresses respectively (i.e. 'for any Paradox regress R, R is vicious iff etc.'). The latter strategy seems preferable, for by the former's sufficient conditions it is no longer possible to determine whether regresses are virtuous.

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lots of problems of a given type, yet never all of them, whereas T2 never solves even one of them. Clearly T1 is to be preferred over T2 in this case. Both fail in a certain way (which is why both kinds of regresses are vicious by (Vic-F)), but T2's failure is worse.<sup>52</sup>

Again, by (Vic-F) regresses are not always vicious. They are non-vicious exactly when they do not entail that the given solution fails. Yet non-vicious regresses are here somewhat more complicated than those that turn out non-vicious by (Vic-P). The reason is that, within the Failure Schema, once a regress is entailed, you immediately obtain a failure: no further, substantial premises are needed to get you there.

Still, in some selected cases the failure does not follow because one of the suppressed premises (6) or (7) fails. As this is not easy to see, I will spell out some examples below. Specifically, there will be three kinds of scenarios where the solution's failure is not established by the regress (such that the regress is non-vicious by (Vic-F)). Namely, this will be the case whenever all the problems described in the regress are in fact *identical*, whenever they are different but still can be *solved at once*, or whenever they tend to become *less and less important*. Let me explain these in turn.

2.2.1. Exception (1)

Consider, for illustration, Frege's regress argument against the definability of truth. Here is a Failure II reconstruction:

*Truth (Failure II instance)*

- (1) You have to decide for at least one proposition whether it is true.
- (2) For all propositions  $x$ , if you have to decide whether  $x$  is true, then you decide whether  $x$  corresponds with reality.
- (3) For all propositions  $x$ , if you decide whether  $x$  corresponds with reality, then you decide whether  $x$  is true only if you decide first whether the proposition that  $x$  corresponds with reality is true.
- (4) Regress:
  - (a) You have to decide whether the proposition that I am mortal ( $p_1$ ) is true.
  - (b) You decide whether  $p_1$  corresponds with reality. [a, 2]
  - (c) You have to decide first whether the proposition that  $p_1$  corresponds with reality ( $p_2$ ) is true. [b, 3]
  - (d) You decide whether  $p_2$  corresponds with reality. [c, 2]
  - (e) You have to decide first whether the proposition that  $p_2$  corresponds with reality ( $p_3$ ) is true. [d, 3]

And so on.

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<sup>52</sup> Even if T1 wins out relative to T2, this does not automatically form an argument in favour T1. For there are alternative conclusions that one might draw: that yet another solution next to T1 and T2 must be found, or that the problem must be left unsolved for the time being.

- (5) For all propositions  $x$ , you first have to decide whether a regress of propositions is true in order to decide whether  $x$  is true. [4]
- (C) You will never decide whether any proposition is true if you decide whether it corresponds with reality every time you have to decide whether a proposition is true. [1-5]

Now suppose that there is a certain conception of propositions according to which  $p_1, p_2, p_3$ , etc. are identical. The proposition that I am mortal (i.e.  $p_1$ ) is identical to the proposition that  $p_1$  corresponds with reality. Likewise, both are identical to the proposition that [the proposition that  $p_1$  corresponds with reality] corresponds with reality. And so on. In that case, the problems (a), (c), (e), etc. in the regress above are identical as well. Whether the problems are indeed identical depends on one's ideas about propositions. However, the main point is that *if* they are identical, then the regress reduces to one task only and, in that case, it does not follow that you will never decide whether the proposition that I am mortal is true (for example).

Counterexamples of this sort can be blocked by explicitly assuming (i.e. in the premises/hypotheses that generate the regress) that the problems are distinct. For example, in the Failure I case the instance of the premise (3) should exactly be an instance of: 'For all  $K$ s  $x$ , if you  $\psi$   $x$ , then there is a *new* item  $y$  of type  $K$ ', where 'new' means 'distinct from any other item already encountered in the regress'.

A similar analysis can be applied to Danto's case and Zeno's Dichotomy Paradox which concern the following series of tasks (I provide one more extended example in §5.2):<sup>53</sup>

- (a) Perform action a (e.g. write a dissertation).
- (c) Perform action b by which a is performed (e.g. write a chapter).
- (e) Perform action c by which b is performed (e.g. write a section).
- etc.
  
- (a) Traverse a distance (e.g. 1 meter).
- (c) Traverse half the initial distance (0.5 meters).
- (e) Traverse half of half the initial distance (0.25 meters).
- etc.

The tasks in each of these cases are not wholly identical, but in each the new tasks are already part of the initial one. In Zeno's case, each new distance to be traversed is part of the initial distance to be traversed. In Danto's case, each new action to be performed is part of the initial action. There may be instances of the Danto series where this is not the case. However, the main point is that if the tasks generated in the regress are partly identical to the initial task, then again no failure follows from the regress. For if you carry

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<sup>53</sup> Zeno's Dichotomy Paradox should not be confused with his Achilles and the Tortoise Paradox. They are closely related, but in the latter case, all distances to be traversed are distinct from each other. See below.

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out the initial task, then you accomplish along with it, for free as it were, the whole regress of partly identical tasks.<sup>54</sup>

### 2.2.2. Exception (2)

The next exception: The solution's failure follows only if all problems described in the regress cannot be solved at once. Take Frege's case again. Let us assume this time that all problems are different (i.e. that the relevant propositions are distinct), but can still be solved at once with the aid of the following equivalence schema:

For any instance of p: 'p' is true iff 'p' corresponds with reality' is true.

For example, if you decide whether 'I am mortal' is true, then by this schema you can at once decide whether 'I am mortal' corresponds with reality', 'I am mortal' corresponds with reality' corresponds with reality', etc. are true. If that is right, then it again does not follow from the regress that you will never decide whether 'I am mortal' is true. Compare Dummett on a slightly different case:

[...] there is no harm in this, as long as we recognize that the truth of every statement in this series is determined simultaneously: the regress would be vicious only if it were supposed that, in order to determine the truth of any member of the series, I had first to determine that of the next term in the series. (1973: 443, cf. Künne 2003: 131)

It remains to be seen, of course, how one can motivate such an equivalence schema, but the general point is that for Failure arguments to work the problems described in the regress should not be solvable at once. To account for counterexamples of this sort one needs to be explicit in the extra premise that each problem generated in the regress depends on the next, and not vice versa. Consider line (3) in Frege's case:

- For all propositions x, if you decide whether x corresponds with reality, then you first have to decide whether the proposition that x corresponds with reality is true in order to decide whether x is true.

The role of 'first' here is to indicate that the problem of deciding whether x is true depends upon the problem of deciding whether the proposition that x corresponds with reality is true, and not vice versa. Without 'first', there would not be such an order and all the problems might well be solvable at

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<sup>54</sup> Rescher (2010: 24-5, 53-4) makes a comment into this direction by distinguishing between actions and accomplishments: between something that an agent does and something that results from what she does (i.e. for free).



once. It is worth noting again that the term ‘first’ indicates an instrumental order, rather than a temporal order. For example, it need not be the case that the problem of deciding whether the proposition that *x* corresponds with reality is true needs be solved earlier in time. What matters is the *asymmetry* between the problems: Deciding whether the proposition that *x* corresponds with reality is true is to be a necessary means to deciding whether *x* is true, and not the other way around.

Unfortunately, the same solution does not work for Failure I arguments, as the latter do not use the term ‘first’. This means that regresses of problems may be generated Failure I-wise that are solvable at once (such that no failure follows even though there is a regress). Take Frege’s case once again. We have just seen that the Failure II reconstruction might be blocked. However, we could still set up a Failure I argument which concludes: You will never decide whether *all* propositions are true (that is, if you decide whether a proposition corresponds with reality every time you have to decide whether it is true). Yet this conclusion fails as well if all problems in the regress are solvable at once. As we shall see below, in such exceptional cases the conclusion is false, not because Failure I arguments are invalid, but because the suppressed premise (6) is false.

### 2.2.3. Exception (3)

The last exception: The solution’s failure follows only if all problems described in the regress do not become less and less important. Specifically, there are distinct two places where Failure arguments might go wrong if the problems described in the regress become less and less important, namely at the inference of (5) from the regress (i.e. that there are always further problems to be solved), and also at the inference of the failure from (5) (i.e. that a failure follows if there are always further problems to be solved). Let me explain these in turn.

#### *From (4) to (5)*

Take Sextus’ case, which concludes that no proposition is ever justified to you if you provide reasons after reasons. The argument rests on the assumption that no matter how many reasons are added to a chain of reasons, the justification of the initial proposition will still depend on any of the last added reasons (i.e. will still depend on the last generated problems). If this were not the case, and if after a certain point the justification of the initial proposition were to remain unaffected (and the further generated problems irrelevant), then the Failure conclusion might fail to follow.

I take it that Peijnenburg (2007, 2010) and Peijnenburg & Atkinson (2008) demonstrate exactly this. They start from the assumption that justification is no all-or-nothing affair (such that a proposition is either flat-out justified to someone, or not), but rather can come in degrees such that propositions can be more or less justified or probable (i.e. relative to certain

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reasons). On the basis of this assumption they show that justification can be gained on the basis of infinite regresses of reasons. Namely, it can be gained in such a way because, after a certain point in an infinite chain, the reasons no longer make a significant difference to the initial proposition. As Peijnenburg puts it:

In general it is the case that, as the chain becomes longer, the justification provided by the conditional probabilities increases, while the justification given by the source of the chain decreases. And as the  $n$  of  $E_n$  grows larger and larger [...] the influence of  $P(E_n)$  on  $P(E_0)$  diminishes with each link, until it finally vanishes entirely. (2010: 1131-2)

In terms of the Failure Schema, the extra premise (3) seems granted (in order to generate the regress), namely that if you provide a reason  $y$  for a proposition  $x$ , then you first have to justify  $y$  in order to justify  $x$ . However, doubt is casted on the repetition of this step in the inference of line (5), which reads that there is always (no matter how far you go) a new proposition that you have to justify first, i.e. in order to justify any initial proposition. Put more generally: doubt is casted on the idea that no matter how many problems in the regress are solved, the initial problem will still depend on any single one of them. Moreover, if (5) fails to follow, then the remainder of the argument (i.e. that you will never justify any proposition) fails as well.

Yet, if the regress follows from the premises/hypothesis and (5) fails to follow from the regress, then does not this pose a problem for the logical validity of Failure II arguments? It does not. For recall that the step from the regress to (5) relies on suppressed premise (7) (see §2.3.2):

- If for all  $Ks$   $x$ , you first have to  $\phi$  a new  $K$  in order to  $\phi$   $x$ , then you first have to  $\phi$  a regress of new  $Ks$  in order to  $\phi$   $x$ .

In this case: If for all propositions  $x$ , you first have to justify a new proposition in order to justify  $x$ , then you first have to justify a regress of new propositions in order to  $\phi$   $x$  (and this implies, as we shall see in §4.2.3, that you have to justify an *infinity* of new propositions in order to justify a single one). Thus, if in a certain case (5) fails to follow from the regress, then this does not mean that the step is logically invalid, but that the instance of (7) is false.

*From (5) to (C)*

Suppose (5) does follow: you always have to solve yet further problems in order to solve any/all problems of a given kind. Does it *always* follow that you fail in these circumstances? Certain supertasks suggest that this is not the case. It is instructive, here, to consider Zeno's Dichotomy Paradox and his

Achilles and the Tortoise Paradox (i.e. two cases that are usually regarded as supertasks) in Failure format:

*Dichotomy (Failure II instance)*

- (1) Achilles has to traverse at least one distance to the Tortoise.
- (2) For all distances to the Tortoise  $x$ , if Achilles has to traverse  $x$ , then he runs  $x$ .
- (3) For all distances to the Tortoise  $x$ , if Achilles runs  $x$ , then he first has to traverse the half of  $x$ , namely distance  $y$ , in order to traverse  $x$ .
- (4) Regress: [...] [2-3]
- (5) For all distances to the Tortoise  $x$ , Achilles first has to traverse a regress of distances in order to traverse  $x$ . [4]
- (C) If Achilles runs all distances to the Tortoise that he has to traverse, then he will never traverse *any* distance the Tortoise. [1-5]

*Achilles and the Tortoise (Failure I instance)*

- (1) Achilles has to traverse all distances to the Tortoise.
- (2) For all distances to the Tortoise  $x$ , if Achilles has to traverse  $x$ , then he runs  $x$ .
- (3) For all distances to the Tortoise  $x$ , if Achilles runs  $x$ , then there is a new distance  $y$  to the Tortoise.
- (4) Regress: [...] [1-3]
- (5) For all distances to the Tortoise  $x$ , Achilles always has to traverse yet another distance in addition to traversing  $x$ . [4]
- (C) If Achilles runs all distances to the Tortoise that he has to traverse, then he will never traverse *all* distances the Tortoise. [1-5]

These conclusions are no doubt counterintuitive. Why would Achilles fail to catch the Tortoise by running to the latter? Achilles is much faster and will certainly catch the Tortoise eventually. However, in both cases (5) does seem to follow from the regress: Achilles always has to traverse yet another distance (modulo a worry in the Dichotomy case that I identified above: see exception 1). But if (5) is true, and (C) false, then the step from (5) to (C) is invalid.

Do these kinds of supertasks pose any problem for the logical validity of Failure arguments generally? Fortunately not. Recall that in both Failure Schemas, the step from (5) to (C) relies on a suppressed premise, namely line (6) (see §2.3.2). In Zeno's cases, the relevant instances are the following:

- If Achilles has to traverse at least one distance to the Tortoise, and if he first has to traverse a regress of new distances in order to

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traverse any distance, then he will never traverse *any* distance to the Tortoise.

- If Achilles has to traverse at least one distance to the Tortoise, and if he always has to traverse a new distance in addition to traversing any distance, then he will never traverse *all* distances to the Tortoise.

I would like to suggest, now, that these lines fail to hold in Zeno's cases. Generally, if (certain) supertasks are possible, then this does not seem to form a problem for Failure inferences, but it does cast doubt on the general truth of these suppressed premises.

There might furthermore be an explanation of why instances of the suppressed (6) may fail in the case of supertasks. As noted, Failure arguments do not operate with a notion of time. For example, in the cases just set out Achilles will never reach his goal (in the Failure I or II meaning) in the sense that, given the regress, there are always further tasks to be accomplished to reach that goal. This holds whether or not those tasks take up time, and whether or not they take up the same amount of time (if they take up any time at all). For most regress arguments discussed in this dissertation this non-temporal kind of reasoning is well-suited, but this is not the case for supertasks: time plays a crucial role in the latter. Compare the following encyclopedia definition:

A supertask may be defined as an infinite sequence of actions or operations carried out in a finite interval of time. (Laraudogoitia 1999: §1.1)

The same holds for Zeno's cases. Achilles has to traverse the infinite number of distances within *a finite interval of time*. The Failure reconstructions just given are completely silent about that. Also, in these reconstructions nothing is said about Achilles' speed and that he will traverse the distances to the Tortoise in less and less amount of time (such that, in this sense, the problems generated in the regress become less and less important). Now, if this point is correct, then this might explain why (6) does not hold in the case of supertasks. Thus, to account for counterexamples to the step from (5) to (C) is to defend (6) (whenever possible). In §6.1.2, I will say some more about the connection between supertasks and Failure regresses.

To sum up, in order for a regress to be vicious by (Vic-F) and to entail a failure, the problems in it should not be identical, not be solvable at once, and not become less and less important.

### 3. Infinity

Must regresses be infinite to be vicious? Again, this depends on the schema in which the regresses are generated and on what, in this context, is meant by ‘viciousness’.

#### 3.1. Paradox infinity

All Paradox regresses are infinite, as the regress formulas of the Paradox Schema have infinite consequences. That is, in the case of Paradox regresses it holds that for *any* necessary condition generated in the regress there is another necessary condition. For any K that is F there is another K, not previously mentioned in the regress, that is F. Or again: it is not the case that for one K that is F there is not a further, new K that is F.

However: *must* Paradox regresses be infinite to entail an unacceptable result? Consider the following example:

- (a) Dispute  $d_1$  is settled.
  - (b)  $d_1$  is settled by a criterion  $c_1$ .
  - (c) Dispute  $d_2$  about  $c_1$  is settled.
  - (d)  $d_2$  is settled by a criterion  $c_2$ .
  - (e) Dispute  $d_3$  about  $c_2$  is settled.
- etc.

This regress entails an unacceptable result as soon as it violates the number of criteria that are in fact available. This easily shows that a Paradox regress need not be infinite to entail an unacceptable result, and so to be vicious (by (Vic-P)).

However, the fact that Paradox regresses need not be infinite to entail unacceptable results does not mean that they cannot entail unacceptable results thanks to their infinity. For example, paradoxes of infinity can only be worrisome for an infinite regress, not for a finite one. Here is one example of such a paradox (in terms of the beer regress from §1.2): How is it possible that when two persons both drink an infinity of beers, it could still be the case that one of them drinks more than the other? Here is a second one (a variant on Hilbert’s famous Hotel): How is it possible that when you have an infinite number of glasses and fill all of them with beer, it could still be the case that there are empty glasses?<sup>55</sup>

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<sup>55</sup> Moreover, if infinities are assumed to be absurd from the start (a minority position), then all Paradox regresses entail unacceptable results so long as they are infinite. For the notion of infinity generally, see e.g. Russell (1914), Priest (1995), and Oppy (2006).

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### 3.2. Failure infinity

All Failure regresses, too, are infinite, as the considered problem and solution (in combination with an extra premise) have infinite consequences. Namely, in the case of Failure regresses it holds that for *any* problem generated in the regress there is a solution, and for *any* generated solution there is another problem to be solved. Or again: it is not the case that for some problem generated in the regress there is no solution, and it is not the case that for some solution there is no new problem to be solved.

Now: *must* Failure regresses be infinite to entail that a given solution fails? Consider the case mentioned earlier in Failure-version:

- (a) You have to settle dispute  $d_1$ .
  - (b) You invoke a criterion  $c_1$  to settle  $d_1$ .
  - (c) You (first) have to settle dispute  $d_2$  about  $c_1$ .
  - (d) You invoke a criterion  $c_2$  to settle  $d_2$ .
  - (e) You (first) have to settle dispute  $d_3$  about  $c_2$ .
- etc.

Suppose this is a Failure I regress. Must this regress be infinite in order to entail that the considered solution to the problem of settling *all* disputes fails? On the one hand, it seems the regress need not be infinite, for it becomes clear after just a few steps that the problem will never be solved. At (c), another instance of the general problem (i.e. of settling all disputes) is entailed by the solution at (b). At (e), it turns out that a similar solution (d) will not change this situation and generates yet another instance of the general problem.

However, there is a counterexample to this thought. Suppose you would solve the problem as stated in (e) in a different way. For example, suppose you settle dispute  $d_3$  by rhetorical tricks, rather than on the basis of a new criterion. In that scenario, no new dispute is entailed, and your problem of settling all disputes is solved. This suggests that the Failure I regress has to be infinite in order to entail a failure, for counterexamples like this would be blocked if the regress were infinite (and a similar analysis applies to Failure II regresses).

Still, I think there is a clear sense in which Failure regresses need not be infinite (i.e. in order to entail a failure) *as well as* a clear sense in which Failure regresses need be infinite. On the one hand, Failure regresses need be infinite in the sense that for any problem there has to be a new problem that must be dealt with (e.g. that for any dispute that is to be settled there is a new dispute that must be dealt with). For this is exactly why failures follows from such regresses: solutions that fall prey to Failure regresses never succeed in solving the given problem because at no point in the regress will it be the case that there is no further problem that must be solved in order to succeed.

On the other hand, (a), (b), (c), etc. are arbitrary instances, that is, the reasoning works no matter the dispute one starts with. So if it follows from (a)-(c) that you have to settle a new dispute  $d_2$  if you have to settle  $d_1$ , then by Universal Generalisation we may immediately conclude that you will have to settle a further dispute for any dispute that you have to settle. This suffices to obtain a failure,<sup>56</sup> and indeed shows that Failure regresses need not be infinite (i.e. in order to obtain a failure, and be vicious by (Vic-F)) in this second sense.

Still, I have three qualifications. First, one might think that the solution fails as soon as the tasks exceed one's abilities. This might have all sorts of reasons: you might be unable to handle more than a certain number of beers given your physiological condition, or drinking more than a certain amount of beers might be too expensive, or might take too much time, etc. Any obstacle would do (practical or theoretical) that impedes your ability to complete the newly generated tasks. The point of Failure arguments, however, is precisely that you will never solve the initial problem (e.g. never quench all of your thirsty feelings) even if there are no such obstacles (see §2.3.2).

Second, something must be clarified here about 'never'. We may distinguish between a *temporal* and *structural* reading of this term:

- At no point in time do you solve the problem.
- At no point in the regress do you solve the problem.

The first reading assumes that the solutions take time, and must precede one another temporally. The second reading does not, which makes the latter weaker than the former. But is the stronger, first reading needed? Yalden-Thomson, for example, seems to suggest in the following that it is:

If, however, a proponent of Schools of Education were to argue that in order to qualify to teach, someone must teach you how to teach and he, in turn, must be taught by someone how to teach to teach to teach, etc., then a logically vicious regress is created: owing to the temporal factor, no one could ever teach. (1964: 509, cf. Rescher 2010: 23-7)

Here is a version of the example (just one version). Suppose you want to learn how to teach. As a solution, you consult an unqualified person who promises to teach you how to teach. Of course, this person, as she is unqualified, teaches you how to teach only if she herself learns how to teach how to teach. As a solution, you consult an unqualified person who is going to teach her how to teach how to teach. Regress. The conclusion: You will never learn how to teach if you look among unqualified teachers for anyone who has to learn how to teach.

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<sup>56</sup> See §2.3 for the formal details.

