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# **Knowledge as Adequately Informed Process**

**Tony Tsz Fung Lau**

**Doctor of Philosophy in Philosophy**

**The University of Edinburgh**

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## **Declaration**

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where states otherwise by reference or acknowledgment, the work presented is entirely my own.

Signed: Tony Tsz Fung Lau



## **Abstract**

An important lesson learned from the widely-known Gettier cases in epistemology is that no matter how well-justified our beliefs are, knowledge can never be secured—for there could always be some information unbeknownst to us that would undermine our epistemic statuses. In the thesis, I devise a specific approach to epistemic evaluations addressing this problem—inspired by Richard Foley’s (2012) ecumenical account of adequate information on knowledge, as well as Crispin Wright’s (1993, 1994) notion of superassertibility on truth. In a nutshell, I suggest that one knows just in case one’s belief forming process remains intact upon any expansion of information regarding the epistemic situation. Call this the adequately informed process view on knowledge (AP).

Reflecting the interplay between cognitive agency and the external world in the notion of knowledge, the AP account is twofold. On the one hand, it requires a specific display of cognitive process on the agent’s part. Particularly, the belief-forming process must be one such that, an ideal epistemic agent following all relevant epistemic norms would consider it acceptable to form the target belief via that process. Call this epistemic standard acceptable ideality. On the other hand, such acceptable ideality needs to take into account all relevant information available in the case, such that one’s process is deemed acceptably ideal overall in lights of everything that holds in the world.

The proposed account of AP adopts a holistic and ecumenical approach to epistemic evaluations. Firstly, I champion the idea that epistemic phenomena are what I call “gestalt phenomena”, in that the epistemic significance of the entire epistemic situation cannot be fully appreciated by individually evaluating the significance of its constituents (such as beliefs, justification, cognitive processes etc.). Instead, any impacts of particular epistemic components should be put under the context of the entire epistemic situation for evaluation. Following such a view, I discuss a few examples of how taking the overall knowledge evaluations as merely consisting in its individual epistemic components has created problems for some of the existing accounts of knowledge—and how taking a holistic perspective might shed light on the situation.

Secondly, following Foley, I maintain that knowledge in its nature is ecumenical. The main idea is that while there is only one concept of knowledge—characterised by AP as meeting the acceptable ideality standard considering all available information—there can be many ways to achieve such an epistemic standard (in that one’s cognitive agency can be acceptably ideal for various reasons). AP does not champion any particular epistemic feature as constituting knowledge by itself. Some agency would score better on having certain epistemic goods and some on others. According to AP, S’s belief is adequate if the belief forming process’ “overall score” of ideality given all available information is acceptable.

The thesis consists of three parts. Part 1 (Chapters 1 and 2) consists of the introduction of the two approaches and articulation of my positive view. Part 2 (Chapters 3 and 4) consists of theoretical comparisons and further motivations for holism in epistemic evaluations. Part 3 (Chapters 5 and 6) consists of applications of the proposed theoretical framework and its ecumenical nature of epistemic evaluations.

## Lay Summery

In this research project, I consider a new way of thinking about the concept of knowledge. Traditionally, knowledge is taken as a truth that one believes in and does so with good grounds. However, many philosophers now do not consider this account to stand—no matter how good one’s grounds are, there always seem to be cases where one’s belief formation is infelicitous due to information unbeknownst to one, rendering one’s belief true for reasons unrelated to the grounds one possess. The theory I proposed attempts to block this from happening—in order for me to know certain things, the way I come to form the target belief must withstand any challenges from information unbeknownst to me, to the extent that I would still form the said belief in that way after everything is uncovered. I call this the adequately informed process (AP) view.

My thesis consists of three parts. Part 1 involves articulating the new theory. Chapter 1 discusses an account outlined by Richard Foley (2012) that also concerns about the unbeknownst information. I suggest that while Foley’s insights about information are on point, his theory does not work because it leaves out an important aspect of knowledge—our belief forming processes. Chapter 2 introduces the AP view by adding belief forming processes to Foley’s view. I argue that not only does AP account for numerous difficult cases, it also aligns with our common understandings of knowledge and information, as well as enjoys some theoretical supports from Crispin Wright’s (1993, 1994) works on the notion of truth.