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The question is, then: Does it matter that consulting people takes time? Suppose for the sake of the issue that it does not take time (or that, if it does, an infinite amount of time is available). Suppose too that there is an infinity of unqualified persons around. The conclusion still follows: You will never learn how to teach if you look among unqualified teachers for anyone who has to learn how to teach, where 'never' means 'at no point in the regress as governed by lines (1)-(3) of the Failure Schema'. Even if the solutions take no time at all, at no point in the regress will it be the case that a solution (of consulting an unqualified person) entails no new, particular problem (of teaching an unqualified person how to teach) which must be solved in order for the initial one to be solved (i.e. the problem of my learning how to teach). If this is right, then regress arguments are not committed to the temporal reading of 'never'.<sup>57</sup>

Last qualification: this infinity issue got some attention in the literature, and I shall examine some discussion points in §6.1.<sup>58</sup>

#### **4. Circularity**

Regress arguments are sometimes accompanied by circularity arguments. Well-known examples include Sextus' Problem of the Criterion, Boghossian's Problem of Relativism, and Hume's Problem of Induction:

Can a warranting, contingent fact be justified inductively? In the case of a formal theory of induction, this horn of the dilemma yielded a circularity or an intolerable infinite regress. (Norton 2013)

However: regresses are not circularities. To explain the difference between regresses and circularities, let us consider the Problem of the Criterion (as construed by Amico 1993: 35-6). The scenario is that you have to decide whether a certain proposition  $p$  is true. You can do this critically, i.e. by a proof, or uncritically. If you do it uncritically, then your decision is arbitrary and will be discredited. But if you do it critically and use a criterion  $c_1$  to decide whether  $p$  is true, you need first to decide whether  $c_1$  correctly rules what is true and what is not. Again, there are two options: you can do this critically, or not. If the latter, your decision will be discredited. So you do it critically and have two options.

Option 1: You prove that  $c_1$  correctly determines what is true and what is not by showing that it gives the right results. In this case, you already know what is true and what is not (and hence whether  $p$  is true or not). But this is impossible, because we started from the situation where you still have to decide whether proposition  $p$  is true. This is a *circularity*.

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<sup>57</sup> This argument can be strengthened by the fact that my formalisations in §2.3 operate without temporal notions.

<sup>58</sup> One pertinent issue will be: If Failure regresses are infinite, then there is a solution for all problems, and in that case one may wonder why the solution fails.



Option 2: You prove that  $c_1$  correctly determines what is true and what is not by appealing to a meta-criterion  $c_2$  able correctly to determine what criteria correctly determine what is true and what is not. But now you need first to decide whether  $c_2$  correctly determines the correct criteria. Again, there are two options: you can do this critically, or not. If the latter, your decision will be discredited after all. So you do it critically and have two options. Either you prove that  $c_2$  correctly determines what is true and what is not by showing that it gives the right results, which again is a circularity. Or you prove that  $c_2$  correctly determines what is true and what is not by appealing to yet another meta-criterion,  $c_3$ . This is the *regress*.

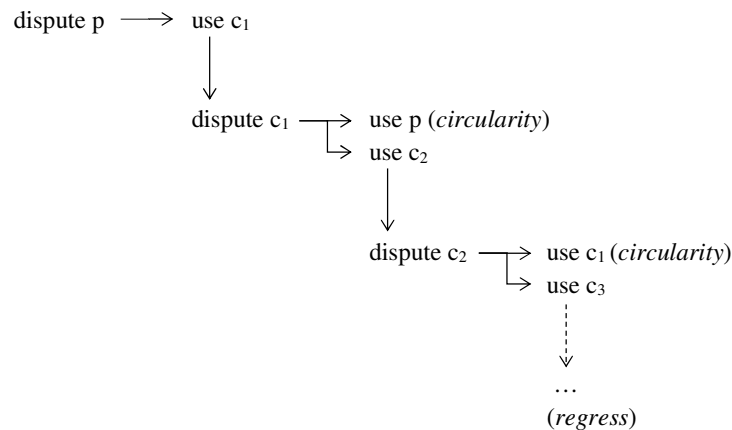


Figure 4: Regress vs. circularity

What, then, is the difference between a circularity and a regress? There are at least two important differences. First, the two have a slightly different structure. Circularities follow the following pattern. There is a problem (a): Define term  $x$ . Explain fact  $x$ . Argue for conclusion  $x$ . (a) is to be solved by a solution (b): Use  $x$  in the definition, explanation or argument. (b) does not work unless (a) is already solved: One cannot use  $x$  unless one has already defined, explained or argued for it. As we can see, this basic pattern works alike for circular definitions, circular explanations and circular arguments.

The Problem of the Criterion is somewhat more complicated as it uses two extra steps: There is a problem (a): Determine whether  $p$  is true. (a) is to be solved by a solution (b): Use  $c_1$ . (b) does not work unless a problem (c) similar to (a) is solved: One cannot use  $c_1$  unless one determines whether  $c_1$  is correct. (c) is to be solved by a solution (d): Use  $p$ . (d) does not work unless (a) is already solved: One cannot use  $p$  unless one determines whether  $p$  is true. But the pattern is the same. In general, a solution which falls prey to a circularity fails exactly because sooner or later it implies that the problem it is meant to solve is already solved. But as this solution was meant to be a

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solution for that very problem, the latter cannot already be solved, and so the solution fails.

Regresses, on the other hand, follow a slightly different pattern. There is a problem (a): Determine whether  $p$  is true. (a) is to be solved by a solution (b): Use  $c_1$ . (b) does not work unless a problem (c) similar to (a) is solved: One cannot use  $c_1$  unless one determines whether  $c_1$  is correct. (c) is to be solved by a solution (d): Use  $c_2$ . (d) does not work unless a problem (e) similar to (c) is solved: One cannot use  $c_2$  unless one determines whether  $c_2$  is correct. And so on.

The main structural difference between circularities and regresses, therefore, is the following. If a solution is *circular*, then it does not work unless the very *same* problem it attempts to solve is already solved. If a solution is *regressive*, in contrast, then it does not work unless problems *similar* to the one it attempts to solve are already solved.

The second significant difference between circularities and regresses is that the former are problems, whereas the latter are problem/solution pairs. More precisely, a circularity is a problem, and a regress (at least as understood within the Failure framework) is a never ending attempt to get rid of similar circularities (cf. Figure 4; cf. also Barnes 1990: 214, 216).<sup>59</sup>

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<sup>59</sup> Jacquette & Johnstone (1989) identify a similar duality, as they call it, between self-application paradoxes and infinite regresses.

§5  
*Applications*

*And So On*

In the following I show in more detail how the regress argument schemas can be used to clarify six important debates: the ethics of belief debate, the debate on rationality and the role played in it by Carroll's Tortoise, the debate on Epistemic Infinitism, the Sorensen/Sider controversy over the Access principle, Russell's defence of relations, and finally the controversy between Quine and Davidson concerning reference. I start by making explicit three sorts of general fallacies that may occur in any debate which centres on a regress argument.

## 5.1. Fallacies

In the following I will show how the schemas distinguished in this dissertation can be used to clarify existing debates centred on regress arguments. Specifically, I will show that there are three main points that may cause confusion. First, two parties may disagree on whether there is a vicious regress in the first place. Or, if they agree on this, they may disagree on the form the argument takes, i.e. whether it has a Paradox or Failure structure. Last, if they agree that it is a Failure argument, they may disagree on its strength, i.e. whether it has a Failure I or Failure II structure. These three points correspond to the following fallacies:

### *No Vicious Regress Fallacy*

When you criticise a view as if it were to generate a vicious regress (whether Paradox or Failure-wise), whereas your opponent need not accept this.

### *Paradox/Failure Fallacy*

When you criticise a regress argument taken Paradox-wise, whereas your opponent takes it Failure-wise. Or vice versa.

### *Failure I/II Fallacy*

When you criticise a regress argument taken Failure II-wise, whereas your opponent takes it Failure I-wise. Or vice versa.

One significant qualification is in order. According to the Charity rule, it is no mistake to take your opponent's argument in its strongest form, whatever the argument may be. To do this, indeed, is exactly what Charity motivates. In such a case, however, you might at least make it explicit that you are changing the argument. We shall consider the prospects of Charity soon (§6.2).

The first fallacy has been made explicit earlier in the literature on regress arguments (cf. Nolan 2001, Maurin 2007), and the latter two are my own contribution. I have implicitly stressed and provided illustrations of

these three sorts of fallacies throughout this dissertation. In the current part we shall consider six examples explicitly and in more detail. For example, we shall see that applications of Carroll's Tortoise commit the No Vicious Regress Fallacy, that Russell's defense of relations incorporates an ambiguity between Paradox/Failure, and that the controversy between Quine and Davidson on reference derives from a Failure I/II confusion (the latter were announced in §1.3.2). In each case the controversies or ambiguities can be resolved by showing that the incompatible claims rest on different arguments, and that sometimes they are not incompatible after all. Indeed, if there is to be a debate about anything, all interested parties have to agree on the argument that is at issue.

## 5.2. Regressive Pragmatism

Should the practical value of a belief enter into the evaluation of its rationality? Pragmatists say Yes, Evidentialists say No.<sup>60</sup> Consider the belief that this dissertation will be accepted by the reading committee, and suppose that this belief makes me really happy. Moreover, suppose for the sake of the thought experiment that the acceptance of this dissertation will make the whole world a better place (plenty of nice drinks and music, etc.). Should I adopt this belief, in order to be rational, even if its epistemic value is really quite low (i.e. even if I have no reason to think it will be accepted)?

Suppose that the practical value (PV) of a belief should indeed enter into the evaluation of its rationality, i.e. on top of its epistemic value (EV). This means that I should believe something iff the sum of its evidential credentials plus its expected utility outweighs the sum of the evidential credentials plus the expected utility of not having the belief in question:

- (R) For any belief  $x$ , I should believe  $x$  iff  $EV(Bx) + PV(Bx) > EV(\neg Bx) + PV(\neg Bx)$ .

According to this Pragmatist principle, I should believe that this dissertation will be accepted, given the scenario I sketched above. Yet, as Zemach (1997) showed, proponents of (R) have to deal with a regress argument. Here is my Failure II reconstruction:

### *Pragmatism (Failure II instance)*

- (1) For at least one belief  $x$ , I have to decide whether to hold  $x$ .
- (2) For any belief  $x$ , if I have to decide whether to hold  $x$ , then I apply (R) to  $x$ .
- (3) For any belief  $x$ , if I apply (R) to  $x$ , then I first have to decide whether to believe that  $PV(Bx) > PV(\neg Bx)$  in order to decide whether to hold  $x$ .
- (4) Regress:
  - (a) I have to decide whether to believe  $p_1$ , i.e. that this dissertation will be accepted.
  - (b) I apply (R) to  $p_1$ . [a, 2]
  - (c) I have to decide first whether to believe  $p_2$ , i.e. that  $PV(Bp_1) > PV(\neg Bp_1)$ . [b, 3]
  - (d) I apply (R) to  $p_2$ . [c, 2]
  - (e) I have to decide first whether to believe  $p_3$ , i.e. that  $PV(Bp_2) > PV(\neg Bp_2)$ . [d, 3]

And so on.

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<sup>60</sup> For an overview of the debate, cf. Marušić (2011).

- (5) For any belief  $x$ , I first have to decide whether to hold a regress of beliefs in order to decide whether to hold  $x$ . [4]
- (C) I will never decide whether to believe that this dissertation will be accepted (or anything else) if I apply (R) to a belief  $x$  every time I have to decide whether to hold  $x$ . [1-5]

This is a significant result, as it constitutes a serious problem for Pragmatism. Weintraub states the moral of this argument as follows:

Practical considerations [...] cannot be invoked. Or rather, if they are, no prescription can ever be engendered. (2001: 63)

Despite its significance, this result is not often discussed (exceptions are Weintraub and Percival, considered below). Moreover, there seems to be a serious problem with it: for one might readily design a similar argument against Zemach's own Evidentialism, i.e. against the view that does not accept practical reasons for belief (a view according to which, therefore, I should *not* believe that this dissertation will be accepted, given the circumstances). Zemach himself seems aware of this possibility (1997: 526-7), yet quickly sets it aside. Weintraub also considers this option, and concludes, by contrast, that even if one can block the argument against Pragmatism one cannot block the analogous argument against Evidentialism (2001: 65). So let us try to make things more precise, and identify the exact dispute.

There are two main structural differences between the initial argument against Pragmatism and the analogous argument against Evidentialism. First, the following Evidentialist principle substitutes for (R):

- (R\*) For any belief  $x$ , I should believe  $x$  iff  $EV(Bx) > EV(\neg Bx)$ .

Second, the following line substitutes for (3):

- (3\*) For any belief  $x$ , if I apply (R\*) to  $x$ , then I first have to decide whether to believe that  $EV(Bx) > EV(\neg Bx)$  in order to decide whether to believe  $x$ .

Again a regress is generated, and I have to decide whether to believe any member of the following series:

- $p_1$  This dissertation will be accepted.
- $p_2$   $EV(Bp_1) > EV(\neg Bp_1)$ .
- $p_3$   $EV(Bp_2) > EV(\neg Bp_2)$ .
- etc.

Again, the conclusion of the argument is that I fail to decide whether to believe anything. Now the question is: Why should this argument against

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Evidentialism fail whereas the initial one against Pragmatism does not? What is the difference?

Evidentialism's problem is basically this: that in order to apply (R\*), one needs already to hold a belief that certain facts about evidential credentials obtain. Yet, whether one should adopt any such belief itself depends, according to Evidentialism, on the belief's epistemic value. What is the epistemic value of the belief that  $EV(Bp_1) > EV(\neg Bp_1)$ ?

Well, its epistemic value is the same as the epistemic value of  $p_1$ , whatever that is. For to say that I think it is unlikely that [this dissertation will be accepted] (i.e.  $p_1$ ) is just to say that I think it is unlikely that [the epistemic value of  $p_1$  is greater than the epistemic value of  $\neg p_1$ ] (i.e.  $p_2$ ) (and indeed that it is unlikely that [the epistemic value of  $p_2$  is greater than the epistemic value of  $\neg p_2$ ], and so on). All problems generated in the Evidentialist's regress, therefore, seem to reduce to one problem (i.e. to one decision that is to be made), and so cause no worry for Evidentialism.

Matters are different for Pragmatism. In order to apply (R), one needs already to hold a belief that certain facts about expected utility obtain. Yet, whether one should adopt any such belief itself depends, according to Pragmatism, on the belief's practical value (at least in part). What is the practical value of the belief that  $PV(Bp_1) > PV(\neg Bp_1)$ ?

Unfortunately, this cannot be determined on the basis of the practical value of  $p_1$ . It might be likely for me that the practical value of believing that this dissertation will be accepted is greater than the practical value of not believing this, if I am fully aware of the circumstances. Yet, likelihood concerns epistemic value, not practical value. Who knows the expected utility of the belief that  $PV(Bp_1) > PV(\neg Bp_1)$ ? Will this belief make me happy? Will it make the world a better place? These matters should be determined separately, and so on into the regress.

Hence it could be shown that only Zemach's initial argument against Pragmatism holds water. The parallel argument against Evidentialism (endorsed by Weintraub) fails because of considerations identified in §4.2.2: For any Failure argument to go through, the regress at hand should consist of problems that are distinct.

To be sure, Pragmatism still has some options. First, if Pragmatism applies only to ordinary beliefs, and not beliefs about expected utility, then the regress could be blocked. Still, though, in that case Pragmatism would need to find some motivation for why line (2) of the regress argument does not hold in its unrestricted version, which seems no trivial task (cf. Zemach 1997: 527, Weintraub 2001: 64, Percival 2011: 139-40).

Second, one could object that Pragmatism is not correctly captured by line (2). The latter states that in deciding whether to hold a belief, one needs to apply a rule to it, i.e. the rule (R), and do so consciously at that. Yet as Percival (2002: 139) argues, it is also possible for Pragmatism to say that in deciding whether to hold a belief one need merely proceed in accordance with (R), and need not consciously apply the rule. By this proposal, then, it would be rational for me to adopt the belief that this dissertation will be



## APPLICATIONS

accepted, as this accords with (R) even if I cannot determine that I am rational in this case. In my opinion this is a drawback, but it is a second way in which Pragmatism can resist the regress.

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### 5.3. Carroll's Tortoise

Suppose I intend to finish this dissertation today, that I believe this requires me to stay home tonight, and yet that I refuse to intend to stay home (while sticking to my initial intention and belief). I am being irrational. To be rational is to have at least a consistent set of propositional attitudes (beliefs, intentions, etc.). Yet it is not wholly clear that my three attitudes here are inconsistent. Some extra story must be supplied to clarify what sorts of attitudes cannot be combined on pain of irrationality. The question is what licences the step from (A) and (B) to (Z):

- (A) I intend to finish this dissertation today.
- (B) I believe that this requires me to stay home.
- (Z) I ought to intend to stay home.

Here is another example adapted from Blackburn (1995: 708):

- (A) The Tortoise intends to get the lettuce.
- (B) The Tortoise believes that getting the lettuce requires her to move to the other side of the street.
- (Z) The Tortoise ought to intend to move to the other side of the street.

Why should I and the Tortoise accept (Z) given (A) and (B)? There are two classes of possible solutions. Either we have to accept (Z) because of an extra premise (which specifies that we should take the supposed necessary means to our intended ends), or because of a rule which takes us directly from (A) and (B) to (Z) (cf. Schwartz 2010: 89-90). There are, related to this, various kinds of regress worries, and in the following I will focus in particular on one regress argument from the literature meant to demonstrate that a variant of the rule solution fails. This solution, specifically, which I will call the 'Internal Rule' solution, states that I and the Tortoise must accept (Z) on the basis of (A) and (B) along with our pro-attitude towards the rule of instrumental rationality, stated as follows:

- (R) S intends to  $\phi$ ; S believes that  $\phi$ -ing requires S to  $\psi$   $\vdash$  S ought to intend to  $\psi$ .

The status of this rule is meant the same as that of Modus Ponens and the other familiar rules of inference. By (R), (Z) follows logically from (A) and (B). Furthermore, the Internal Rule solution proposes that (R) is not in force unless the person who has the intention in (A) and belief in (B) also has a pro-attitude towards (R). For me (or for the Tortoise) to have a pro-attitude towards this rule means not only that I reason in accordance with (R) (which might be coincidental or just a regularity), but that I let my reasoning be

governed by (R), i.e. that I have a desire to comply with (R) and to apply the rule to (A) and (B).

According to Dreier (2001: 38-42) and Brunero (2005: 561-4), the Internal Rule solution falls prey to a regress. Basically, the suspicion behind the regress argument suggested by Carroll's Tortoise is that whatever is to govern our attitudes must not be something additional to our attitudes. For if our actual attitudes do not suffice for our obligations, then why suppose that additional attitudes (pro-attitudes in this case) will be of any help? Compare Carroll's initial case: the suspicion is that whatever is to take us from premises to a conclusion should not itself be an extra premise. For, again, if any given set of premises fails to entail a conclusion, why suppose additional premises will help? (cf. Thomson 1960, Clark 2002: 87-8)

Still, the question is how this line could be made precise, and next I will show that the regress that Dreier and Brunero have in mind is in fact not generated. The Failure II reconstruction would run along the following lines:

*Instrumental Tortoise (Failure II instance)*

- (1) You have to accept an attitude (e.g. the intention to move to the other side of the street; 'I' in short) given at least one set of other attitudes that you have.
- (2) For any set of attitudes x, if you have to accept I given x, then you have a pro-attitude towards a rule that commits you to I given x.
- (3) For any set of attitudes x, if you have a pro-attitude towards a rule that commits you to I given x, then you first have to accept I given another set of attitudes y, i.e. the set of x plus that pro-attitude, in order to accept I given x.
- ...
- (C) If you have a pro-attitude towards a rule whenever you have to accept I given any set of attitudes, then you will never accept I given any set of other attitudes that you have. [1-5]

This is the conclusion that Dreier and Brunero draw from the regress: Pro-attitudes are useless to make one accept certain attitudes given other attitudes that one has.

This conclusion cannot be reached from (1)-(3), however, as (3) fails to hold. Or at least: the Internal Rule solution subscribes to (2), but need not be committed to (3) as well. The Internal Rule says, simply, that if you need to accept the intention to move to the other side of the street given your intention to get the lettuce and your belief that this requires you to move to the other side of the street, then you have a pro-attitude towards (R). That is, in that case you have a desire to comply with the rule which takes you from your initial two attitudes to the new one.

However, it does not also say (or need to concede) that your obligation to accept a new attitude given a set of attitudes depends on a

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further obligation to accept that attitude given a bigger set of attitudes, i.e. comprising that pro-attitude. Surely, if you would have the latter obligation as well, then by (2) you would appeal to further pro-attitudes, i.e. pro-attitudes to follow the following series of rules:

(R\*) S intends to  $\phi$ ; S believes that  $\phi$ -ing requires S to  $\psi$ ; S has a pro-attitude towards (R)  $\vdash$  S ought to intend to  $\psi$ .

(R\*\*) S intends to  $\phi$ ; S believes that  $\phi$ -ing requires S to  $\psi$ ; S has a pro-attitude towards (R); S has a pro-attitude towards (R\*)  $\vdash$  S ought to intend to  $\psi$ .

etc.

This whole series is irrelevant, however, so long as you do not have to accept the intention to move to the other side of the street because of all those pro-attitudes. Moreover, if (3) fails then no regress is generated and then the argument cannot be used against Internal Rule.<sup>61</sup>

Generally, the fallacy I have stressed here and in the previous section is the No Vicious Regress Fallacy: One should not criticise a view by saying that it has problematic, regressive consequences, if in fact it has no such consequences (or, at least, does not have them so long as further things are not debated first).

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<sup>61</sup> No analogous problem arises for the Failure II construction of Carroll's initial case provided in §3.4.2, where its line (3) does seem plausible if (2) is in place. For further discussion and context of this new Tortoise problem, cf. Wieland (2013c).

## 5.4. Epistemic Infinitism

No regress has received more attention than the *regress of reasons*. Consequently, all possible aspects of the Paradox and Failure I and II variants of the regress argument have in fact been discussed or at least mentioned in the literature. In the following I will explain why it is useful to clearly separate Paradox, Failure I and Failure II issues. Unless noted otherwise, in my discussion I will be speaking about propositional rather than doxastic justification. That is, I will be concerned with the conditions under which someone is justified in believing a proposition, whether or not that person actually believes that proposition (cf. Klein 2007: 6).

*The Paradox debate.* A proposition is justified to someone when certain conditions are fulfilled. According to Infinitism, a proposition is justified to a subject S only if there is a reason for that proposition, a reason for that reason, and indeed an infinite series of reasons, and only if all of them are available to S. Consequently, if such a series is not available, the proposition is not justified to S. Opponents of Infinitism have argued that these requirements are incorrect, given that justification hardly ever obtains in such circumstances. How can there be an infinity of relevant reasons? How can they all be available to S?

Infinitists have two options at this point. Either, first, they can argue that all necessary conditions obtain in certain cases after all (not only trivially, of course, for in that case any arbitrary proposition could be justified to S). Or else, second, they can bite the bullet and defend the claim that the Infinitist's conditions on justification are the right ones, and that, if it so happens that they are not fulfilled, then it so happens that justification nowhere obtains. In sum, this first debate centres on the question of whether or not the Infinitist's conditions on justification are problematic.

*The Failure debate.* A proposition is justified to someone depending on one's strategy in accomplishing the task. According to Infinitism, the strategy is to appeal endlessly to reasons which themselves must be justified by further reasons. As there is always some further reason to be justified in order for any single proposition to be justified, one will never justify any proposition. Opponents of Infinitism have complained that this must be the wrong strategy, given that, on its basis, justification is never reached. Indeed, the Foundationalist's strategy is to stop the regress of reasons at basic beliefs which need no further reasons to be justified. And the Coherentist's strategy is to admit circular reasoning or else to drop local justification altogether in favour of a more holistic viewpoint (according to which a proposition is justified when it can be shown that one's total system of beliefs is more coherent with that proposition than without).

Infinitists, again, have two options at this point. Either, first, they can argue that the Infinitists' strategy is successful in certain cases after all (and not just trivially successful, again, for in that case one could justify any

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arbitrary proposition). Or else, second, they can bite the bullet and defend the claim that the Infinitist's strategy is the only right one, and that if it so happens that it does not do what it seemingly has to do (i.e. justify propositions), then it so happens that this task of gaining justification is nowhere ever accomplished. In sum, this second debate centres on the question of whether or not the Infinitist's strategy to reach justification is problematic.

The difference between these two debates is clear: The first centres on the Paradox reconstruction, and the second on the Failure II reconstruction (both reconstructions are provided above in §3.4.1). It is important, accordingly, to keep these two apart, as one cannot criticise or defend Infinitism only by discussing the Paradox debate. Let me explain.

A common worry about Infinitism is that we, i.e. human beings with limited mental capacities, can never have an infinity of reasons available to us. This worry has been countered by Klein (1999: 306-10). According to him, reasons can be available to a person in two ways, i.e. objectively and subjectively, and both of these are required for justification. A reason is subjectively available to S if it is, in some sense, among S's beliefs. A reason is objectively available to S, by contrast, if it does indeed support the proposition for which it is a reason, whether or not it is linked in any way to S's beliefs. Clearly, the latter kind of availability is unproblematic to the extent that it has nothing to do with S's limited mental capacities. And neither is the former, subjective kind of availability problematic, so long as it does not require that the infinite set of reasons be entertained consciously in one's mind.

Still, a defense of Infinitism requires more than this. For Klein's argument here serves to show only that, if it is successful, Infinitism can overcome one Paradox argument. Yet, first, there may be other Paradox arguments which show that other aspects of Infinitism's requirements on justification are problematic. And furthermore, second, there is the Failure argument which relies on no such step at all. The Failure argument against Infinitism, which Klein calls the 'Specter of Scepticism' (1999: 312), basically holds that even if all necessary conditions for justification are unproblematic (i.e. even if Infinitism can overcome all objections in the Paradox debate), and so even if all these conditions may well be in place, still justification may never be reached via the Infinitist's strategy.

Next I will clarify the Failure argument and defend it from some objections. Before invoking the Failure Schemas, I will take up the discussion between Gillett (2003) and Klein (2003). Their overall positions are basically the following: Gillett challenges that justification can be reached via a regress of reasons, while Klein defends Infinitism against this objection. Consider the following principle from Gillett (2003: 712):<sup>62</sup>

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<sup>62</sup> I have simplified it somewhat: 'IV' derives from 'in virtue of' which is to mean the same as 'depending on'.

IV Anything of a certain kind has a property H depending on another item of that kind having H.

In the Infitism debate, ‘H’ is the property of being justified, and the things at issue propositions, such that the instance of IV becomes: Any proposition is justified depending on another, distinct proposition being justified. Clearly, this seems to generate a regress as soon as one considers the justification of any arbitrary proposition:

p<sub>1</sub> is justified depending on p<sub>2</sub> being justified;  
 p<sub>2</sub> is justified depending on p<sub>3</sub> being justified;  
 p<sub>3</sub> is justified depending on p<sub>4</sub> being justified;  
 etc.

Following Gillett, let us call any regress governed by an instance of IV a ‘IV regress’. Here is their controversy about such regresses:

The question consequently arises how it could ever come to pass that any member of the chain has the property H? (Gillett 2003: 713)

But the IV regress is not designed to answer that question. It is designed to answer the quite different question ‘How does it come to pass that each member of the chain – taken individually – has property H?’ (Klein 2003: 729)

In terms of the case at issue, the controversy is the following. Gillett asks: How could it ever be that any proposition (in a IV regress) is justified? Klein rebuts: This is the wrong question. The right question is: How could it be that each proposition (in a IV regress) is justified? And the latter question, according to Klein, has an easy answer: Each proposition is justified simply thanks to the next member of the chain of propositions being justified. Furthermore, he argues that questions like ‘How could it be that all propositions in an IV regress, taken collectively, are justified?’ are wrongheaded, as they are asking for nothing other than a Prime or Unmoved Mover. Compare: How could it be that all events in an IV regress, which are one another’s causes, taken collectively, exist? Because of God? To ask for such starting points is bad not because there are no such starting points, but because the question already assumes Foundationalism and begs the question against Infitism.

Klein’s response may look sensible, and it has been taken to be sound by Aikin (2011: 52-7) and Bliss (2012) (cf. also Orilia 2006: 232, Peijnenburg & Atkinson 2008: 336). In my view, however, Gillett’s worry (which he calls the Structural Objection) is a real challenge, and does not fail for the explanation provided by Klein: I do not think that Gillett implicitly

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assumes an Unmoved Mover. To see this, three questions may be distinguished:

- How is at least one member of an IV regress H?
- How are all members of an IV regress, taken individually, H?
- How are all members of an IV regress, taken collectively, H?

These questions are clearly distinct. Klein assumes that Gillett is concerned about the third question, yet on what seems to me the most interesting reading of Gillett's challenge the first question is far more important. Gillett does not ask, that is, 'How are *all* propositions in an IV regress, taken collectively, justified?' but rather 'How is at least *one* proposition in an IV regress justified?'. Furthermore, this last question does not fall prey to the Unmoved Mover objection, i.e. it does not assume that there is a first proposition which is the source of all justification.

Compare Juvenal's case. The corresponding IV instance would read as follows: Any guardian is reliable depending on the next guardian being reliable. If we ask, 'How are all guardians, taken collectively, reliable?', it is tempting to appeal to someone who is the source of all reliability, and not itself not dependent for its reliability on anyone else being reliable. Yet if instead we ask, 'How is at least one guardian of the series reliable?', then it is not clear what to say. If *all* guardians are reliable only so long as further guardians are reliable, then how does the reliability of *any one* of them come into the picture at all? Again it may be tempting to appeal to a Prime Guardian.<sup>63</sup>

This assessment is mistaken, however, as it turns the dialectic on its head. The problem in itself (i.e. how to make sure that at least someone is reliable) does not assume that only a Prime Guardian can be the answer to it. The point, rather, is that Infinitist solutions are bad ways of responding to such problems. This can easily be seen if we reconsider the reasoning in Failure II format:

*Guardians (Failure II instance)*

- (1) You have to be sure for at least one person that she is reliable.
- (2) For any person x, if you have to be sure that x is reliable, you hire a guardian for x.
- (3) For any persons x and y, if you hire a guardian y for x, then you first have to be sure that y is reliable in order to be sure that x is reliable.
- ...
- (C) You will never be sure that anyone is reliable if you hire a guardian every time you have to be sure that someone is reliable.  
[1-5]

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<sup>63</sup> Cf. the analogy of royal people in Brzozowski (2008: 200).



Therefore, if you want to have your girlfriend guarded because you suspect her of being unreliable, this argument demonstrates that your intended solution will not work. And one cannot save the solution, i.e. line (2), by saying that the problem, i.e. line (1), already assumes a Prime Guardian. For it assumes no such thing, and admits of all sorts of other solutions, as there are various other ways (other than hiring an endless series of unreliable guardians) to make sure that people are reliable: you can lock them up, keep them under camera surveillance, start a normal relation with them, etc. Now if we replace ‘having x guarded’ with ‘having x justified’, and replace persons with propositions, we can set up a similar argument against Infitism:

*Justification (Failure II instance)*

- (1) You should have at least one proposition justified.
- (2) For any proposition x, if you should have x justified, you have another proposition available which is a reason for x.
- (3) For any propositions x and y, if you have a reason y for x available, then you first should have y justified in order to have x justified.
- ...
- (C) You will never have any proposition justified if you have a reason available every time you should have a proposition justified. [1-5]

Infitism is the position which proposes line (2). Klein (2007: 5-6) defends this line by saying that all our justified beliefs need a reason because that is what makes us epistemically responsible (if they have no reason, then it is irresponsible to hold them). Aikin (2011: ch. 5) defends (2) by saying that all our justified beliefs need a reason because that is what makes us non-dogmatic (if they have no reason, it is dogmatic to hold them).

The conclusion of this Failure II argument is that Infitism, i.e. the view that maintains (2), cannot explain how even one proposition is justified to someone. This, I think, is how Gillett’s worry should be spelled out. Furthermore, my point here is that one cannot save Infitism by saying that the problem in (1) (i.e. to have at least one proposition justified) assumes that only a Prime Proposition can be the answer to it. For it assumes no such thing, and admits other solutions (such as Foundationalist or Coherentist solutions), i.e. that do not suffer from a Failure II attack.

If we set the suppressed premises aside,<sup>64</sup> then there are just two ways for Infitists to counter the argument: by denying premise (1) or premise (3). The first strategy might be promising for those who believe that justification is not something that needs to be shown (cf. Alston 1985, Rescorla 2009, 2013). For clearly, the Failure attack relies on the assumption

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<sup>64</sup> But cf. §4.2.2 above.

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that justification is an activity, i.e. something that has to be accomplished. If this assumption is denied, and justification is conceived as something that, so to speak, might just happen to you, then the attack fails.

Two qualifications. First, the state/activity distinction was designed to support Foundationalism about perceptual belief, not Infitism. The suggestion was that I could be justified in believing that I have a hand if I see that I have a hand, even without doing anything to show or convince others (or myself) that I have a hand. The suggestion was not that I could have an endless series of reasons for my belief that I have a hand without doing anything. Second, even if the state/activity distinction is in place, it is still possible to launch another Failure attack on Infitism that starts from the problem ‘You have to *show* for at least one proposition that it is justified to you’ and concludes that Infitism will never show that anyone is justified in believing anything under its conditions.

Next, in order to evaluate (3), it is worth comparing this Failure II attack on Infitism with its Failure I counterpart (i.e. which does not make use of premise (3)):<sup>65</sup>

*Justification (Failure I instance)*

- (1\*) You should have all of your beliefs justified.
- (2\*) For any belief x, if you should have x justified, you have a reason for x available.
- (3\*) For any belief x, if you have a reason y for x available, then y is among your beliefs.
- ...
- (C\*) You will never have *all* of your beliefs justified if you have a reason available every time you should have a belief justified. [1\*-5\*]

Clearly (C\*) is weaker than (C) (though still problematic for Infitism). If it has already been shown that Infitism fails to explain how you have anything justified, then it need not also be shown that Infitism fails to explain how all of your beliefs are justified.

The main difference is to be found in line (3) of the arguments. Suppose you want to be justified in believing a proposition  $p_1$ . In that case, you trace a reason  $p_2$  for  $p_1$ . As line (3) of the Failure II reconstruction has it, you should not only have  $p_2$  available, but should have a justification for  $p_2$  as well (and eventually justifications for  $p_3$ ,  $p_4$ , etc.). This is not required by (3\*) of the Failure I reconstruction. Of course, by the latter in combination with (1\*) you will have to justify an endless series of beliefs as well, but these problems are independent of the problem of justifying  $p_1$ .

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<sup>65</sup> For the moment I am switching to doxastic justification in order to render (1\*) credible. It is plausible to suppose that all our beliefs need a justification, though not to suppose that all propositions whatever need a justification. But, of course, this is not the difference I am stressing here, which is the difference between (3) and (3\*).

Why should the stronger (3) apply? One motivation might be the following: that one should have a justification for  $p_2$  in order to have a justification for  $p_1$  if the role of this justification (i.e. for  $p_2$ ) is to settle disputes about  $p_1$ . Suppose some interlocutor questions  $p_1$  (and possibly upholds  $\neg p_1$  for such and such reasons), and suppose you justify  $p_1$  by appealing to  $p_2$ . Now suppose further that you have no justification for  $p_2$ . In that case, your interlocutor may disregard  $p_2$  as arbitrary, and hence likewise disregard your justification for  $p_1$ . According to this dialectical take on justification, (3) of Failure II holds.<sup>66</sup>

Now, if both (1) and (3) hold, the argument against Informatism seems quite a good one (at least for one who wishes to remain non-sceptical about justification). Moreover, the Failure attack applies regardless of any worries we may have related to the Paradox reconstruction (e.g. about our mental capacities). Here we have, then, my first extended illustration of the point that it is useful to keep Paradox, Failure I and Failure II issues apart.

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<sup>66</sup> For further considerations, cf. Cling (2004, 2008, 2009).

## 5.5. Access Principle

We have many obligations. I, for one, have the obligation to work on my dissertation, to refrain from making too much noise in the office, to have true beliefs about where my office is, to drink fair-trade coffee, to call my mother, etc. Surely there are restrictions on what we ought to do. One such candidate restriction is epistemic of sort:

Access For any obligation  $x$ , one has  $x$  only if one can know one has  $x$ .

Let us consider the example from Sorensen (1995: 254): I am obliged to donate some of my inheritance to charity only if I can know I am obliged to donate. This appears plausible. For if I am in no position to find out that I am obliged to donate, then why should one expect me to donate? Importantly, Access does not say that we *actually* have to know our obligations, but it is only required that it is *possible* to know them. Surely I might be very ignorant (e.g. if I lack any kind of curiosity), yet this does not excuse me from my obligations insofar as Access is concerned.

Still, Sorensen argues against Access because it ‘dumbs down ethics’ (among other considerations). To see this, consider the following consequence of Access: If one cannot know one has a certain obligation, then one does not have that obligation. Moreover: If one eliminates one’s possibility to know whether one has an obligation, then one eliminates one’s (potential) obligation. So, if I burn the will before reading whether I am obliged to donate, then (assuming the will was my only access) I eliminate my obligation to donate. In general, Access might be abused by shirkers who avoid their obligations by eliminating their possibility to know them. This is a bad consequence of Access.

In response, Sider (1995: 278) suggests that this problem does not follow if we assume that one cannot just eliminate one’s possibility to know things. That is, one has the obligation to refrain from making it impossible to know one’s obligations.<sup>67</sup>

According to Sorensen, in turn, this solution will not do as it invites a regress. Consider the fact that, by Access, one has the obligation to refrain from making it impossible to know one’s obligations only if that further obligation itself is knowable. Now consider the problem with the shirker again. Surely she will work herself in such a situation that this new obligation is not knowable to her. The question is: How can we say that she is doing something wrong here, given that we are proponents of Access?

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<sup>67</sup> At one point, Sorensen (1995: 255) considers the stronger, alternative obligation that we ought to *learn* our obligations. Here, I will stick to Sider’s weaker suggestion, as that will do to discuss the regress worry.

Should we again say that she ought to refrain from making it impossible to know her new obligation? This, indeed, lands us in a regress.

Now, Sorensen and Sider agree that there is a regress, but only the former takes it as a problem for Access. Here is the situation according to Sorensen. Scenario 1: I ought to donate. As a shirker, I make it impossible to know this obligation. This is possible by Access and there is no explanation of where I go wrong. Scenario 2: I ought to refrain from making it impossible to know whether I ought to donate. As a shirker, I make it impossible to know this new obligation. This is possible by Access and there is no explanation of where I go wrong. And so on.

Sider disagrees with this picture. According to him, the situation is rather the following. Scenario 1: I ought to donate. As a shirker, I make it impossible to know this obligation (let us label it 'o<sub>1</sub>'). Where do I go wrong? I violate the following obligation o<sub>2</sub>: I ought to refrain from making it impossible to know whether I have o<sub>1</sub>. Scenario 2: As a Shirker, I also make it impossible to know whether I have o<sub>2</sub>. Where do I go wrong? I violate the following obligation o<sub>3</sub>: I ought to refrain from making it impossible to know whether I have o<sub>2</sub>. And so on. In contrast to what Sorensen suggests, each time there is an explanation of where I go wrong. Sider concludes that none of these scenarios puts any pressure on Access:

At best, the regress consists of an infinite sequence of cases, none of which refutes Access. (1995: 279)

Now the question is: Who is right? Is Access a good restriction on our obligations, or not?

In the following I shall invoke the regress argument schemas, and on the basis of a Paradox reconstruction argue that Sider is right that in a certain sense the regress is harmless. After that, on the basis of a Failure reconstruction I also show that there remains a serious worry about Access. First, the Paradox reconstruction:

*Access (Paradox instance)*

- (1) For any action x, S ought to perform x only if S can know she ought to perform x.
- (2) For any action x, S can know she ought to perform x only if S ought to refrain from making it impossible to know whether she ought to perform x.
- (3) S ought to perform at least one action.
- (4) Regress:
  - (a) I ought to donate.
  - (b) I can know I ought to donate. [a, 1]
  - (c) I ought to refrain from making it impossible to know whether I ought to donate. [b, 2]

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- (d) I can know I ought to refrain from making it impossible to know whether I ought to donate. [c, 1]
  - (e) I ought to refrain from making it impossible to know whether I ought to refrain from making it impossible to know whether I ought to donate. [d, 2]
- And so on.
- (5) I have an infinity of obligations, and can know all of them. [3, 4]
  - (6) This is absurd.
  - (C) (1) is false: It is not the case that for all actions x, S ought to perform x only if S can know she ought to perform x. [1-6]

This forms a direct argument against Access, at least in its universally quantified version. If (2), (3) and (6) are true, then (1), i.e. Access, is false. Is it sound?

In my view this is not the case, because (6) is highly controversial. The reason, here, is that obligations and possibilities of knowing often come for free. Why should there be any limit to the obligations that I have? This is a serious worry because I can easily respect *all* obligations generated in the regress in one go, namely by donating some of my inheritance to charity. Also, why should there be any limit to the things I can possibly know? Again, this is a serious worry because if I am in the position to know the general truth (if it is a truth) that I ought to refrain from making it impossible to know whether p (for an arbitrary instance of 'p'), then I am in the position to know the truth of all its instances (including those generated in the regress).

If this reasoning is right, then (6) is false, the regress at hand non-vicious,<sup>68</sup> and then Access cannot be refuted on the basis of this argument. Moreover, this would provide additional support for Sider's position in this debate.

Still, there remains a worry about Access, namely that Sider's attempt to catch the shirker, i.e. his attempt to show that one cannot abuse the Access principle, fails. This worry can be phrased nicely in Failure terms:

*Access (Failure II instance)*

- (1) For at least one obligation of the shirker x, you have to secure x.
- (2) For any obligation x of the shirker, if you have to secure x, then you appeal to an obligation to refrain from making it impossible to know x.
- (3) For any obligation x of the shirker, if you appeal to an obligation y to refrain from making it impossible to know x, then you first have to secure y in order to secure x.
- (4) Regress:
  - (a) You have to secure her obligation to donate.

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<sup>68</sup> On (Vic-P), see §4.2.2.

- (b) You appeal to her obligation to refrain from making it impossible to know her obligation to donate. [a, 2]
  - (c) You have to secure first her obligation to refrain from making it impossible to know her obligation to donate. [b, 3]
  - (d) You appeal to her obligation to refrain from making it impossible to know her obligation to refrain from making it impossible to know her obligation to donate. [c, 2]
  - (e) You have to secure first her obligation to refrain from making it impossible to know her obligation to refrain from making it impossible to know her obligation to donate. [d, 3]
- And so on.
- (5) For any obligation x of the shirker, you first have to secure a regress of obligations of the shirker in order to secure x. [4]
  - (C) If you appeal to an obligation to refrain from making it impossible to know her obligation every time you have to secure one, then you will never secure any obligation of the shirker. [1-5]

This regress argument appears sound.<sup>69</sup> It proves that consequent shirkers form a problem for Access.

At one point, Sorensen (1995: 255) and Sider (1995: 279) suggest that we need not take such shirkers seriously. For what might it mean, for instance, to violate one's obligation to refrain from making it impossible to know one's obligation to refrain from making it impossible to know one's obligation to donate (see line (d) in the reconstruction above)? But I am inclined to disagree here. For if we link our obligations with issues of responsibility, and say that we are responsible (and possibly blameworthy) for what we do only if we are in the position to know our obligations, then based on the loophole just identified, I could make it the case that I am never responsible and to be blamed for what I do. If this is right, then Access is no good restriction on our obligations after all.

In any case, this Sorensen/Sider debate is another extended example of where it proves useful to separate Paradox and Failure concerns.

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<sup>69</sup> Nevertheless, premise (3) deserves further discussion.

## 5.6. Russell's Relations

Before Russell, the view prevailed that all relations are in fact properties of their relata. The relation of greater-than between me and the universe, for example, was conceived to be nothing but our size properties. Russell defended the new, incompatible view that an important group of relations do not behave in this way. This was a major achievement in the history of philosophy.<sup>70</sup> Aside from certain selected philosophers (e.g. Campbell 1990: 101-4), virtually everyone today accepts Russell's conclusion (cf. Mulligan 1998: 325-7).

Russell's main argument was a regress argument. In the following, I basically show that this argument is ambiguous as it has two different conclusions, but demonstrate how both can be drawn if the regress argument is set up in two different ways (i.e. Paradox vs. Failure-wise).

In order to explain Russell's argument, we should first be clear on some terminology. Specifically, two pairs of distinctions are relevant: relations can be internal or external, and reducible or irreducible. The view that Russell is attacking, which he called *Monadism*, is the view that all relations are internal and reducible. In Russell's view, some relations are external and irreducible. Examples of the latter class include the relations of part and whole, before and after, greater and less, and cause and effect (1899: 139).

Importantly, externality and irreducibility do not coincide, and neither do internality and reducibility. Here are two definitions. For all items  $x, y$  which stand in a relation  $R$ ,

- $R$  is *internal* iff there are corresponding properties  $F$  and  $G$  such that  $x$  is  $F$  and  $y$  is  $G$  (and otherwise external).
- $R$  is *reducible* iff there are corresponding properties  $F$  and  $G$  such that  $R$  is nothing but  $F$  of  $x$  and  $G$  of  $y$  (and otherwise irreducible).

The first distinction derives from Russell (1899: 143, 1903: §214, cf. Bradley 1893: 514), and the second from Russell (1906-07: 41, 1959: 54-5). (Note that in both cases the definitions are restricted to *Monadism*. Russell also considers another theory of relations, i.e. *Monism*, which reduces  $R$  not to distinct properties of  $x$  and  $y$  but rather to a single property of the sum of  $x$  and  $y$ . In order to discuss the regress argument against *Monadism*, I will ignore the *Monist* view in what follows.)

The main difference between the two, reducibility and internality, is that the reducibility claim is stronger than the internality claim. That is, even if all relations are internal and imply that their relata have corresponding properties, then still it may be the case that they are not reducible to those

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<sup>70</sup> For a historical reconstruction, cf. Griffin (1991: ch. 8).



properties. As I shall argue in the following, Russell's argument against Monadism can be spelled out both as an argument against the claim that all relations are internal (and none external) and as an argument against the claim that all relations are reducible.

Here is one of Russell's examples: a is earlier than b. If the earlier-than relation is internal, there should be corresponding properties F and G such that a is F and b is G. If the earlier-than relation is also reducible, it is nothing but F of a and G of b. What might F and G be in this case? Russell considers two options.

First option: 'F' stands for the property 'being earlier than b', and 'G' for the property 'being later than a', such that a has the property of 'being earlier than b', and b has the property of 'being later than a'. This option may have some initial plausibility, but Russell quickly dismisses it as follows: properties like 'being earlier than b' involve reference to another item (b, in this case), and if properties involve such references they are properties relative to those items, and so involve relations to those items (1903: §214).

Second option: 'F' stands for 'existing at  $t_1$ ', and 'G' for 'existing at  $t_2$ ', such that a has the property of existing at  $t_1$ , and b has the property of existing at  $t_2$ . Here we meet Russell's regress argument, which he repeats in several places. Perhaps its clearest expression is here:

You may say that the date of a is a property of a and the date of b is a property of b, but that will not help you because you will have to go on to say that the date of a is earlier than the date of b, so that you will have found no escape from the relation. (1959: 54-5)

Why is it the case that the dates of a and b stand in an earlier-than relation if a and b themselves do not stand in it? Russell's motivation is the following (1903: §214). The earlier-than relation between a and b is asymmetric. If you reduce this relation to the properties of a and b, then the only remaining relation between a and b will be 'difference in property', which is symmetric. But the feature of asymmetry should be retained, for without it ordered series such as numbers, space, time, etc. are not possible. Hence, if there is no asymmetric relation between a and b, there should at least be one between their two properties.

Importantly, the above text is directed against the view that all relations are reducible (cf. also 1906-07: 41-2). Yet, Russell's original statement is directed against the view that all relations are internal:

[...] Hence the attempted analysis of the relation fails, and we are forced to admit what the theory was designed to avoid, a so-called 'external' relation, i.e. one implying no complexity in either of the related terms. (1903: §214)

In other words, Russell's regress argument is ambiguous. It proves both that not all relations imply corresponding properties of their relata, and that not all

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relations are reducible to such properties. As noted above, these claims are not identical. So what is the proper conclusion of Russell's argument?

On the basis of the reconstructions from §3.4.3, it can easily be seen that both conclusions make sense. Russell's anti-internality claim refers to the conclusion of the Paradox reconstruction: It is not the case that for any relation R and items x, y, if x and y stand in R, then there are properties F and G such that x is F and y is G. By contrast, Russell's anti-reducibility claim refers to the conclusion of the Failure I reconstruction: You will never reduce all relations if you reduce them to properties of their relata.

Strictly speaking, of course, this is not a Paradox/Failure Fallacy, but the debate will be confused unless we distinguish the two arguments. Most importantly, the two arguments have different premises and so cannot be evaluated in the same way. For example, in the Paradox case Russell needs a premise which states that an endless series of time-orders is absurd. No such premise is required in the Failure I case.

It is worth noting that this result is by no means accidental. There is a reason for using the Paradox Schema in one case and the Failure in the other. The Paradox Schema is used against the internality claim because the issue there concerns whether or not this universally quantified claim holds unrestrictedly, and the Paradox reconstruction demonstrates that it does not. By contrast, the Failure Schema is used against the reducibility claim because there we encounter a problem: namely, to reduce all relations (this may be a problem because relations appear to be strange entities, or because, as per Occam's Razor, it is always better to have no more kinds of entities than are necessary). The Failure reconstruction demonstrates that the Monadistic solution does not solve this problem.<sup>71</sup>

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<sup>71</sup> Of course, Russell's view is that no solution whatsoever can solve the problem, and hence that at least some relations are irreducible entities. To establish this, however, requires argumentation that extends beyond the current regress argument, cf. his (1903: §§212-6).

## 5.7. Quine/Davidson Controversy

Let us consider Quine's radical translation scenario. A field linguist meets a native who utters the expression 'Gavagai' in an unknown language. The only further information available to the linguist is that the native points to a rabbit. In this scenario, 'Gavagai' might mean several things such as 'This is a rabbit', 'Here is potential food for tonight', and so on. Yet, in the following we shall not be concerned with the *meaning* of the native's expression, but rather with its *reference*.

To what does 'Gavagai' refer? What object does it pick out? There are a number of possibilities. It might for example refer to (i) a complete rabbit which persists in time, (ii) an undetached part of a rabbit, or (iii) a temporal stage of a rabbit. These are all different things: complete rabbits are different from their undetached parts (so (i) and (ii) differ), rabbits which persist through time are different from their temporal stages (so (i) and (iii) differ), and undetached parts of rabbits, unlike their temporal stages, may or may not persist in time (so (ii) and (iii) differ as well). It does not really matter how you cut the piece. What matters is that it is possible to take different items, differing in their spatial or temporal parts, as the referent of 'Gavagai'.

The point of this story is that, according to Quine, 'Gavagai' does not refer to anything full-stop. 'Gavagai' refers only to this or that item relative to a background language which, in this case, specifies the individuation criteria for objects like rabbits. So, 'Gavagai' refers to the complete rabbit which persists in time (say) if it is specified in the background language that singular terms refer to such items rather than to their undetached parts or temporal stages. This claim can be called the Relativity of Reference thesis.<sup>72</sup>

Quine is well aware that this thesis generates a regress. If the reference of the words in the object language is to be fixed by a background language, then the reference of the words in the background language (e.g. which specify that 'Gavagai' refers to a complete persisting rabbit) is to be fixed by a further background language. The regress that Quine has in mind can be stated in Failure I format:

*Reference (Failure I instance)*

- (1) You have to fix the reference of all words.
- (2) For any word x, if you have to fix the reference of x, you use a background language to specify it.

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<sup>72</sup> Not to be confused with the Indeterminacy of Translation thesis, and other similar claims.

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- (3) For any word  $x$ , if you use a background language  $M$  to fix the reference of  $x$ , then  $M$  contains further referring words.
  - (4) Regress:
    - (a) You have to fix the reference of 'rabbit'.
    - (b) You use a background language<sub>1</sub> in which you specify that 'rabbit' refers<sub>1</sub> to a complete persisting rabbit. [a, 2]
    - (c) You have to fix the reference of 'refers<sub>1</sub>'. [b, 3, 1]
    - (d) You use a background language<sub>2</sub> in which you specify that 'refers<sub>1</sub>' refers<sub>2</sub> to the relation between 'rabbit' of the initial language and 'a complete persisting rabbit' of background language<sub>1</sub>. [c, 2]
    - (e) You have to fix the reference of 'refers<sub>2</sub>'. [d, 3, 1]
- And so on.

...

Yet, Quine does not take the regress to be problematic. He suggests that the relativity of reference can be compared with the relativity of position. In the latter case, it similarly does not make sense to ask where you are, full-stop (or absolutely) but only where you are relative to a system of coordinates. For example, I am in the middle of my empty room relative to the walls and everything not in my room. Of course, one may further ask about the position of my room, and this question can be answered in a similar way relative to a system of coordinates. But it makes no sense to ask where my room is, full-stop.

Likewise: it makes no sense to ask what 'rabbit' of the object language or 'refers<sub>1</sub>' of the background language refers to (i.e. what their extension is), full-stop. In other words, even if we never stop asking about the position of all coordinate systems, it may be no problem that we never complete this task. For we may well be asking for things that are not there (i.e. absolute positions). Likewise: even if we never stop asking about the reference of all words, it may be no problem if we never complete this task. For there may well be no absolute referents (e.g. no fact of the matter as to what 'rabbit' refers to).

This analogy may look plausible, yet Davidson cannot agree. Indeed, he uses this very same regress to argue that the whole Relativity of Reference thesis does not make sense. So the controversy between Davidson and Quine may be put as follows. On the one side, the relativity of reference thesis generates a regress, but this is accepted as unproblematic by Quine. On the other, Davidson argues that the relativity of reference thesis does not make sense as it, due to the regress, does not explain how we fix reference in the first place. These positions seem to conflict. So who is right?

In the following I will argue that Davidson actually switches the argument to its Failure II counterpart, which is far more problematic. Thus reconstructed, the regress argument reads as follows:

*Reference (Failure II instance)*

- (1\*) You have to fix for at least one word its reference.
- (2\*) For any word x, if you have to fix the reference of x, you use a background language to specify it.
- (3\*) For any word x, if you use a background language M, then you first have to fix the reference of the words in M in order to fix the reference of x.
- ...
- (C\*) You will never fix the reference of any word if you use a background language every time you have to fix the reference of a word. [1\*-5\*]

Indeed, the conclusion of the argument in this latter form is that the reference of *no* word is ever fixed using background languages. Hence, the Quine/Davidson controversy reduces to a controversy about (3\*) of the argument just given. For this is the main premise which distinguishes a Failure II argument from a Failure I one. Basically this premise says that the introduction of a background language is of no use in fixing the reference of a word like ‘Gavagai’ unless we are already clear on the referents of the background language. Why does Davidson think that this holds?

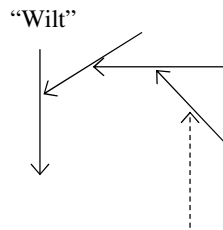


Figure 5: Davidson’s rabbit

To make his point, Davidson slightly changes Quine’s scenario. In this new scenario, there are three persons A, B and C, and A utters ‘Wilt’ in the presence of a rabbit (and his shadow). B comes along and wants to specify the reference of A’s expression. B sets up two theories, and says that A’s expression refers to an object relative to these two theories. According to the first theory, ‘Wilt’ refers to the rabbit. According to the second, ‘Wilt’ refers to the shadow of the rabbit. So, B successfully fixes the reference of A’s ‘Wilt’ (i.e. relative to the two theories) only if the third party C is able to pick out the two referents of A’s expression given B’s two theories. However, if A’s words do not refer unless relativized to a background language (i.e. B’s theories), then neither do B’s words refer unless relativized to a further background language. So C tries to fix the referents of B’s words, and sets up

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two different theories about B's word 'refers', i.e. identifies different relations between A's expression and B's theories. According to the first theory, 'refers' refers to the relation between A's 'Wilt' and B's 'rabbit'. According to the second theory, 'refers' refers to the relation between A's 'Wilt' and B's 'shadow'. But C, of course, can pick out unique objects only when her words are themselves relativized to yet further background languages. And so on. The moral:

A can talk distinctively and meaningfully about Wilt and shadows.  
B can talk distinctively and meaningfully about two different relations between A's words and objects. But at no point has anyone been able uniquely to specify the objects of which a predicate is true, no matter how arbitrarily or relatively. (Davidson 1979: 234-5)

If Davidson is right that the regress argument takes the Failure II form, then Quine's analogy between the relativity of reference and the relativity of position breaks down. In the latter case, a position can be fixed relative to a coordinate system whether or not the position of the coordinate system itself is fixed. In the former case, the reference of a word cannot be fixed relative to background language unless it is already clear what the words of that background language refer to (cf. Figure 5; the arrow stands for the reference predicate that is relativized to background theories).

The role of the metaphilosopher is not to decide who is right in this debate. The important point for my purposes is rather this: Davidson and Quine do not draw different conclusions from the same regress, but rather different conclusions from two regresses generated in different ways (i.e. from different premises): Failure I or Failure II-wise. So here we have another, final example of how the distinction between these two argument schemas is useful in clarifying existing debates.

§6  
*Meta-Debate*

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## 6.1. The Literature

In the following I first divide the literature on regress arguments into three camps: Paradox-Monists, Failure-Monists, and Pluralists. Next, I defend the Failure Schemas from some objections raised and anticipated in the literature.

### 1. Three camps

As we have seen, any regress argument from the literature can be reconstructed in two different ways: as an instance of the Paradox Schema, or an instance of the Failure Schema. This is possible partly because no text is fully explicit concerning its premises and/or inferences. Yet if this is right, if both ways are possible, then what is to be done? Which schema *should* be used in a given case? There are at least three options:

*Paradox-Monism*

Do it always Paradox-wise, never Failure-wise.

*Failure-Monism*

Do it always Failure-wise, never Paradox-wise.

*Pluralism*

Do it sometimes Paradox-wise, sometimes Failure-wise.

All three of these camps have their proponents. That is, the literature on regress arguments hosts both Paradox-Monists, Failure-Monists and Pluralists. It is worth stressing that my classification is somewhat anachronistic, as the Failure Schemas have been presented for the first time only in this dissertation, and only very basic versions are presently to be found elsewhere in the literature (mainly one finds only its rationale). I have used the following criteria for my categorisations:

- Does the author think that her analysis applies to all regress arguments, or only to some?
- Does the author think that there is a direct connection between a regress and a failure (as Passmore suggested), or does she see a need for some intermediate step to show why the regress is bad such that something has to be rejected?

The first criterion should distinguish Monists and Pluralists, and the second Paradox and Failure-Monists. So here we go, starting with the Paradox-Monists:



*Paradox-Monists*: Gettier (1965); Clark (1988); Black (1996); Post (1993); Gratton (1997, 2010); Rescher (2010); Roy (2010)

The classification of Gettier, Black and Gratton will become clear in the next section, where I discuss their objections to Passmore's Failure-hypotheses. Still, a note on Gettier and Gratton is in order. Gettier (1965) is strictly speaking only a review of Passmore (1961), but as he spends some time criticizing the latter's ideas on regress arguments I have listed him among the Paradox-Monists. Here is a revealing passage:

After all, the argument purports to prove the impossibility of the occurrence of the first member, not the impossibility of an explanation of its occurrence. (1965: 268)

As we shall see, the fact that Gettier does not accept that the regress argument at issue is about explanation might be explained by the fact he does not accept the Failure Schema as a legitimate form for a regress argument.

One might think that Gratton is a Pluralist rather than an Paradox-Monist, because he holds that one group of regresses (i.e. the so-called problem/response regresses) do not fit into his schema (I will discuss this at some length below). Still, I have classified him as a Paradox-Monist, because the Paradox Schema is his point of reference for virtually all topics he discusses (viciousness, circularity, regresses of questions/answers, etc.). Pluralists, by contrast, would not take one of the two schemas as their sole point of reference.

Another Paradox-Monist is Clark:

Vicious infinite regress arguments are, all of them, instances of a special kind of Reductio Ad Absurdum. (1988: 372)

First, this is an expression of Monism, as the analysis is meant to apply to regress arguments across the board. Second, this is an expression of Paradox-Monism because regress arguments contain an additional step stating how the regress conflicts with something else we believe. According to Clark, this 'something else' always has the same form: infinite regresses entail that all items of a certain type are F only conditionally (they are F depending on whether something else is F), whereas it is believed that at least some of them are F categorically (they are F independent of whether something else is F). For example, the regress of reasons entails that all propositions are justified to someone depending on another proposition that is justified to that person, yet this conflicts with the belief that at least some propositions are categorically justified to someone.<sup>73</sup>

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<sup>73</sup> Further, Rescher (2010: ch. 2) is a Paradox Monist as he follows Clark, and Post (1993) and Roy (2010) because they follow Black.

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Next the Failure-Monists:

*Failure-Monists*: Passmore (1961); Rankin (1969); Johnstone (1996); Gillett (2003); Maurin (2007)

The classification of Passmore was explained above in §2.3.4 where I identified the origins of the Failure Schema. I have classified Rankin and Johnstone as Failure-Monists because they rely on Passmore's analysis. It is worth noting that Johnstone does talk about inconsistencies, but these are not conflicts between the regress and something else we believe, but rather conflicts between what had to be accomplished and what actually has been accomplished (or rather postponed). As Johnstone puts it:

An alleged definition [etc.] gives rise to an infinite regress when instead of defining [etc.] it merely postpones the definition, analysis, criterion, or justification, or account of the decision. (1996: 97)

The same holds for the Failure Schema: its conclusion that the problem is never solved (or its solution forever postponed) is inconsistent with the claim that the problem has been solved. This further step plays however no role in Failure arguments (as their goal is not to reject anything on the basis of a contradiction, see §4.1.3).

Gillett and Maurin are arguably Failure-Monists for their defense of the claim that what is important about regresses is the procedure which generates them, not the results they entail (results which may or may not conflict with something else we believe). For example, the regress of reasons would be bad not because it entails there being an infinity of reasons (which may not exist), but because at no point can justification be obtained if it is to be achieved only via the procedure which governs the regress. This is what Gillett calls the Structural Objection (see §5.4).

Maurin, in turn, provides an overview of accounts which identify viciousness at locations other than the regress and its generating procedure, but she takes them to be less interesting. Her Monistic position is nicely expressed here:

This pattern, furthermore, is completely general. No matter which context, no matter what trigger, what distinguishes a vicious from a virtuous infinite regress is its pattern of dependence. (2007: 21)

This can be spelled out in terms of the Failure Schema so long as those patterns of dependence are associated with problem/solution patterns (as Maurin does). In the vicious case, the initial problem depends on a whole regress of problems (such that the latter must be solved in order to solve the initial problem). In the virtuous case, the dependence is the other way around: the whole regress of problems depends just on the initial problem (i.e. if you

solve the initial problem, you solve the whole regress of problems in one go). This difference is depicted in Figure 6.<sup>74</sup>

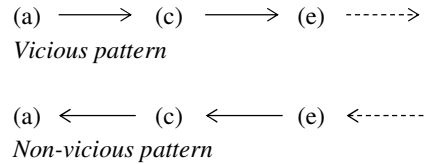


Figure 6: Dependence of problems

Further Failure ideas have been expressed, as we have seen in §2.3.4 and §4.2.1, by Johnson (1978), Armstrong (1974, 1978), Ruben (1990), and Rodriguez-Pereyra (2002). Yet, their remarks are too brief to count as full Failure views. The same holds for the following passage by Chisholm, who seems to describe a Failure regress (yet does not generate it from premises/hypotheses, nor link it to a Failure conclusion):

What does it mean to be confronted by such a regress? One is confronted with a vicious infinite regress when one attempts a task of the following sort: Every step needed to begin the task requires a preliminary step. (1996: 53)

Finally the Pluralists:

*Pluralists*: Schlesinger (1983); Sanford (1984); Day (1986, 1987); Jacquette (1996); Nolan (2001)

Most of these are Pluralists simply because they classify regress arguments in different categories. For example, Schlesinger has four categories, Sanford has two, and Jacquette three. Of course, these categories vary depending on what they regard as important distinctions and the level of generality of those distinctions (i.e. whether they themselves can be grouped or not). I shall not go into this, as for my purposes it is important just that all classifications include at least both Paradox and Failure arguments (this being the distinction I regard as important). Here are two typical expressions of Pluralism:

I have not said whether regresses are vicious or not. There is a good reason for this. I hope it is apparent by now. There is no single answer. (Day 1986: 273)

<sup>74</sup> Cf. the cases that are non-vicious by (Vic-F) in §4.2.2.

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In providing a taxonomy of different sorts of vicious infinite regresses, I take issue with those who try to provide the same aetiology for all vicious infinite regresses. (Nolan 2001: 524)

Some participants in the debate on regress arguments resist categorisation. I would highlight two of them: Russell and Rosenberg. Here are Russell's pioneering ideas:

Thus wherever the meaning of a proposition is in question, an infinite regress is objectionable, since we never reach a proposition which has a definite meaning. But many infinite regresses are not of this form. If A be a proposition whose meaning is perfectly definite, and A implies B, B implies C, and so on, we have an infinite regress of a quite unobjectionable kind. [...] Thus there is no logical necessity, as there was in the previous case, to complete the infinite regress before A acquires a meaning. (1903: §329)

Here is how I would cash out and generalise Russell's distinction:

- A regress is unobjectionable if it is generated Paradox-wise and entails no unacceptable result.
- A regress is objectionable if it is generated Failure-wise such that each time yet another problem needs be solved before the initial problem is solved.

For example, regresses like the following which are generated on the basis of 'for any instance of p, p iff it is true that p' (plus a trigger) are unobjectionable because they entail nothing unacceptable:

Socrates is mortal.  
It is true that Socrates is mortal.  
It is true that it is true that Socrates is mortal.  
etc.

On the other hand, if I have to define the meaning of 'Socrates is mortal' and my solution falls prey to a regress where each time the meaning of yet another proposition needs be defined first, then the regress is objectionable. For in that case I will never define the meaning of 'Socrates is mortal'.<sup>75</sup>

At first sight, Rosenberg hints at a Failure regress as well:

That is the essence of the criticism. The question does not go away. (1978: 72)

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<sup>75</sup> One might think I am reading too much into Russell's suggestions here, but at least this is one way of making things explicit. For other comments, cf. Taylor (1934: 47-9), Maurin (2002: 100-2), Rescher (2010: 153-7).

This is about Failure regresses if we assume that a question is just one form a problem can take, and that problems do not go away in the sense that, throughout the regress, they are never solved by the solution under consideration. Yet, Rosenberg proceeds:

This is what makes the challenge dialectical rather than logical. It disqualifies the proposed answer as an answer for something qualifies as an answer to a question only if one can understand it without already knowing the answer to the question. The philosopher who offers this answer, therefore, violates a canon of rational practice. (1978: 72)

The relevant principle would be this: that if someone asks you a question Q, then you should not give an answer which can be understood only if that person already knows the answer to Q. True enough: when I ask you to explain what a philosopher is, then you should not answer ‘someone who is a philosopher’, for in that case I can understand your answer only if I already know the answer to my question. Furthermore, the idea is that violating this principle does not make one illogical (because it is not a logical principle), but rather irrational (because it would be a principle of rationality). You are not rational if you refuse to obey such things as this principle. Here is Clark’s criticism:

It is not at all obvious that the reason, on Rosenberg’s analysis, that ‘the question does not go away’ is not based in formal properties of the argument. (1988: 379)

This seems right to me, yet Clark develops the point no further. I take it that the Failure Schema shows that Rosenberg’s phrase can be given a logical treatment. Namely: the question/problem does not go away, in case of Failure regresses, as each time yet another problem needs to be solved before one can say the initial problem is solved.

In sum, both Russell and Rosenberg have come close to Failure ideas, yet as they do not say that all regress arguments have this format they are not classified as Failure-Monists.

As announced from the outset of this dissertation, I am a Pluralist of a certain sort (and indeed maintain that everyone should adopt this position, which I take to be the correct one). Before explaining this position in §6.2, I will discuss Passmore’s and Gratton’s Failure-hypotheses in the remainder of this part in order to show that the set-up of the Failure Schemas as presented in this dissertation was no trivial enterprise. Others in this meta-debate have made different choices.

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## **2. Passmore's Failure-hypotheses**

Passmore's Failure-hypotheses have been criticised on two fronts, namely by those who recognise only the Paradox Schema (the Paradox-Monists), and by those who limit the Failure Schema to a certain group of regress arguments (the Pluralists). In the following I take issue with five of the most pertinent worries expressed by these critics:

- (1) That Passmore's criterion for distinguishing between regresses which demonstrate that a certain explanation fails, and those which do not, itself fails.
- (2) That the reason Passmore gives to explain why regresses entail inadequate explanations, fails.
- (3) That regresses are not merely rhetorical tools, as Passmore assumes them to be.
- (4) That the Failure Schema is involved in an ambiguity, and that it is possible to draw another, more optimistic conclusion as well.
- (5) That regress arguments are not about inadequate explanations, but rather about rejections.

Having the Failure Schema at my disposal, unlike these critics, I will argue that all these objections are based on misunderstandings.

### 2.1. Objection (1)

The first objection I will discuss is from Gettier (1965). He points out that Passmore's criterion for distinguishing between regresses which demonstrate that a certain explanation fails, and those which do not, does not work. Consider Passmore's examples:

- (P) Every event has a cause.  
(P\*) To know that an event has happened, one must know how it came about.

According to Passmore, two different regresses can be generated on the basis of these statements and only the second would demonstrate that the relevant explanation is inadequate. Gettier's criticism, I take it, is that it is unclear how Passmore's criterion yields this result.

*Reply*

Here is the text that Gettier is referring to:

It is easy to construct similar pairs of assertions, of which one commits us to the view that some procedure can be carried on ad infinitum, the other commits us to the view that an infinite regress

would have to be completed before the procedure could be carried out at all. (Passmore 1961: 29)

It is already worth noting that Passmore speaks of procedures rather than explanations, but let us set this aside for the moment. Next I will show that this criterion can be made precise in the context of the Failure Schema, and that it can indeed be applied to (P) and (P\*). Here are the cases spelled out in terms of that schema:

*(P) Argument (Failure II instance)*

- (1) You have to explain for at least one event why it exists.
- (2) For any event x, if you have to explain why x exists, you appeal to another event which is the cause of x.
- (3) For any events x and y, if you appeal to y which is the cause of x, then you first have to explain why y exists in order to explain why x exists.
- ...
- (C) If you appeal to a cause for x every time you have to explain why event x exists, then you will never explain why any event exists. [1-5]

*(P\*) Argument (Failure II instance)*

- (1\*) You have to know for at least one event whether it happened.
- (2\*) For any event x, if you have to know whether x happened, you appeal to another event which is the cause of x.
- (3\*) For any event x, if you appeal to another event which is the cause of x, then you first have to know whether y happened in order to know whether x happened.
- ...
- (C\*) If you appeal to a cause every time you have to know whether an event happened, then you will never know whether any event happened. [1\*-5\*]

In both cases the regress is entailed and it follows that the given explanation or procedure fails. Yet, Passmore claimed that the failure holds only in the case of (P\*), not (P). Thus where is the difference? The difference can be explained by the fact that Passmore rejects premise (3) of (P), but not premise (3\*) of (P\*). Rejecting premise (3) of (P) means that if you appeal to event y which is the cause of event x, then you need not explain why y exists in order to explain why x exists. Compare:

We can, if we want to, go on to look for the cause of the cause and so on ad infinitum, but we need not do so. (Passmore 1961: 29)

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We may therefore explain event A by appealing to its cause B, explain event B by appealing to its cause C, etc., and indeed break off our investigation whenever we like. Furthermore, if (3) is rejected, then the truth of (P)'s conclusion, i.e. that the explanation is ineffective, is not established. By contrast, in the case of (P\*) Passmore concedes (3\*) and endorses the conclusion that the procedure is ineffective. So the idea is that we may come to know whether event A happened by appealing to its cause B, but in that case we should first know whether or not indeed B happened.

Hence, the distinction between regresses which demonstrate that a certain procedure is ineffective and those which do not comes down to the question of whether line (3) of the Failure Schema II is applicable. If one cashes out Passmore's suggestions in the way I have done here, the first objection against his Failure-hypotheses is met.

## 2.2. Objection (2)

Black (1996) introduces three important worries about Passmore's account. His first objection is that the reason Passmore's gives to explain why regresses entail inadequate explanations does not work (1996: 113). This reason is the following. Regresses demonstrate that a certain putative explanation fails to explain

not because the explanation is self-contradictory, but only because it is, in the crucial respect, of the same form as what it explains. (1961: 33)

For similar a suggestion, compare:

Each member of the regress is numerically distinct from that which precedes it; qua explanans and explanandum, however, they are identical. And in so being, we never break out of the explanatory failure that gives rise to the regress. (Bliss 2012)

As we can see, Passmore contends that explanations fail if they are, in some crucial aspect, similar to what they explain (and that regresses would demonstrate this). Yet according to Black this contention is false, for it allows of counterexamples. His own counterexample is the following: one has blue eyes because one's parents have blue eyes.<sup>76</sup> In this case, the explanans and explanandum are similar, but the explanation is not inadequate (or at any rate need not be so). So fails the reason Passmore gives to explain why regresses entail inadequate explanations.

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<sup>76</sup> This is a non-causal explanation, as the colour of one's and one's parents' eyes are both effects of a common cause: the parents' genotypes.



*Reply*

I reject Black's objection, not because I think that his counterexample is a poor explanation but because I regard it as an unsuccessful counterexample against Passmore. To see this, let us consider the example in terms of the Failure Schema:

*Eyes (Failure II instance)*

- (1) You have to explain for at least one person why she has blue eyes.
- (2) For any person x, if you have to explain why x has blue eyes, you appeal to the fact that x's parents have blue eyes.
- (3) For any person x, if you appeal to the fact that x's parents y and z have blue eyes, then you first have to explain why y and z have blue eyes in order to explain why x has blue eyes.
- ...
- (C) If you appeal to the fact that x's parents have blue eyes every time you have to explain why x has blue eyes, then you will never explain why at least someone has blue eyes. [1-5]

Hence the explanatory failure. Of course, it is not difficult to resist the conclusion by rejecting (3), as the latter is a rather strict requirement on explanation (Do we really want to require that we have an explanation for the colour of the parents' eyes in order to explain the colour of the child's?). The point, however, is that the conclusion follows logically and therefore that regresses can demonstrate the inadequacy of an explanation (i.e. if the premises are true).

According to this reconstruction, Passmore is right to claim that the explanation does not fail due to a contradiction. The explanation that appeals to x's parents conflicts with none of our assumptions. Also, the explanation that appeals to x's parents fails not because it is similar to the explanatory problem described in line (1) (i.e. to explain why x has blue eyes), but rather because it gives rise to an explanatory problem similar to the initial one (i.e. to explain why x's parents have blue eyes) and which, given premise (3), must itself be solved first in order to solve the initial problem.

Hence, if one cashes out in this way the reason Passmore gives to explain why an explanation may be inadequate due to a regress, this reason does not fail as Black's first objection has it.

Gratton voices two worries in the same direction (2010: 145-6, cf. 1994a, 1994c). Specifically, he takes issue with the claim that regresses can be vicious because a given explanation is circular, and with the claim that regresses can be vicious because they specify some endless task. Yet, even if these claims do not make sense in the context of Gratton's preferred Paradox Schema, they do make sense in the Failure-context. Let me briefly show this for either claim.

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In the Paradox Schema, nothing can function both in the generation of a regress and in the argument of why that regress is vicious (in the sense of entailing something unacceptable). These are two different steps. Yet this is exactly what seems at issue: the circularity of the explanation is used both to generate the regress and to argue that the regress is vicious. Take the following example:

- (1) For any event  $x$ ,  $x$  is explained only if  $x$  is explained by another event  $y$  and  $y$  itself is explained.
  - (2) At least one event is explained.
  - (3) Regress. [1-2]
  - (4) The explanation is circular. [3]
  - (5) Circular explanations are unacceptable.
- ...

In this context, the explanation of some event  $x$  is not circular in the sense that it explains itself, but rather in the sense that it is explained by  $y$ , which is another event (events explain events). I take it that Gratton holds that this results not from the regress, but rather from line (1), i.e. one of the regress formulas which is used to generate the regress. The regress would contribute nothing to an argument that the explanation is circular.

Gratton's point is correct, yet his objection is a straw man. His opponents are Passmore and Rankin:

a supposed way of explaining something [...] in fact fails to explain, [...] because it is, in the crucial respect, of the same form as what it explains. (Passmore 1961: 33)

Regresses are vicious when, and only when, symptomatic of circular explanation. (Rankin 1969: 178)

We have seen Passmore's text above, where I explained it in terms of the Failure Schema, not the Paradox Schema. To review this: that an explanation is circular means, in this context, that the explanandum gives rise to a similar explanatory task which needs to be met before the initial task can be met. This in itself is no problem. Were one to hold onto the same kind of explananda, however, the initial task would never be met, and it is exactly this that makes Failure regresses vicious. In this way, therefore, regresses can be vicious because a given explanation is circular.<sup>77</sup>

Next consider Gratton's second objection, here expressed at some length:

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<sup>77</sup> I take it that Rankin can be defended in a similar way. Also, it is worth stressing that I myself would not speak of 'circularity' in these contexts, see §4.2.4.

Can a regress entailed by a circular explanation be vicious because of some obligation to go through each step of the regress, thereby having to end an endless task? This approach misfires [...] for if it were possible to complete the process, the explanations would remain circular, and nothing would be gained. Similarly, nothing is lost by not completing the process. (2010: 145)

Here Gratton considers an alternative to line (4) in the reconstruction above: the result taken from the regress is now, namely, that ‘we have to end an endless task’. This may turn out to be impossible, such that the regress is vicious, yet Gratton’s point is that this would be irrelevant given that the circularity of the explanation still follows from line (1).

All of this, to say again, make perfect sense in the context of the Failure Schema II. Consider for instance the argument (P) discussed above, where the problem is explanatory. In that case, you explain an event by other events and are obliged to go through each step of the regress even though you will never succeed in your explanation, for the regress is endless.

All in all, then, the second set of worries about Passmore’s Failure-hypotheses rest on misunderstandings as well.

### 2.3. Objection (3)

Black’s next objection (1996: 113-4) is that regresses are not mere rhetorical tools, as Passmore assumes them to be. According to Black, regress arguments do not work, logically, unless the relevant regresses are infinite. Passmore writes, in contrast:

It is the first step of the regress that counts, for we at once, in taking it, draw attention to the fact that the alleged explanation or justification has failed to advance matters; that if there was any difficulty in the original situation, it breaks out in exactly the same form in the alleged explanation. (1961: 31)

### *Reply*

Though Passmore never explicitly claims that regresses are mere rhetorical tools, he does say that the first step of a regress is the important one and that its further steps (indeed its infinity of further steps) serve merely to bring out the same worry expressed in the first step. This same idea appears elsewhere in the literature:

*And So On*

The real trouble arises already at the first step: if it is rightly diagnosed there, we can forget about the regress. (Geach 1979: 100)<sup>78</sup>

The real trouble arising already at the first step is that of making no progress. We should see this straight away. (Sanford 1984: 96)

Hence, it is not unfair to ask: Is everyone here really mistaken, as Black claims? Again, I shall show that Passmore's claim makes sense once we have both schemas at our disposal.

In the Paradox case, if the first step of the regress is the crucial one, then already the regress is in conflict with something else that we believe. For example, Plato's Third Man Regress is already in conflict with the (possible) belief or commitment that there is only one form of Largeness as soon as the second form of Largeness appears on the scene (cf. Vlastos 1954: 328, Geach 1979: 100-1). Or consider Ryle's regress in Paradox format, from which it follows that I perform an infinity of intelligent actions (see §3.4.5). Arguably it is already beyond my capacities to contemplate the proposition that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way], let alone to contemplate it intelligently. This would mean that line (4e) is itself already sufficient to obtain an unacceptable result from the regress. (If the steps are the same as the lines in the argument, then this is strictly speaking not the first step, though at any rate it is the beginning of the regress.)

In the Failure case, if the first step of the regress is the crucial one, then it is already clear that strategies similar to the initial one will never make it the case that the initial task is accomplished. Take Ryle's regress in Failure format:

- (a) You have to write a dissertation intelligently.
  - (b) You employ knowledge that [dissertations are to be written in such and such a way]. [a, 2]
  - (c) You have first to contemplate intelligently the proposition that [dissertations are to be written in such and such a way]. [b, 3]
  - (d) You employ knowledge that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way]. [c, 2]
  - (e) You have first to contemplate intelligently the proposition that [the proposition that [dissertations are to be written in such and such a way] is to be contemplated in such and such a way]. [d, 3]
- etc.

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<sup>78</sup> Geach seems to refer to a cryptic passage by Wittgenstein that I will cite in §7.4.

From line (c) onwards it is clear that similar solutions (in this case: employing knowledge-that) shall always entail similar problems (in this case: tasks to perform intelligent actions) which must be accomplished in order for the initial task to be accomplished.

In both cases, therefore, it makes sense to say that the beginning of the regress is what is important (and not the infinity). Moreover, as I argued in §2 and §4.2.3, the beginning of the regress is all that is needed from a logical point of view: only a few steps of the regress are needed to derive a Paradox or Failure conclusion from it. So much, then, for objection 3.

2.4. Objection (4)

Before turning to Black’s final objection, let us consider one objection posed by Schlesinger (1983: 221-7). He claims that the Failure Schema is involved in an ambiguity, and that it is possible to draw another, more optimistic conclusion as well. According to him, what is to be drawn from regresses consisting of problems and solutions is a matter of debate. If NN1 and NN2 are again two arbitrary persons, then Schlesinger takes the dialectical situation to be the following (also cf. Oppy 2006: 289):

<i>Step</i>	<i>Context</i>
Initial problem P1	Common concern of NN1 and NN2
Initial solution S2	NN1’s proposal
Similar problem P2	NN2 shows that NN1 has to solve this
Similar solution S2	NN1 solves P2 in a similar way
Similar problem P3	NN2 shows that NN1 has to solve this
etc.	etc.

The question is what follows:

Are we to say that, since essentially the same problem keeps arising no matter how far we progress along the regress, we are faced with an ineradicable problem, or that, since every time we raise a problem we can at once come up with a solution, we are left we no difficulty? (Schlesinger 1983: 221)

Hence, Schlesinger identifies two conclusions:

*Pessimism.* Every solution entails the same (kind of) problem, so in some sense the problem is ineradicable.

*Optimism.* For every problem there is a solution, so in some sense we are left we no difficulty.

This is a sensible query. Take McTaggart’s example (also discussed by Schlesinger):

*And So On*

- P1        You have to eliminate the contradictions in the A-series.
- S1        You appeal to a second-order A-series.
- P2        You have to eliminate the contradictions in the latter.
- S2        You appeal to third-order A-series.
- P3        You have to eliminate the contradictions in the latter.
- etc.

Furthermore, as some have suggested (Prior 1967: 5-6, Schlesinger 1983: 127), Pessimism prevails if we stop at one of the problems (for in that case a problem is left unsolved), and Optimism if we stop at one of the solutions (for in that case no problem is left unsolved).

*Reply*

Still, granting all this, in my view Failure instances do not fall prey to the Optimism/Pessimism ambiguity. This seems clear for four reasons.

First, so long as all problems and solutions are entailed, it is not possible just to stop at a problem (and so land in Pessimism) or at a solution (and so end with Optimism). And here it seems that all problems and solutions are entailed, at least within the context of the Failure Schema (i.e. by lines (1)-(3)).

Second, the dialectic invoked by Schlesinger is not exactly the one which I myself presented in the discussion of Failure arguments above (in §4.1.5). Schlesinger's dialectic differs, that is, in its being between someone who poses problems and someone who proposes solutions for them. The Failure dialectic I presented, by contrast, is between someone who purports to solve a problem and someone who shows that the former never succeeds in doing so (as each time yet another, similar problem has to be solved in order for the initial problem to be solved). In the latter case, the Optimism/Pessimism controversy does not apply. Either the problem is ever solved, or it is not: it is not solved half of the time.

I consider this second point decisive. However, one might still suspect that Optimism could apply to Failure I instances, which are considerably weaker than Failure II instances. Let us consider again McTaggart's case, which is arguably a Failure I instance. So long as there is an endless number of A-series, the contradictions in *all* A-series can be eliminated by appealing to further A-series. In general: so long as the series of solutions is endless, *all* problems can be paired off with a solution.

Also compare Russell's Tristram Shandy case (introduced above in §1.2). To recall, Shandy thinks his life is so interesting as to merit being reported. This problem can be solved by writing an autobiography. As it happens with Shandy, he writes so slowly that it takes him one year to report one day of his life. At the end of that year, of course 365 interesting, unreported days await him. The same story holds for the next 365 days, and so on. Hence: as soon as Shandy starts working on his autobiography, the unreported days of his life increase explosively.

Now Russell’s claim is that if Shandy were to have the eternal life, then no day of his life would remain unreported. This may appear counterintuitive, yet it is correct. If Shandy’s life were never to end, then all the unreported days of his life and autobiographical reports can be paired off against one another:

Reported days	1	2	3	4	5	...
Working years	1	2	3	4	5	...

Now, if all problems can thus be paired off with a solution, does this constitute a worry for Failure I arguments? It would do so only if the fact that all problems have a solution were to conflict with something stated in the Failure I argument. Yet here this may not be the case. Consider the following two claims:

- (i) There is a solution for all problems.
- (ii) There is always yet another problem to be solved.

The first claim is Optimism, and might apply to a *selected* number of Failure I arguments. The second claim is what is demonstrated by a Failure I regress, in *all* cases. Here there is no conflict, for neither claim excludes the other. Still, the implications of these claims do seem to conflict:

- (iii) If (i), then all problems are solved.
- (iv) If (ii), then it is never the case that all problems are solved.

Indeed, it cannot be both that all problems are solved and that it is never the case that all problems are solved. Nonetheless, I do not think that Failure I arguments are afflicted by this conflict. What Failure I arguments show is that it is never the case that all problems are solved *in the sense that* there is always a further problem to be solved, whether or not there is a solution for all of them. In McTaggart’s case, therefore, this would mean that even if all contradictory A-series can be eliminated by appealing to further contradictory A-series, still it would follow from the regress that there are always further contradictory A-series to deal with and that you will never deal with all such series in this sense.

My fourth and final point is that similar queries have been raised in the discussion of supertasks. For various supertasks seem possible, even though they consist of an infinity of tasks.

As explained, though, the problems with supertasks do not automatically carry over to Failure arguments (see §4.2). It is right that both supertasks and Failure regresses consist of an infinity of tasks, yet the relevant issues about them are distinct. In the case of a supertask, the main question is whether it can be performed in a finite period of time. More specifically, the question is whether such tasks are possible both conceptually and physically. To illustrate, consider again Thomson’s Lamp (see §4.2.1

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above). In this case, one of the issues is whether the lamp is on or off after two minutes. Initially, Thomson (1954) argued that any answer to this question entails a contradiction such that supertasks like this had to be conceptually possible. Benacerraf (1962) responded that Thomson's argument was invalid. No matter the details of this debate, for my purposes it suffices to point out that these are not the main issues that pertain to Failure arguments. For in the case of a Failure regress, the main question is not whether it is conceptually and physically possible to accomplish all generated tasks, but rather whether the first, initial task will ever be accomplished (given a certain solution). In addition, the time factor plays no role in Failure arguments (as constructed in this dissertation). This means that worries about supertasks do not automatically carry over to Failure arguments.<sup>79</sup>

Given these four points, there seems to be here no room for Optimism, and so the fourth objection fails as well.

#### 2.5. Objection (5)

The final objection that I will discuss is Black's main point (1996: 111, 114-5). His concern is that regress arguments are not usually connected with explanatory concerns, and that regress arguments are not about inadequate explanations, but rather about rejections, i.e. about demonstrating the falsity of a proposition.

#### *Reply*

On first sight, this objection would seem to fail simply because it begs the question against Failure-Monists and Pluralists. For to say that all regress arguments are about rejections and not about inadequate explanations (or bad solutions generally) is to assume, rather than to demonstrate, that all regress arguments should take the form of the Paradox Schema. Yet this is exactly what is under discussion. Still, I have three more precise points.

First, I agree that not *all* regress arguments have as rationale that a given explanation fails. Take Ryle's case in its Paradox format. Here the lines which might possibly express an explanatory claim are the regress formulas. The following, for example, might express such a claim (however schematically): For any action *x*, one intelligently performs *x* only if one employs knowledge that *x* is to be performed in such and such a way. In this case, one's employment of knowledge-that is a necessary condition for performing an action intelligently. But is it also an explanatory condition? According to Black it need not be, for according to him it is controversial to assume that all the necessary conditions of something are involved in the explanation of that thing.

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<sup>79</sup> And if they do carry over, then my view is that Failure inferences are not logically invalid, but that the suppressed premises (6) fail to hold: see §4.2.2.



Furthermore, if the regress formulas do not express explanatory claims, then it is hard to see how demonstrating that they are false (on the basis of a Paradox argument) amounts to demonstrating that an explanation has failed.

A similar point is made by Schnieder (2010) in response to Gaskin (2008). The latter claims that, in the following series, each step is explained by the next (and previous) step because each is necessary for the other:<sup>80</sup>

- (a) a is F;
- (b) a stands in the instantiation<sub>1</sub> relation to F-ness;
- (c) a and F-ness stand in the instantiation<sub>2</sub> relation to instantiation<sub>1</sub>;
- etc.

In response, Schnieder says:

Why should we believe that there is any explanation going on?  
(2010: 296)

Schnieder's main argument is that explanations usually involve epistemic goals. For example, explanations may improve our understanding. In that case, if A explains B, then A somehow contributes to our understanding of B. Yet, in the present case it is not immediately clear how (b) contributes to the understanding of (a), and (c) to the understanding of (b), etc. The point is, basically, that if A is a necessary condition for B *and* if A is to explain B as well, then one needs a separate story as to why this latter, explanatory relation obtains (cf. also Klein 2003: 722).<sup>81</sup>

Even if regress formulas do not always express explanatory claims, sometimes they might. Consider the following, simple example: For any event x, x exists only if x is brought into existence by another event y. In this case, it is plausible to think that the fact that an event is brought into existence by another event is not only a necessary condition for the fact that the former event exists, but also, on top of that, reports an explanation. On the basis of a Paradox argument we could obtain the negation of this formula: It is not the case that any event x exists only if, and *because*, x is brought into existence by another event y. As we can see, however, this still shows not that an explanation is inadequate, but merely that a universally quantified claim stating an explanatory condition is false.

Nevertheless, regress arguments can sometimes be about inadequate explanations, namely (i) if they are taken Failure-wise, (ii) if the

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<sup>80</sup> I have simplified Gaskin's case somewhat. First, Gaskin speaks of 'a is said to be F' rather than 'a is F'. Second, on Gaskin's account, each step is not only necessary for the previous one, but also sufficient, as well as vice versa.

<sup>81</sup> Nevertheless, if 'A is necessary for B' involves 'B depends on A' (as suggested in §4.2.1 above), and if 'B depends on A' involves 'A explains B' (as e.g. Correia (2005: ch. 3) and Schnieder (2006: 402-12) argue), then necessary conditions automatically involve explanatory conditions.

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problem is an explanatory problem, and (iii) if the considered solution fails due to a regress. This does not, for example, apply to the Failure-version of Ryle's case (where the problem concerns our performing an action in a certain way, and not our explaining anything). It may, however, hold for Bradley's case, if the latter is taken to be concerned to explain (and to contribute to our understanding of) how any two things are related by a relation (or, as in Gaskin's case, how any proposition forms a unity). It also holds for the Passmore case (P) discussed above. This is my first point.

Second, and explained already above in §4.1.3, instances of the Failure Schema are not about rejections, not even the rejection of solutions. They do not, that is, prove that a solution is false, but just that it is no good for solving a given problem (and therefore that another solution must be found).

Third, even Passmore himself is not committed to the claim that all regress arguments are about inadequate explanations. For he speaks about procedures (1961: 29), and 'procedures' is just another term for the 'solutions' of the Failure Schema. Examples of procedures/solutions mentioned by Passmore include: to provide a criterion, a justification, an explanation, a definition.

In summary, I have shown that all five of the main worries about Passmore and the Failure Schema misfire. This does not serve to establish Failure-Monism, though it does establish the possibility of Failure-Monism, and indeed too the possibility of Pluralism (my own position).

### **3. Gratton's Failure-hypotheses**

In the following I consider Gratton's so-called 'problem and response regress arguments' (2010: ch. 6) and compare them to instances of the Failure Schema. This comparison is useful because regresses generated in the Failure Schema also consist of problems and responses/solutions, yet differ in certain important respects. This will allow me, then, to clarify from another angle my choices in the set-up of the Failure Schema. Between Gratton's arguments and the Failure arguments there are four significant differences (henceforth I abbreviate 'problem and response regresses' to G regresses and 'problem and response regress arguments' to G arguments):

- (1) G regresses take problems as arguments, Failure regresses take them as tasks.
- (2) Failure regresses are always entailed, G regresses are not (at least usually not).
- (3) Failure regresses can be infinite, and yet Failure arguments work; G arguments do not work if G regresses are infinite.
- (4) G arguments conclude with rejections, Failure arguments do not.

So, even though Gratton's view that arguments based on regresses consist of problems and responses/solutions happens to differ from Failure instances, it may still be called a 'Failure-hypothesis' insofar as it is meant as a proposal to make such arguments explicit.

Before explaining these differences, let us consider an example of a full G argument, i.e. McTaggart's case (see his 1908: 468-9, 1927: §§325-33). I will present this case in two parts: first the regress, then the argument. The regress resembles Gratton's Diagram 3 (2010: 164) except that in Gratton's Diagram the problems P1 and P2 appear to be identical rather than merely similar. Yet importantly, recurring problems are to be merely similar to one another (i.e. of the same type), not identical. Were they identical, it would follow immediately that response R1 fails to solve problem P1. For if R1 entails P2 and P1=P2, then R1 entails the problem it is meant to solve.

*McTaggart G-wise*

- P1 Any event has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.
  - R1 Any present event is present at the present moment, future at a past moment, and past at a future moment (any past event is present at a past moment, etc.). So, events have these characteristics successively, and the first premise of P1 is false.
  - P2 So, any moment has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.
  - R2 Any present moment is present at the second-order present moment, future at a second-order past moment, and past at a second-order future moment (any past moment, etc.). So, first-order moments have these characteristics successively, and the first premise of P2 is false.
  - P3 So, any second-order moment has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.
- etc.

Here is the argument: (i) The regress cannot go on forever. So, (ii) for some natural number  $n$ ,  $\text{problem}_n$  remains unresolved. For example, assume that P3 above remains without solution. (iii) If, for some  $n$ ,  $\text{problem}_n$  is unresolved, then the  $\text{response}_{n-1}$  which entails  $\text{problem}_n$  entails an unresolved problem. So, (iv) R2 entails an unresolved problem. (v) If something entails an unresolved problem, it is unacceptable and must be rejected. Therefore, (vi) R2 is to be rejected. In other words: It is not the case that first-order moments are past, present and future successively. (And this in turn would mean that first-order moments are contradictory and that time does not exist.)

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### 3.1. Difference (1)

The first striking difference between Failure and G arguments is that problems in the latter are arguments rather than tasks to be accomplished:

McTaggart's infinite regress argument of recurring problems and responses consists of a succession of exchanges between opposing arguments. (2010: 163, cf. Mellor 1981: 94, Rankin 1981: 337)

More specifically, problems are arguments with counterintuitive conclusions, and solutions are counterarguments against such arguments. Given this alternative conception, one may wonder why I did choose for the tasks-format in my Failure Schemas. Basically, the argument is that this allows problems to figure as premises in arguments. In Failure arguments, problems had to occupy the first line, and this does not work with arguments with counterintuitive conclusions. At least it is not obvious to me how it would work. Also, as I shall explain below, G arguments are not able to do what Failure arguments can do.

One may think that this, first difference is not very pertinent. Yet it is worth noting that Gratton himself distinguishes among three kinds of regress: regresses of definitions and explanations (2010: ch. 4), regresses of questions and answers (2010: ch. 5), and indeed regresses of problems and responses (2010: ch. 6). Furthermore, no such distinctions are needed if providing definitions, providing explanations, and answering questions are all regarded as a variety of tasks. Why should we want to treat all these cases in the same way? My answer here is simple: If there are no structural differences between certain groups of regress arguments, then we should not treat them differently, even if they are presented differently in the literature. Better to have one single and widely applicable story as to what regress arguments are, rather than a bunch of them. Of course, this dissertation is about *two* theories of regress arguments, not one, but that is because I think there are significant differences between Paradox and Failure arguments.

Indeed, in my view there are no structural differences between regresses of definitions and explanations, of questions and answers, and of problems and responses. Take one of the cases discussed by Gratton himself (2010: 149-50): at issue is what free action consists in. The regress here runs in terms of questions and answers:

- Q1        What makes act<sub>1</sub> voluntary?
- A1        A voluntary act<sub>2</sub> of the will.
- Q2        What makes act<sub>2</sub> voluntary?
- A2        A voluntary act<sub>3</sub> of the will.
- etc.

Nothing seems lost, however, by restating it as follows:

- P1        You have to explain what makes act<sub>1</sub> voluntary.  
 S1        You appeal to a voluntary act<sub>2</sub> of the will.  
 P2        You have to explain what makes act<sub>2</sub> voluntary.  
 S2        You appeal to a voluntary act<sub>3</sub> of the will.  
 etc.

The same applies to other cases, and so I take it that all must be treated in the same way, namely as a variety of tasks and actions.

### 3.2. Difference (2)

An important difference between Failure and G regresses is that the latter are usually not entailed, whereas the former always are.

According to Gratton, problems can ‘recur’ in several ways depending on the entailment relation between the problems and responses, i.e. (i) whether or not the responses entail new problems, and (ii) whether or not the problems entail new responses (making for four logical options). For example, McTaggart’s case is one in which all responses entail new problems, but no problem entails a new response. If the responses are not entailed, then neither is the whole regress entailed, and it stops once you recognise that the same pattern would continue, or once you stop out of “exhaustion, boredom, or insanity” (Gratton 2010: 166).

To begin with, I have doubts about Gratton’s contention that any given case can belong to one category only. For if the ways in which problems can recur are structural patterns, then it can be expected that any case can follow any pattern depending on how it is reconstructed. More importantly, Failure regresses differ from G regresses in that they are *always* entailed. They are entailed, that is, by the previous solution or problem in the regress in combination with the first lines (1)-(3) of the Failure Schemas. Among the Failure instances these patterns are completely general. The only variation is that between Failure I and II. In the case of Failure I, any problem<sub>n</sub> is entailed by solution<sub>n-1</sub> plus the extra premise (3) and the general problem (1). In the case of Failure II, any problem<sub>n</sub> is entailed by solution<sub>n-1</sub> plus the extra premise (3). In both cases, any solution<sub>n</sub> is entailed by problem<sub>n</sub> plus the general solution (2).

### 3.3. Difference (3)

While Failure arguments can be good arguments if the regresses at hand are infinite, G arguments do not work if G regresses are infinite. The reason for this is simple: If G regresses were infinite, then there would be a solution for every problem and therefore no problem left unresolved (cf. Schlesinger’s Optimism discussed above). As we have seen in the reconstruction of McTaggart’s case, Gratton assumes that G arguments take the following form:

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- (1) Assume that for some  $n$ ,  $\text{problem}_n$  is unresolved.
- (2) If  $\text{problem}_n$  is unresolved, then the  $\text{solution}_{n-1}$  which entails  $\text{problem}_n$  entails an unresolved problem.
- (3) If something entails an unresolved problem, it is unacceptable and to be rejected.
- (4) Hence,  $\text{solution}_{n-1}$  is to be rejected. [1-3]

If it is necessary for this argument that a problem in the regress remains unresolved, then it is necessary for this argument that the regress be finite, namely in the sense that it stops at the unresolved problem.

Failure arguments differ completely from this. Here is a reconstruction of McTaggart's case in Failure I format:

*Time (Failure I instance)*

- (1) You have to eliminate the contradictions in all A-series.
- (2) For any A-series  $x$ , if you have to eliminate the contradictions in  $x$ , you appeal to a higher-order A-series  $y$  such that the members of  $x$  are past, present and future at different members of  $y$ .
- (3) For any A-series  $x$  and  $y$ , if the members of  $x$  are past, present and future at different members of  $y$ , then  $y$  is contradictory as its members are both past, present and future.
- ...
- (C) You will never eliminate the contradictions in all A-series if you appeal to a higher-order A-series every time you have to eliminate the contradiction in an A-series. [1-5]

None of these lines correspond. In this Failure reconstruction, we neither assume that some problem remains unresolved, nor specify a sufficient condition of unacceptability, nor conclude with a rejection of one of the solutions in the regress (more on this last point below). Hence, the issue as to whether or not Failure regresses must be infinite for the argument to work cannot be decided on the same basis. This latter issue I addressed above in §4.2.3.

#### 3.4. Difference (4)

According to Gratton, the goal of G arguments is not to reject regress formulas (as in Paradox arguments), but rather to reject responses located within the regress. In McTaggart's case, for instance, we rejected R2: It is not the case that first-order moments are past, present and future successively. This differs completely from Failure arguments, which conclude that the initial problem is never solved by the given solution (see (C) just above).

## 6.2. Comparison Schemas II: Soundness

In the following I address the problem: If regress arguments can be reconstructed along the lines of both the Paradox and Failure Schemas, then which schema is to be preferred? To address this question I will evaluate both schemas, and eventually conclude that the Failure Schema often has better (i.e. more useful) instances.

### 1. Schema choice

At this point the Paradox Schema (which captures what I called the Paradox Intuition) and the Failure Schema (which captures the Failure Intuition) are on par with one another. Both, we have seen, have a regress on one of their lines, which is derived from other lines and has a conclusion associated with it (§2). And both, moreover, have logically valid instances (§2), both can have all instances from the literature as an instance (§3), and both can account for disagreements about regress arguments (§5).<sup>82</sup> Yet they differ structurally (§4), leaving us with the question: Which schema is more fruitful? Which should be used to reconstruct regress arguments? Or should both be used?

By the Interpretation Rules, the choice of schema depends on the text and context of the initial statement of the argument. By the Charity Rules, the choice of schema depends on which schema has better arguments as instances. Here the rules need not converge and this is a problem, as noted in §1.3.3. Three possible solutions were identified: Either defend that Interpretation always wins out, or that Charity always wins out, or that sometimes Interpretation wins out and sometimes Charity. I also anticipated my preference for the second option: Charity is more important.

My argument is simple: So long as our goal is to reconstruct an argument (and not merely to interpret it), it is preferable to reconstruct good arguments rather than bad ones. Why? Here is what Feldman says to motivate adherence to the Charity Rules:

We should adhere to [them] not because it is nice to do so or because people need or deserve charity, but because adhering to [them] leads us to consider the best available arguments and thus to gain the most insight into the issue we are studying. (1993: 115)

This is exactly right. We should try to obtain the best argument from a given case in order to see what *can be* demonstrated by it, without being restricted by what the source text actually says or what the author actually meant. For

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<sup>82</sup> This means that both schemas fulfil the first six desiderata from §2.1.1.

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in that case we stand to gain the most insight into the issue we are concerned about (e.g. about justification as in Sextus' case, about induction as in Hume's case, or about meaning as in Wittgenstein's case).

But what are good arguments? Here the remaining desiderata for the schemas (from §2.1.2) become relevant. The schema should:

- be as simple as possible;
- produce plausible premises/interesting hypotheses;
- produce conclusions that are hard to resist;
- produce conclusions that can play an interesting role in a debate.

Perhaps there are other such desiderata, but these seem to me the most important. The debate between Paradox-Monism (reconstruct always Paradox-wise), Failure-Monism (do it always Failure-wise), and Pluralism (do it sometimes Paradox-wise, sometimes Failure-wise) will turn on these desiderata.

The basic idea is this (and here I am assuming an unrestricted use of the Charity Rules, as just discussed). If it turns out that Paradox arguments are always simpler, and always have more plausible premises, more interesting hypotheses, and stronger and more interesting conclusions, then Paradox-Monism holds. If, by contrast, it turns out that Failure arguments are always simpler, and always have more plausible premises and all the rest, then Failure-Monism holds. If Paradox and Failure arguments both score well, though on different points, then some sort of Pluralism holds.

I will argue next that the Failure Schema scores better on most points (that is, its instances are often better arguments than their Paradox-counterparts), which in any case rules out Paradox-Monism. We shall see about the other positions later.

Before arguing that the Failure Schema scores better on most of the desiderata, let me present a quick argument for the Paradox Schema. Namely this: it is simpler. Perhaps it does not have the least number of inferences, but it has the simplest ones in the sense that they are easier to understand. By contrast, some steps of the Failure Schemas are not immediately clear. The reason here is that its suppressed premises are more complex, particularly the following (which are lines (6) of Failure I and II respectively):

- If for at least one K you have to  $\phi$  it and if for all Ks x, you always have to  $\phi$  a new K in addition to  $\phi$ -ing x, then you will never  $\phi$  all Ks.
- If for at least one K you have to  $\phi$  it and if for all Ks x, you first have to  $\phi$  a regress of new Ks in order to  $\phi$  x, then you will never  $\phi$  x.



Admittedly, if this is the only thing, then the two schemas do not differ very much on this point, but as I regard simplicity as an important virtue of arguments, I do regard this as an argument in favour of the Paradox Schema.

Still, simplicity works only if all the rest is in order as well. Simple but implausible or uninteresting arguments are surely not to be preferred over arguments that are slightly more complex, but plausible and interesting. So let us see about that.

## 2. In favour of the Failure Schema

In the following I shall argue that the Failure Schema is the better of the two schemas because it produces better arguments (even if they are, as just noted, slightly more complex). I will present three arguments, each connected to one of the remaining desiderata:

- (1) The conclusion of Failure arguments is immediately relevant, and this need not be the case in Paradox arguments.
- (2) The hypothesis of Failure arguments is immediately motivated, and this need not be the case in Paradox instances.
- (3) The conclusion of Failure arguments is stronger, as it allows of fewer options for resistance.

The first argument will be the most important. The three arguments are related in that the strength and relevance of the conclusion partly depends on the number and plausibility of the premises. All three will be explained with the aid of the dialectical scenarios outlined for both schemas in §4.1.5, i.e. the scenarios where all steps of the schemas are linked to two opponents, NN1 and NN2. At the end I shall explain what these arguments entail with respect to the debate between the Monisms and Pluralisms.

### 2.1. Argument (1)

The Paradox Schema concludes that one of NN1's beliefs is false, and the Failure Schema concludes that NN1's solution fails. Basically the point here is that the falsity of NN1's belief need not be relevant if it plays no role in a certain debate, whereas the failure of NN1's solution is automatically relevant in at least one debate, i.e. the debate on how to deal with the problem it tries to solve.

To explain this point in some more detail we have to consider the conclusions of the schemas, and the relevance of each. Let us first consider the Paradox conclusion:

PARA It is not the case that any K is F only if such and such (e.g. it stands in R with another K).

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The question is: *So what?* Well, in short, now you know that the universally quantified statement does not hold (although its existentially quantified counterpart can still hold). One case where this seems interesting is the regress argument from Sorensen (1995) and Sider (1995). Their discussion concerns the Access principle which says that you are obliged to do something only if you can have knowledge of that obligation. Now, if you are interested in whether this principle holds unrestrictedly, then on the basis of a Paradox argument it is interesting to find out that the principle does not always hold (see §5.5 above for discussion of this argument).

Also, Beth (1952: §4, cf. Peijnenburg 2011) shows that in the history of philosophy the Paradox conclusion has sometimes been used to establish absolute entities, i.e. entities which stop the regress at some point and form an exception to the universally quantified statement at hand, such as the Unmoved Mover, which sets the series of moved things in motion but is not itself moved by anything else.

Still, in many cases this form of conclusion is irrelevant, i.e. it makes no difference to any particular debate. It is uninteresting, for example, to find out that it is not the case that for *any* person  $x$ ,  $x$  is reliable only if  $x$  is guarded by a guardian (especially given that this may still hold for some, if not many, persons), or that it is not the case that for *any* set of premises  $x$ , a conclusion follows logically from  $x$  only if  $x$  contains the additional premise ‘if the members of  $x$  are true, then the conclusion is true’ (again, given that this may still hold for some, if not many, sets of premises).

Next consider the Failure-conclusion:

FAIL     You will never  $\phi$  any/all  $K(s)$  if you  $\psi$  any  $K$  that you have to  $\phi$ .

Again the question arises: *So what?* Well, again in short, now you know that if for at least one  $K$  you have to  $\phi$  it, then you have to find another solution to solve this problem. If the problem is a common concern of both NN1 and NN2, then this is an interesting result in each and every case. This means that you have to find another solution (another procedure, other means) to perform an action; to justify a proposition; to have your girlfriend guarded; to demonstrate that a conclusion follows logically; to secure an obligation; and so on for the other cases.

I regard this point as decisive. I should note that not all Paradox arguments are supposed to refute universally quantified statements. If the regress formulas happen to hold, then the trigger statement is to be rejected instead. Some examples: no proposition is justified; no dispute is decided; the reference of no word is fixed. Such conclusions are in many cases surprising as they usually concern a commonsense scenario, and so may be interesting in scepticism debates. Yet the first argument in favour of the Failure Schema does not hinge on this. All that matters for that argument is that Paradox conclusions are not always relevant in a broader dialectical context, whereas Failure conclusions often are. There are two further arguments.

## 2.2. Argument (2)

The second argument for why the Failure Schema produces better arguments is that the hypothesis of Failure-instances (i.e. their line (2)) is immediately motivated. This line is motivated because it presents a solution to deal with the problem described in line (1). For example, you hire a guardian in order to have someone guarded, or you appeal to an additional premise in order to demonstrate that a conclusion follows logically from the premises.

But it is not always clear why one would introduce the corresponding lines of the Paradox Schema. For example, why would anyone believe that for any person  $x$ ,  $x$  is reliable only if  $x$  is guarded by a guardian, or that for any set of premises  $x$ , a conclusion follows logically from  $x$  only if  $x$  contains the additional premise ‘if the members of  $x$  are true, then the conclusion is true’? It is hard to see where these necessary conditions come from and how they can be motivated (apart from the fact that without them no regress is generated).

## 2.3. Argument (3)

This last argument follows up on the observation that the Failure Schema has no extra (substantial) step after the regress. For this difference also implies that Failure arguments are stronger: there are fewer places where these arguments might be resisted (i.e. they cannot be resisted by denying that extra step). In the following I will argue why this is a real difference.

Recall the main resistance options for Paradox arguments: (i) reject something else, or (ii) deny that anything is to be rejected in the first place (by defending that the regress entails no unacceptable result). It can be shown that one of these options is often possible.

Consider for example Bradley’s case. The conclusion of the Paradox argument is the rejection of the trigger (i.e. at least two items are related by a relation). Yet, it is quite possible to resist this argument by rejecting one of the regress formulas instead of the trigger (e.g. by rejecting the formula that for any relation  $R$ ,  $R$  is unified with its relata only if there is another relation  $R^*$  which relates  $R$  to its relata). Something needs to be rejected, but logic itself does not decide what.

Additionally, one might resist the argument by denying that something must be rejected in the first place, and accept that there is nothing unacceptable about an infinity of relations.

For Failure arguments the situation is different. The main resistance options for the latter are the following: (i) make an exception to the solution, or (ii) deny the step which leads to more problems (this differs for Failure I and II). Unlike the options for resisting Paradox arguments, these options for resisting Failure arguments are in many cases unmotivated.

Take Bradley’s case again, now in Failure II format. To resist it you may try two things. First, you may reject the extra premise (i.e. ‘for any relation  $R$ , if you appeal to a relation  $R^*$ , then you first have to explain how

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$R^*$  is unified with its relata in order to explain how  $R$  is unified with its relata), though one cannot reject this without a good motivation. For if it is unclear how  $R$  is unified with its relata, then we seem to have no reason to suppose that an additional relation  $R^*$  can explain this (unless of course  $R^*$  can do something  $R$  cannot do, but then the difference must be motivated). Here is a useful analogy:

Suppose I am given the task of making a chain out of some loose metal rings, and when I come to join any two of them, I respond by asserting that we need a third ring to do the job, so that the most I can achieve is just the addition of more rings to the collection. It is quite clear that no matter how many rings I add, I shall never get a chain. (Candlish 2007: 170)

That is: if no two rings link together unless something additional is supposed to do the job, then it is plausible to suppose that no three rings link together unless something additional is supposed to do the job (or again, in all further cases too an explanation must be supplied).

Second, you might make an exception to the solution (i.e. 'for any relation  $R$ , if you have to explain how  $R$  is unified with its relata, then you appeal to a relation  $R^*$  which unifies  $R$  with its relata'), though again, this lacks proper motivation. If you explain how  $R_1$  is unified with  $a$  and  $b$  by appealing to  $R_2$ , then why would you explain, for some  $n$ , why  $R_n$  is unified with its relata otherwise than by appealing to  $R_{n+1}$ , but by a different solution?

Let us consider a second case: the Failure I reconstruction of Tarski. To resist it you may attempt two things. First, you may reject the generality of the problem. For example, you may propose that the task is to eliminate the Liar Paradox in a certain given language, but not in any language whatever. Yet this move needs a good motivation. If you are interested in solving the Liar Paradox itself (rather than in obtaining a certain contradiction-free language), then the paradox seems to be a problem no matter what language it is formulated in.

Second, you might make an exception to the solution (i.e. 'for any language  $x$ , if you have to resolve the Liar Paradox in  $x$ , then you hold that for no sentence in  $x$  it can be said that it is true or not'). This move lacks motivation as well. If you resolve the Liar Paradox in one language by a certain solution, then why would you resolve the Liar Paradox in some other language by a different solution? The motivation cannot simply be that with such an exception the regress is not blocked, because that would be *ad hoc*. There needs to be an independent motivation or explanation for exceptions (cf. Haack 1978: 139). Compare Russell in a different context:

If everything must have a cause, then God must have a cause. If there can be anything without a cause, it may just as well be the

world as God, so that there cannot be any validity in the argument.  
(1927: 183)

All in all, Failure arguments are harder to resist. There are at least three possible explanations for this. Most importantly, as noted in §4.1.3, Failure arguments require no extra substantial premise after the regress to get to the conclusion. Paradox arguments, by contrast, do require extra substantial premises for the step that the result is unacceptable such that something can be rejected. And indeed, one extra substantial premise implies one extra resistance option.

Second, given that Paradox hypotheses may be unmotivated (as pointed out in the previous argument), it does matter which one is eventually rejected. If so, a Paradox argument can be resisted simply by rejecting something else.

Third, the conclusions of Failure arguments are in a way more limited. That is, they demonstrate not that a solution is bad full-stop, but only that it does nothing to help solve a given problem. This might also explain why Failure arguments are harder to resist.

#### 2.4. My position

Although the Paradox Schema does not always produce good arguments, sometimes it does. Ryle's case is a clear case of this. The hypothesis 'for any action  $x$ , one intelligently performs  $x$  only if one employs knowledge that  $x$  is to be performed in such and such a way' is worth considering for anyone who believes that all our intelligent actions are accompanied by knowledge-that. Likewise, the Paradox conclusion should be interesting in that it is the rejection of this claim.

This does not mean, of course, that the Failure conclusion could not be interesting as well. It is still interesting to find out that you will never perform any intelligent action if you employ knowledge-that every time you have to perform an intelligent action, for in that case you have to find some other means to perform an intelligent action (i.e. some other means to solve the problem stated in line (1) of the argument). In general, then, it might turn out that you end up with two distinct reconstructions. Yet so long as these are two good and interesting arguments, this should not be a problem.

Let me conclude this section. I just showed that in a broader dialectical context Paradox arguments play a different role than Failure arguments. Moreover, I presented arguments for why the Failure Schema often produces better arguments: its conclusions are stronger and immediately relevant, and the hypothesis is immediately motivated.

How does all this relate to the Monism/Pluralism debate? First, I am not a Monist in the sense that I take both Paradox and Failure arguments to be logically valid arguments. Also, I am not a Monist because I think it is possible that both a Paradox argument as well as its Failure counterpart can be sound arguments in addition to being logically valid. Still, my position is

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no standard Pluralism. As I just argued, Failure reconstructions are more likely to be sound for structural reasons, and so I take it that in most cases we should consider these Failure reconstructions. In the next section I will single out another apparent distinction between my view and existing Pluralisms. For the moment, let me label my view thus:

*Pluralism\**: Do it often Failure-wise, sometimes Paradox-wise.

### 3. Revisionism

In the foregoing I have done basically two things. First, I have set out the debate on regress arguments as a debate concerned with two different argument schemas, i.e. two different forms that a regress argument can take. Next, I have argued that we may often prefer to reconstruct an argument on the basis of the Failure Schema because that schema produces better arguments. I have not yet discussed how this pertains to the general debate on argument reconstruction, and I have not yet provided a deeper motivation for why the various Monisms and standard versions of Pluralism found in the literature do not suffice (as I defend only a very specific version of Pluralism). This I will do in the following.

Recall the problem of argument reconstruction: if there is one text and two available reconstructions (differing structurally qua premises, inferences, and dialectic), then which reconstruction is to be preferred? My answer can now be formulated as follows. If there are two reconstructions, then it should be checked which reconstruction will produce the best argument. Basically, you have to choose the reconstruction with the most plausible premises, and the strongest and most interesting conclusion (i.e. the conclusion which admits of the fewest options for resistance and which makes a difference in the broader debate in which it occurs).

This sounds trivial, but it is not. For indeed, it is a rather revisionary take on argument reconstruction. Revisionism relies heavily on the Charity Rules from §1.1.2, which hold that one should modify arguments in such a way as to make them logically valid and sound.

Revisionism does not, of course, disregard the Interpretation Rules (i.e. that we should capture the initial statement of the argument plus context), for in that case no reconstruction would have any content; they would not be reconstructions of anything. Still, Revisionism is completely ignorant about what an argument was *supposed to be*, and focuses solely on what the argument *can be*, i.e. on finding its optimal format. For example, Charity is directed not at Ryle's actual words, nor at himself or his intentions, but rather solely at the most interesting and strongest statement of his argument. In some cases, to be sure, it may also be interesting to know what Ryle himself thought of the matter, whether it be ambiguous, contradictory or just obscure. But that would be another enterprise altogether: interpretation rather than argument reconstruction.

The opposite of Revisionism may be called ‘Conservatism’. The most extreme variant of the latter would be that the Charity Rules should not be applied at all: one ought to do with the text as one finds it, and not add or subtract anything substantial. More moderate variants would accept the Charity Rules yet hold that they should not be applied unrestrictedly (as Revisionism has it), but only to a certain extent. It is not clear to me precisely what restrictions might be imposed here, but the general thought in any case is that one should not depart too much from the initial statement.

Consider again the debate on regress arguments. Above I distinguished three camps, i.e. Paradox-Monism, Failure-Monism and Pluralism, and my own position, formerly labelled ‘Pluralism\*’, may also be called ‘Revisionary Pluralism’, in order to contrast it both with Conservative Pluralism and with the Monisms.

Conservative Pluralism would observe that regress arguments in the literature take different forms, and draw from this the conclusion that sometimes regress arguments are to be reconstructed Paradox-wise and sometimes Failure-wise. But this view is too easy. First, it neglects the fact that regress arguments can *always* be reconstructed in different ways (as I have shown in §3). One needs only to identify relevant instances of the schematic letters. Yet to recognise that plurality is possible is not to prove it is desirable. Relatedly, too, Conservative Pluralism has too much respect for the way in which regress arguments are actually stated and does not apply the Charity Rules. I do think that regress arguments are sometimes to be reconstructed Paradox-wise and sometimes Failure-wise, but only because sometimes one of the reconstructions is better than the other.

No one in the literature, I think, really fits the label of a pure Conservative Pluralist. Yet studies by Day (1986, 1987) and Gratton (1997, 2010), for example, are far less revisionary than the view I am proposing here. Compare for instance Day’s comment here:

Bradley’s argument then generates a process regress. I do not mean to suggest that there is no way in which this argument could be interpreted as generating a product regress. I am only claiming that it is most faithful to what Bradley says that we interpret him in this way. (1986: 52-3)

A clear example of a Revisionist is Black (1996). Yet he is no Pluralist, as we have seen, but rather a Paradox-Monist.

Furthermore, I hold against the various Monisms that it is not *always* the case that regress arguments are to be reconstructed Failure-wise (or Paradox-wise for that matter). My view is a Pluralism exactly because it takes into account that the purposes of the one who is reconstructing the argument (i.e. what she wants to do with the argument) may vary. Is the reconstructor interested in producing a Paradox conclusion or a Failure one? That is:

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- Does she want to refute an existentially or universally quantified statement?
- Or does she want to show that a solution fails to solve an existentially or universally quantified problem?

If the former, she should use the Paradox Schema for her reconstruction. If the latter, she should use the Failure Schema.

Still, this matter of ‘what is interesting’ is not merely subjective or arbitrary. Strong arguments with plausible premises and relevant conclusions are more interesting than weak arguments with implausible premises and irrelevant conclusions (and I have shown in the previous section why Failure arguments often score better at this).

In the literature I have found two important criticisms of the Charity Rules:<sup>83</sup>

- (i) The rules, if applied too strongly, may distort the initial statement of the argument (and e.g. yield a straw man).
- (ii) The rules, if applied too weakly, may not be precise enough to select one reconstruction among the available ones.

A full treatment of these cannot be given here. Let me briefly point out, however, why they do not apply in the case of regress arguments. Against (i) it can be said that distortion is no problem so long as regress arguments from the literature are full of gaps (see §1) and are not meant to be full of gaps (as perhaps enthymemes, i.e. syllogisms with an unstated assumption, are). Against (ii) it can be said that selection should pose no problem for regress arguments. The main problem is to produce sound, or at least logically valid, reconstructions (which is what the rules motivate), and if it turns out that a single argument allows of two sound reconstructions (as may well be the case for Ryle’s argument, for example), then you just end up with two sound arguments.

So here is my position on argument reconstruction in a nutshell: Argument reconstruction, at least in the case of regress arguments, is hardly fixed by the initial text, and should rely more heavily on the general criteria which arguments have to fulfil in order to be good arguments.<sup>84</sup>

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<sup>83</sup> Cf. Walton (1996: 216), Walton & Reed (2005: 341-2), and Paglieri (2007: 2-6).

<sup>84</sup> To be sure, I have not indicated what exactly this list of general criteria will consist of. It may even be a slightly different list for different kinds of arguments. Still, I have offered a few some suggestions in the previous section: good arguments should have plausible premises and hypotheses, and interesting conclusions that are hard to resist.



§7

*Epilogue: Two Theories*

*And So On*

In the following I conclude this dissertation. First, I check to make sure that everything promised at the outset has been done. Second, I briefly review what the two theories of regress arguments set out above can tell us about how regress arguments are to be used and evaluated.

## **7.1. Taking stock**

Here my investigation ends. Let us see whether everything promised at the outset of this dissertation has been done. Basically, I have tried to tell a coherent story about two theories of regress arguments, and discuss all major topics relevant to regress arguments (the nature of regresses and regress arguments, the criterion of viciousness, disputes and meta-disputes on regress arguments, regress argument reconstruction and evaluation) in terms of these two theories.

Both theories confirm the idea that regress arguments are pieces of hypothetical reasoning. According to the Paradox Theory, a certain claim X is considered, yet not taken to be true, for the sake of deriving a consequence from it that conflicts with independent considerations, such that X has to be rejected by the hypothetical rule *Reductio Ad Absurdum*. According to the Failure Theory, i.e. my original contribution to the debate, a certain solution X to a given problem is considered, yet not taken to be true, for the sake of deriving a failure from it, such that ‘if X, then failure’ follows by the hypothetical rule *Conditional Proof*.

The key parts of the two theories are their argument schemas. In §1.3, I argued that such schemas are worth having for both metaphilosophical and methodological reasons. Now I will indicate briefly whether the schemas presented above satisfy these needs.

The methodological reasons were three-fold. First, the schemas are useful because regress arguments have substantive conclusions, and without such schemas we do not know whether and how these follow from the premises. I tackled this in §2. Second, the schemas are useful for regress arguments have ambiguous conclusions, and these can be disambiguated on the basis of such schemas. I discussed some important cases in §5. Third and finally, the schemas are useful because with them it can easily be seen what premises may be attacked if you do not want to buy the conclusion of a regress argument. I listed the main resistance options in §4.1.5, and will return to these in a minute.

The metaphilosophical reasons were two-fold. First, the schemas are useful because they are what regress arguments from a wide range of discussions (can) have in common. This I showed on the basis of many instances in §3. Second, the schemas are useful because by them several disputes in the literature on regress arguments can be clarified and sharpened. I showed this in §6.1.

Before turning to the two theories, let us return briefly to a worry identified in §1.3.3. The worry was that regress arguments would be too diverse to exhibit a general argument pattern. As we have seen, however, there happen to be two such patterns (plus subversions).

First follow-up worry: Why *two*? To be sure, I did not expect there to be two different patterns when I started the project. But I think that all I have said in this dissertation suggests that the Paradox/Failure distinction is useful and unavoidable (and not to be bridged by a unified theory). Also, nothing in my investigation suggested a need for *further* argument patterns unrelated to the Paradox and Failure Schemas. There is no single theory of regress arguments; nor are there, say, seven. There are exactly two of them.

Second follow-up worry: If the schemas are so general that one can find instances of them from ethics to epistemology, then one might wonder whether they are really non-trivial. I think these schemas are quite non-trivial, of course, exactly because they present precise, but still different guidelines for using and evaluating regress arguments. These guidelines are listed below. As we shall see, now that everything is in place (particularly the Charity Rules, the regress argument schemas, their first-order details, and their corresponding dialectics), things need not be complicated.

I take it, moreover, that any debate about a specific regress argument *should* follow one of these two sets of guidelines. For this is how regress arguments work according to the two theories of regress arguments by now on the market.

*And So On*

## 7.2. The Paradox Theory

### 2.1. Use

According to this theory, regress arguments can be used to demonstrate that a certain universally quantified statement is false. So if you, NN2, want to cast doubt on a universally quantified statement X of your opponent NN1, you may devise a regress argument. Here is a four-step recipe.

<i>Step</i>	<i>Instruction</i>
1	Make NN1's X explicit as an instance of 'For all Ks x, x is F only if such and such'.
2	Show that NN1 has to concede the corresponding instance of 'For all Ks x, such and such only if there is a new K-item y which is F' as well.
3	Introduce a simple trigger situation ('a is F') and generate a regress from these three ingredients.
4	Show that the regress entails something unacceptable, such that NN1's X must be rejected.

### 2.2. Evaluation

NN1 has in turn the following main options to resist your reasoning:

<i>Option</i>	<i>Instruction</i>
1	Defend that X (as fully universally quantified) is not something she believed in the first place.
2	Defend that the regress entails no unacceptable result such that nothing needs be rejected.
3	Defend that the other universally quantified statement used in the derivation of the regress, rather than X, is to be rejected.
4	Defend the sceptic option that the trigger rather than X is to be rejected (such that 'no K is F').

## 7.3. The Failure Theory

### 3.1. Use

According to this theory, regress arguments can be used to demonstrate that a certain solution fails to solve a given problem (which may be existentially or universally quantified). So if you, NN2, want to cast doubt on a solution X of your opponent NN1 (and perhaps turn this into an argument in favour of your own solution to the given problem), you may devise a regress argument. Here is a four-step recipe.

<i>Step</i>	<i>Instruction</i>
1	Make the given problem explicit as an instance of 'For all/at least one $K(s) x$ , you have to $\phi x$ '.
2	Make NN1's X explicit as an instance of 'For all $Ks x$ , if you have to $\phi x$ , you $\psi x$ '.
3	Show that NN1 has to concede the corresponding instance of 'For all $Ks x$ , if you $\psi x$ , then there is a new $K y/$ and you have to $\phi y$ first in order to $\phi x$ ' as well.
4	Draw the regress, and conclude that NN1's X fails (whether it be Failure I or II-wise) and that another solution needs to be found.

### 3.2. Evaluation

NN1 has in turn the following main options to resist your reasoning:

<i>Option</i>	<i>Instruction</i>
1	Defend that the problem is not something to be solved in the first place.
2	Defend that an exception to X can be made (such the regress can be stopped at some point).
3	Defend that the extra premise does not hold (such that no further problems are generated).
4	Defend that it does not follow from the regress that X fails (e.g. because the problems described in the regress are in fact identical).

## 7.4. Epilogue

Outside philosophy, I like it, in a certain sense, when people have nothing to say. Inside philosophy, I like it when people, if they have something to say, make an effort to explain their words. In this respect, I hope I have done better than some famous philosophers have in addressing the topic of regresses:

It is obvious beyond all possibility of doubt that if the conditioned item is given, then a regress in the series of all its conditions is set as a task. (Kant, *Critique of Pure Reason*, Book 2, ch. 2, §7)

‘Knowledge’ is a referring back: in its essence a regressus in infinitum. That which comes to a standstill (at a supposed *causa prima*, at something unconditioned, etc.) is laziness, weariness. (Nietzsche, *The Will to Power*, §575)

The reasoning that leads to an infinite regress is to be given up not ‘because in this way we can never reach the goal’, but because there is no goal; so it makes no sense to say ‘we can never reach it’. We readily think that we must run through a few steps of the regress and then so to speak give it up in despair. Whereas its aimlessness (the lack of a goal in the calculus) can be derived from the starting position. (Wittgenstein, *Zettel*, §693)

I would like to finish this dissertation with one of my favourite non-philosophical regresses: the Sisyphus case.<sup>85</sup> As Greek mythology tells us, Sisyphus had provoked the gods and so was punished by them accordingly. He had to roll a huge boulder up a steep hill in the underworld. Yet, the boulder was so heavy that it always rolled back as soon as he succeeded in making some progress. Sisyphus fell prey to an infinite regress without ever being able to complete his task.

According to some philosophers, modern life is just like the situation in which Sisyphus finds himself: day in, day out we work on the very same tasks (at the office, in the factories), yet in fact are stuck in regresses and will never accomplish anything meaningful. Life is absurd, as Camus concludes:

The workman of today works every day in his life at the same tasks, and this fate is no less absurd. (1942: 117)

Yet this analysis seems incorrect to me. If life is absurd, then there are no tasks to be accomplished (the gods, in that case, would not provide us with instances of line (1) of the Failure Schemas). And if that were so, then neither could we get stuck in a regress problem as Sisyphus did (for regress problems are generated partly on the basis of line (1)). Therefore: either we are stuck in regresses, in which case we do it to ourselves (i.e. live by regressive instances of (1) and (2)), or else we do it to ourselves, but are not stuck in regresses (i.e. live by non-regressive instances of (1) and (2)). If nothing else, the new Failure Theory of regress arguments teaches us this.

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<sup>85</sup> A suggestion that I shall not explore here is that, in fact, all punishments of the Greek gods concern regresses. Cf. Tityus, Tantalus, and indeed Sisyphus from Homer, *Odyssey*, 11.576-600.





# Samenvatting

*En zo verder.*

*Twee theorieën van regressieargumenten in de filosofie*

## 1. Het project

Stel dat je je vrouw niet kunt vertrouwen, en dat je haar wilt laten bewaken. Als oplossing huur je een bewaker in. Echter, je kunt de bewaker ook niet vertrouwen, en dus heb je te maken met een soortgelijk probleem als het probleem waarmee je begon: je wilt hem ook laten bewaken. Als oplossing huur je een tweede bewaker in. Natuurlijk vertrouwt je de laatste ook niet, en raakt je in een regressie van het inhuren van bewakers na bewakers. Conclusie: het inhuren van bewakers is een slechte oplossing voor het probleem met je vrouw.

Aldus Juvenalis, een Romeins dichter.<sup>86</sup>

Stel dat je een discussie wilt beslechten over de vraag of Juvenalis eigenlijk wel een vrouw had. Aan de ene kant spreekt hij er niet voor niets over. Aan de andere kant spreekt hij er op zo'n manier over dat hij zich enkel inbeeldt wat het zou zijn om een vrouw te hebben. Nu, om deze kwestie te beslechten beroep je je op een antiek document dat aantoont dat Juvenalis zijn hele leven verbannen is geweest, en daarom geen vrouw had kunnen hebben. Echter, het betreffende document kan het oorspronkelijke probleem niet oplossen als we niet eerst de discussie hebben beslecht over de betrouwbaarheid ervan. Als oplossing kom je met nieuwe bewijsgronden aanzetten, en raakt je in een regressie van discussies over bewijsgronden van de bewijsgronden. Conclusie: discussies kunnen nooit beslecht worden, en, zo redeneerden de sceptici uit de oudheid, we zouden onze meningen beter opschorten.

De filosofie zit vol van dit soort redeneringen, ook wel oneindige regressieargumenten genoemd (of regressieargumenten in het kort). Ze vormen het centrale onderwerp van dit proefschrift. Ik heb het onderzoek opgezet om verschillende redenen. De belangrijkste reden is de volgende: *Zijn regressieargumenten eigenlijk wel goede, geldige argumenten?*

Neem het voorbeeld van Juvenalis. We hebben aangenomen dat je je vrouw wilt laten bewaken en dat je overweegt om een bewaker in te huren. Maar dan kom je tot de constatering dat je dan een oneindige reeks aan bewakers zal moeten inhuren. En tot slot trek je de conclusie dat je er beter geen enkele zal inhuren, en dat je een andere manier zal moeten vinden om het probleem met je vrouw op te lossen. Dit zijn twee afleidingen die een verklaring behoeven: Hoezo volgt het dat ik plots een hele reeks aan

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<sup>86</sup> Juvenalis deed de bekende uitspraak: 'Maar wie bewaakt de bewakers?'

bewakers zou moeten inhuren? En hoezo volgt het dat ik er dan beter helemaal geen enkele zou inhuren? Het belangrijkste doel van dit onderzoek was erachter te komen hoe regressieargumenten als deze van Juvenalis precies werken (namelijk wat je precies moet aannemen om een regressie van de grond te krijgen, en welke redeneerstappen er precies genomen moeten worden om er een bijbehorende conclusie aan vast te koppelen).

Er zijn verdere redenen waarom de vraag naar regressieargumenten belangrijk is. De tweede en misschien voor de hand liggende reden: In dit proefschrift geef ik meer dan vijftig voorbeelden van regressieargumenten, uit alle hoeken van de filosofie (die doorgaans net iets complexer zijn dan het praktische voorbeeld van Juvenalis). Gegeven het feit dat regressieargumenten zo vaak voorkomen rijst de vraag: Wat hebben ze gemeenschappelijk? Het kan niet zo zijn dat er niets in het algemeen over zulke argumenten gezegd kan worden.

Derde reden: Regressieargumenten hebben doorgaans verrijkende conclusies. Het zojuist genoemde sceptische argument voor de stelling dat we al onze meningen moeten opschorten is daar een voorbeeld van. Toch is het niet altijd duidelijk wat de conclusie precies zou moeten zijn. Toont het sceptische argument aan dat we nooit ook maar een *enige* discussie kunnen beslechten? Of toont het eerder aan dat we nooit *alle* discussies kunnen beslechten? Dit is nogal een verschil: de laatste conclusie is veel zwakker dan de eerste omdat het niet met zich mee zou brengen dat we al onze meningen moeten opschorten.

Vier: Als regressieargumenten verrijkende conclusies kunnen hebben, dan zou er een soort van handleiding moeten zijn die aangeeft hoe we zulke argumenten tegemoet kunnen komen om ze te kunnen ontkrachten. Wat zou er bijvoorbeeld mis kunnen zijn aan bovengenoemd argument dat gebaseerd is op de regressie van discussies?

Tot slot: Dit onderzoek is vooraf gegaan door een beperkt aantal andere ondernemingen met hetzelfde onderwerp. Maar tot nog toe konden de studies het niet met elkaar eens worden hoe regressieargumenten in elkaar zouden moeten zitten. Aan de ene kant is er het kamp dat voortborduurde op het idee dat regressieargumenten aantonen dat sommige oplossingen er niet in slagen om gegeven problemen op te lossen (zoals het laten bewaken van je vrouw, of het beslechten van een discussie). Aan de andere kant is er het kamp dat een enigszins andere kijk heeft en stelt dat regressieargumenten eerder lijken op paradoxen. In dat geval zouden ze aantonen dat bepaalde claims, hoewel deze onafhankelijk van elkaar misschien plausibel lijken, gezamenlijk tot absurde resultaten leiden.

In dit proefschrift verdedig ik dat beide kampen het in een zekere zin bij het verkeerde eind hebben. Mijn positie is niet dat ze niets zinvols te zeggen hebben over een geldige vorm die regressieargumenten kunnen aannemen. Integendeel: in mijn opinie hebben *beide* kampen hier iets zinvols over te zeggen. Ik heb de betreffende theorieën de *mislukkingstheorie* en de *paradoxtheorie* genoemd (de eerste heb ik zo genoemd omdat ze ervan uitgaat dat regressieargumenten besluiten tot het mislukken van een bepaalde

oplossing). In de literatuur is er relatief veel aandacht besteed aan de paradoxtheorie, en dus heb ik met name gewerkt aan de mislukkingstheorie (dat wil zeggen, ik heb haar argumentatieschema's uitgewerkt en verdedigd tegen geopperde bezwaren). Hieronder zal ik de twee theorieën samenvatten, en kort aangeven hoe ze gebruikt kunnen worden om beter te argumenteren met regressies.

Ik wil tot slot nog iets benadrukken over de aard van het project. Dit proefschrift over regressieargumenten is een typisch meta-filosofische onderneming. Het gaat niet direct over specifiek filosofische standpunten, maar over de methode van de filosofie: over hoe filosofen beter zouden kunnen argumenteren. In mijn proefschrift zal ik bijvoorbeeld niet verdedigen waarom je je vrouw niet kunt laten bewaken, of waarom we discussies niet kunnen beslechten en dat we beter onze meningen zouden opschorten. Ik zal enkel uitleggen hoe je moet argumenteren als je zo'n positie zou willen verdedigen op basis van een regressieargument (namelijk welke premissen je moet aannemen en welke redeneerstappen je moet zetten).<sup>87</sup>

Ondanks de vijf redenen die ik zojuist voor mijn project heb genoemd, zouden sommige mensen nog steeds kunnen denken: *So what?* Mijn antwoord hierop is eenvoudig: mijn onderzoek is relevant in zoverre het belangrijk is dat we goed argumenteren. Als filosofie, in het algemeen, ergens voor staat dan is het wellicht voor een samenleving waarin er niet enkel geargumenteed wordt, maar waarin dat grondig gebeurt. Niet omdat we ons gelijk willen behalen, maar omdat we onze opvattingen niet willen baseren op domme of onduidelijke redeneringen.

## 2. De paradoxtheorie

Volgens deze eerste theorie hebben regressieargumenten alle de vorm van het volgende argumentatieschema (groveweg: het algemene patroon dat zulke argumenten volgen):

### *Paradoxschema*

- (1) Voor alle items  $x$  in domein  $K$ ,  $x$  heeft de eigenschap  $F$  alleen als  $x$  met een ander, nieuw item  $y$  uit  $K$  in de relatie  $R$  staat.
- (2) Voor alle items  $x$  en  $y$  in domein  $K$ ,  $x$  en  $y$  staan in de relatie  $R$  alleen als  $y$  de eigenschap  $F$  heeft.
- (3) Er is ten minste een item in  $K$  dat de eigenschap  $F$  heeft.
- (4) Regressie:
  - (a)  $a$  heeft de eigenschap  $F$ .
  - (b)  $a$  en  $b$  staan in de relatie  $R$ . [ $a, 1$ ]

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<sup>87</sup> Echter, als ik een ander proefschrift had geschreven, dan was het wellicht over waarom we beter onze opvattingen zouden opschorten (al was het niet enkel om overwegingen aangaande regressies).

*And So On*

- (c) b heeft de eigenschap F. [b, 2]
  - (d) b en c staan in de relatie R. [c, 1]
  - (e) c heeft de eigenschap F. [d, 2]
- En zo verder.
- (5) Een oneindig aantal items in K hebben de eigenschap F. [3, 4]
  - (6) Er zijn niet zoveel items in K die de eigenschap F hebben.
  - (C) (1) is onwaar: Het is niet zo dat alle items in K de eigenschap F hebben alleen als ze met een nieuw item uit K in de relatie R staan. [1-6]

Laten we het regressieargument met de bewakers bekijken in termen van dit schema, voordat ik de verschillende stappen toelicht:

*Bewakers (Paradoxargument)*

- (1) Voor alle mensen x, x is betrouwbaar alleen als er een bewaker y is en x wordt bewaakt door y.
  - (2) Voor alle mensen x en y, x wordt bewaakt door y alleen als y betrouwbaar is.
  - (3) Er is ten minste een betrouwbaar persoon.
  - (4) Regressie:
    - (a) Mijn vriendin is betrouwbaar.
    - (b) Mijn vriendin wordt bewaakt door bewaker nr. 1. [a, 1]
    - (c) Nr. 1 is betrouwbaar. [b, 2]
    - (d) Nr. 1 wordt bewaakt door bewaker nr. 2. [c, 1]
    - (e) Nr. 2 is betrouwbaar. [d, 2]
- En zo verder.
- (5) Een oneindig aantal mensen zijn betrouwbaar. [3, 4]
  - (6) Er zijn niet zoveel mensen die betrouwbaar zijn.
  - (C) (1) is onwaar: Het is niet zo dat mensen betrouwbaar zijn alleen als ze worden bewaakt door een bewaker. [1-6]

Regressieargumenten die deze vorm van het paradoxschema aannemen bestaan allereerst uit drie premissen (claims die voor waar worden aangenomen), dat zijn de lijnen (2), (3), en (6). Vervolgens is er een hypothese, wat in dit geval lijn (1) betreft. De hypothese wordt niet voor waar aangenomen, maar wordt enkel verondersteld om er absurde consequenties uit te laten volgen en tot slot in de conclusie (C) te verwerpen. Er blijven drie lijnen over, namelijk (4), (5) en (C). Dit zijn de afleidingen die volgen uit de eerder genoemde premissen en hypothese. De details zal ik hier verder niet vermelden, maar belangrijk is dat argumenten die deze vorm aannemen geldige argumenten zijn: de conclusie volgt uit de premissen, en is dus waar als de premissen dat zijn.

Regressieargumenten van deze vorm lijken op paradoxen omdat de lijnen (1)-(3) op zichzelf genomen wellicht plausibel lijken, maar samen tot een oneindige regressie en uiteindelijk tot een contradictie met (6) leiden (wat

maakt dat uiteindelijk een van de lijnen (1)-(3) verworpen moet worden). Een belangrijke variant van het paradoxschema is die waar niet (1), maar (3) als hypothese wordt aangenomen en uiteindelijk in (C) wordt verworpen. In dat geval zijn (1), (2) en (6) de premissen, en volgt het dat er geen betrouwbare mensen zijn.

Dit brengt me bij het volgende punt: Wat kun je doen als je de conclusie van een regressieargument zoals uiteengezet volgens het paradoxschema niet wilt accepteren? Je kunt het niet gewoon negeren aangezien het een geldig argument is. Op basis van het paradoxschema zijn de opties eenvoudig zichtbaar, namelijk: je kunt een van de drie premissen verwerpen. Als je bijvoorbeeld denkt dat er wel betrouwbare mensen zijn (dus dat (3) waar is), moet je ofwel (1) verwerpen (ontkennen dat alle betrouwbare mensen worden bewaakt door een bewaker), ofwel (2) verwerpen (ontkennen dat alle bewakers die iemand anders bewaken betrouwbaar zijn), ofwel (6) verwerpen (toegeven dat er een oneindig aantal betrouwbare mensen zijn).

### 3. De mislukkingstheorie

De tweede theorie stelt dat regressieargumenten niet direct op paradoxen lijken, maar gaan over het mislukken van oplossingen. Volgens deze theorie hebben regressieargumenten de vorm van het volgende argumentatieschema:<sup>88</sup>

#### *Mislukkingsschema I*

- (1) Persoon S moet handeling  $\phi$  uitvoeren aangaande ten minste één item uit domein K.
- (2) Voor alle items  $x$  in domein K, als S  $\phi$  aangaande  $x$  moet uitvoeren, dan voert S handeling  $\psi$  uit aangaande  $x$ .
- (3) Voor alle items  $x$  in domein K, als S  $\psi$  aangaande  $x$  uitvoert, dan is er een nieuw item  $y$  uit domein K en S moet eerst  $\phi$  uitvoeren aangaande  $y$  om  $\phi$  uit te voeren aangaande  $x$ .
- (4) Regressie:
  - (a) S moet  $\phi$  aangaande  $a$  uitvoeren.
  - (b) S voert  $\psi$  aangaande  $a$  uit. [ $a$ , 2]
  - (c) S moet  $\phi$  aangaande  $b$  eerst uitvoeren. [ $b$ , 3]
  - (d) S voert  $\psi$  aangaande  $b$  uit. [ $c$ , 2]
  - (e) S moet  $\phi$  aangaande  $c$  eerst uitvoeren. [ $d$ , 3]
 En zo verder.

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<sup>88</sup> Dit schema heeft het extra label 'I' omdat er een belangrijke variant van dit schema is die ik verderop zal uitleggen.

*And So On*

- (5) Voor alle items  $x$  in domein  $K$ ,  $S$  moet  $\phi$  aangaande een oneindige regressie van items in  $K$  eerst uitvoeren om  $\phi$  aangaande  $x$  uit te voeren. [4]
- (C) Als  $S \psi$  uitvoert aangaande alle items in  $K$  aangaande waarvan  $S \phi$  moet uitvoeren, dan zal  $S$  nooit  $\phi$  uitvoeren aangaande enig item uit  $K$ . [1-5]

Laten we in dit geval het regressieargument met de discussies bekijken in termen van dit schema:<sup>89</sup>

*Discussies (Mislukkingargument I)*

- (1) Je moet ten minste één discussie beslechten.
- (2) Voor alle discussies  $x$ , als je  $x$  moet beslechten, dan introduceer je een propositie om  $x$  te beslechten.
- (3) Voor alle discussies  $x$ , als je een propositie introduceert om  $x$  te beslechten, dan moet je de discussie  $y$  over die propositie eerst beslechten om de discussie over  $x$  te beslechten.
- (4) Regressie:
  - (a) Je moet de discussie over of Juvenalis een vrouw had beslechten.
  - (b) Je introduceert de propositie dat Juvenalis zijn hele leven verbannen is geweest om deze discussie te beslechten. [a, 2]
  - (c) Je moet de discussie over of Juvenalis zijn hele leven verbannen is geweest eerst beslechten. [b, 3]
  - (d) Je introduceert de propositie dat alle informatie over Juvenalis' verbanning berust op betrouwbare bronnen om deze discussie te beslechten. [c, 2]
  - (e) Je moet de discussie over of alle informatie over Juvenalis' verbanning berust op betrouwbare bronnen eerst beslechten. [d, 3]

En zo verder.

- (5) Voor alle discussies  $x$ , je moet eerst een oneindige regressie van discussies beslechten om  $x$  te beslechten. [4]
- (C) Als je voor alle discussies die je moet beslechten een propositie introduceert om ze te beslechten, dan zul je nooit enige discussie beslechten. [1-5]

Nu dan de aparte lijnen. Lijn (1) is een premisse en betreft het probleem dat je moet oplossen. Lijn (2) is de voorgestelde oplossing die als hypothese in beschouwing wordt genomen (dus niet voor waar wordt aangenomen, maar enkel gebruikt wordt om er uiteindelijk uit af te leiden dat het er nooit in zal

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<sup>89</sup> Dat ik deze keer het voorbeeld van de discussies neem, en niet die met de bewakers, betekent niet dat de laatste de vorm van dit schema niet kan aannemen. Beide voorbeelden zouden gebruikt kunnen worden voor beide theorieën.

slagen om het probleem van lijn (1) op te lossen). Lijn (3) is een extra premisse, en zegt in feite dat de oplossing het probleem niet oplost als deze niet eerst een gelijksoortig probleem oplost (bijvoorbeeld dat een propositie geen discussie beslecht als de discussie over die propositie niet eerst beslecht wordt). Deze drie lijnen samen genereren een regressie zoals die in (4). Uit de regressie kunnen we tot slot (5) en (C) afleiden. Lijn (5) stelt dat er altijd weer nieuwe discussies beslecht moeten worden om ook maar één discussie te beslechten. Een direct resultaat hiervan is dat er nooit ook maar één discussie beslecht wordt. En daarmee krijgen we (C): De oplossing zoals voorgesteld in (2) heeft tot gevolg dat het probleem zoals aangenomen in (1) nooit opgelost zal raken.

Een dergelijke conclusie is interessant in ten minste de volgende twee gevallen. Ofwel kun je zo'n conclusie gebruiken om te argumenteren ten voordele van een alternatieve oplossing die niet aan een regressie ten prooi valt (zijn er misschien andere manieren om discussies te beslechten, of mensen te laten bewaken?). Ofwel kun je zo'n conclusie gebruiken om te laten zien dat het probleem tot nog toe zonder goede oplossing zit (dat er tot nog toe geen goede manier is om discussies te beslechten, of mensen te laten bewaken).

Ik zal verdere details weer onvermeld laten, maar nog steeds geldt: argumenten die deze vorm van het mislukkingsschema I aannemen zijn geldige argumenten. Dat wil zeggen: als je (C) niet wilt accepteren moet je een van de premissen ontkennen. In dit geval zijn er enkel twee opties: Je kunt ofwel het probleem in lijn (1) ontkennen en zeggen dat er helemaal niets opgelost hoeft te worden (geen discussies beslecht of niemand bewaakt), ofwel de extra premisse in lijn (3) ontkennen en zeggen dat er niet eerst een soortgelijk probleem opgelost hoeft te worden (dat het niet zo is dat er altijd eerst een discussie beslecht moet worden over een propositie voordat deze gebruikt kan worden om een andere discussie te beslechten).

Zoals aangekondigd heeft dit schema een belangrijke variant met een beduidend zwakkere conclusie. In termen van het regressieargument met de discussies besluit het niet met dat je nooit ook maar *enige* discussie zal beslechten (met de voorgestelde oplossing), maar dat je nooit *alle* discussies zal beslechten (met die oplossing). Het argumentatieschema:

#### *Mislukkingsschema II*

- (1) Persoon S moet handeling  $\phi$  aangaande alle items uit domein K uitvoeren.
- (2) Voor alle items  $x$  in domein K, als S  $\phi$  aangaande  $x$  moet uitvoeren, dan voert S handeling  $\psi$  uit aangaande  $x$ .
- (3) Voor alle items  $x$  in domein K, als S  $\psi$  aangaande  $x$  uitvoert, dan is er een ander, nieuw item  $y$  uit K.
- (4) Regressie:
  - (a) S moet  $\phi$  aangaande  $a$  uitvoeren.
  - (b) S voert  $\psi$  aangaande  $a$  uit. [a, 2]

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- (c) S moet  $\phi$  aangaande b uitvoeren. [b, 3, 1]
  - (d) S voert  $\psi$  aangaande b uit. [c, 2]
  - (e) S moet  $\phi$  aangaande c uitvoeren. [d, 3, 1]
- En zo verder.
- (5) Voor alle items  $x$  in domein  $K$ , S moet altijd  $\phi$  aangaande een nieuw item in  $K$  uitvoeren naast het uitvoeren van  $\phi$  aangaande  $x$ . [4]
  - (C) Als S  $\psi$  uitvoert aangaande alle items in  $K$  aangaande waarvan S  $\phi$  moet uitvoeren, dan zal S  $\phi$  nooit uitvoeren aangaande alle items uit  $K$ . [1-5]

De bijbehorende instantie met discussies is dan als volgt (ik heb de regressie nu weggelaten aangezien die lijnen hetzelfde blijven, ook al volgen ze op net iets andere wijze uit (1)-(3)):

*Discussies (Mislukkingsargument II)*

- (1) Je moet alle discussies beslechten.
- (2) Voor alle discussies  $x$ , als je  $x$  moet beslechten, dan introduceer je een propositie om  $x$  te beslechten.
- (3) Voor alle discussies  $x$ , als je een propositie introduceert om  $x$  te beslechten, dan is er een nieuwe discussie  $y$  over die propositie.
- (4) Regressie: [...] [1-3]
- (5) Voor alle discussies  $x$ , er is altijd een nieuwe discussie die je moet beslechten naast het beslechten van  $x$ . [4]
- (C) Als je voor alle discussies die je moet beslechten een propositie introduceert om ze te beslechten, dan zul je nooit alle discussies beslechten. [1-5]

Dit argument lijkt op het eerdere argument dat de vorm heeft van mislukkingsschema I, maar er zijn twee subtiele verschillen die het verschil in hun conclusie verklaren, namelijk wat de premissen (1) en (3) betreft. In dit geval moet je niet één maar alle discussies beslechten, en nemen we alleen aan dat de oplossing in (2) een soortgelijk probleem genereert, en niet ook dat dit laatste probleem opgelost moet worden voordat andere problemen van dezelfde soort opgelost kunnen worden (bijvoorbeeld dat niet eerst andere discussies over bewijsgronden beslecht moeten worden om de discussie over Juvenalis' vrouw te beslechten).

#### **4. Epiloog**

Samenvattend kunnen we stellen dat regressieargumenten voor de volgende doeleinden gebruikt kunnen worden:



- Je kunt er een universeel gekwantificeerde bewering van de vorm ‘alle items in domein K zijn F alleen als ze met een nieuw item uit dat domein in de relatie R staan’ mee verwerpen.
- Je kunt er een existentieel gekwantificeerde bewering van de vorm ‘er is ten minste één item in domein K dat F is’ mee verwerpen.
- Je kunt ermee laten zien dat een bepaalde oplossing er nooit in zal slagen om een existentieel gekwantificeerde taak van de vorm ‘Je moet  $\phi$  uitvoeren aangaande ten minste één item in domein K’ te vervullen.
- Je kunt ermee laten zien dat een bepaalde oplossing er nooit in zal slagen om een universeel gekwantificeerde taak van de vorm ‘Je moet  $\phi$  uitvoeren aangaande alle items in domein K’ te vervullen.

De eerste twee doeleinden worden uitgelegd in de paradoxtheorie, en de laatste twee in de mislukkingstheorie. Het lijkt wellicht allemaal vrij eenvoudig nu de argumentatieschema's eenmaal uitgewerkt zijn. Dat is het denk ik ook. Regressieargumenten hoeven geen ingewikkelde argumenten te zijn – tenminste als het vastgesteld is welke vorm ze precies aannemen, of aan zouden *moeten* nemen. Volgens het zogeheten ‘principe van welwillendheid’ (dat ik verdedig in mijn proefschrift) moeten we immers niet kijken naar de vorm die argumenten in feite aannemen, maar naar hun meest sterke en interessante vorm (dat wil zeggen, die geldig is en zo plausibel mogelijke premissen heeft). De cruciale kwesties zitten in details als ‘ten minste één’ en ‘alle’ die van een zwak regressieargument een sterk regressieargument kunnen maken dat je niet zomaar opzij kunt zetten. Voor verdere details verwijs ik graag naar mijn proefschrift.

Ik zal afsluiten met een van mijn favoriete regressies: de zaak Sisyphus. Sisyphus, zo gaat de Griekse mythe, daagde de goden uit en werd daarom op toepasselijke wijze gestraft. Hij moest een rotsblok een steile berg in de onderwereld oprollen. Het rotsblok was echter zo zwaar dat het telkens weer terug rolde wanneer hij bijna bovenaan was gekomen. Sisyphus viel ten prooi aan een oneindige regressie zonder zijn taak ooit te zullen vervullen.

Volgens sommige filosofen is het moderne leven als de situatie waarin Sisyphus zich bevindt: we zijn dag in dag uit bezig met dezelfde activiteiten (op kantoor, in de fabrieken), maar bevinden ons eigenlijk in regressies en zullen nooit enig zinvol doel bereiken. Het leven is absurd.

Echter, dit lijkt me een verkeerde analyse. Als het leven absurd is, dan hebben we ook geen taken te vervullen voor de goden. Anders gezegd: in dat geval leggen ze ons geen instanties van premisse (1) van de mislukkingsschema's op. En als dat zo is, dan kunnen we ook niet aan een regressieargument zoals die van Sisyphus ten prooi vallen. Zulke argumenten berusten immers deels op basis van premisse (1). Met andere woorden: ofwel zitten we in een regressie maar dan doen we het onszelf aan (omdat onze oplossingen niet goed genoeg zijn voor de problemen die we willen oplossen), ofwel doen we het onszelf aan en zitten we niet in een regressie (omdat we er wel in slagen om onze geliefden te laten bewaken, discussies te

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beslechten, etc.). Ten minste dit kunnen we leren van theorieën over regressieargumenten.

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