Part 2 (Chapters 3 and 4) consist of comparisons between AP and other accounts of knowledge. I suggest that AP differs from other accounts in evaluating knowledge holistically. Chapter 3 compares AP with an older account called defeasibility—which suggests that one’s grounds for the belief cannot be undermined by any further truths. While the defeasibility view fails in accounting for cases where these truths are misleading, AP would fare better on this score for taking the entire situation into account instead of paying attention only to the misleading truths. Chapter 4 considers the interactions between AP and virtue epistemology (VE)—which suggests that we know when our true beliefs are creditable to our cognitive abilities. While I argue that we don’t deserve credit for everything we know, I maintain that AP and VE complement



well with one another—a weaker form of VE helps us explain why our knowledge belongs to us; while AP helps us evaluate holistically cases where only part of our ability is displayed.

Part 3 (Chapters 5 and 6) concerns the applications of AP and its versatility. In Chapter 5 I consider a popular view that there cannot be lucky knowledge, and argue that given certain plausible assumptions AP can encompass safety or sensitivity—principles that effectively avoid elements of luck. Chapter 6 further explores the idea that AP is compatible with a variety of theoretical assumptions in the literature, and apply the AP model to justification (the grounds/reasons for one's beliefs). Depending on the theoretical assumptions that one prefers, the AP view on justification can give a variety of interesting readings on existing debates in the lottery and the preface paradoxes.

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# Introduction

## Towards a New Way of Epistemic Evaluations

### 0.1 The Gettier legacy

The goal of this research project is to explore the nature of knowledge. To investigate the nature of knowledge, one cannot overlook the legacy of Gettier counterexamples—and the widely regarded failure in addressing them in contemporary epistemology.<sup>1</sup> Traditionally, epistemologists endorsed the ‘tripartite’ account of knowledge as justified true belief.<sup>2</sup> It comes Gettier (1963) who allegedly found counterexamples to the JTB account. The situation quickly escalated. What Gettier had illustrated are not merely two exceptional instances of JTB failure—rather, they seem to point to a more worrying note that in general, no matter how well-justified our true beliefs are, there could always be some information unbeknownst to us that would undermine our epistemic statuses.

Naturally, theorists began to look beyond JTB for other positive epistemic features that might capture the notion of knowledge, paying great efforts to avoid Gettierisation—but to little avail. As we add dosage (of more epistemic goods) to buff the original theory up, new counterexamples emerged to crack even the buffed-up theories. More of the same went on as we were caught up with this game of formulating theories and devising cases against them. Curiously, while the cases devised differ from one another, the mechanisms in them for undermining knowledge are somewhat similar—no matter what criteria (outlined by the targeted theories) the hero’s belief has met in the story, opponents always manage to suggest some aspects of the story unbeknownst to the hero to the effect that the hero falls short of knowing. We have since moved on. We fought for decades against these viral cases, perhaps coming to

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<sup>1</sup> Not all epistemologists are that pessimistic. There are also strong attempts to capture the nature of knowledge (or simply to address the Gettier problem) on the market. I shall examine some prominent accounts of knowledge in later chapters.

<sup>2</sup> Upon reflections, however, it is not entirely clear how exactly did the classical JTB account emerge, and whether there were pre-Gettier epistemologists who explicitly endorsed such a view. As Gettier himself remarked, Plato only ‘seems to be considering some such definition’. Indeed, Dutant (2015) calls it a ‘legend’ that the JTB account is considered as the traditional view—he further argues against this convention.



a rather pessimistic diagnosis that the quest of accounting for knowledge had become too broken to carry on—like a deeply sickened man having taken too much antibiotics and could no longer put up with the strongest disease in town.<sup>3</sup>

While we must take our lesson from the Gettier literature, I maintain that we should not lose our hope just yet. Instead, this project sets to explore new ways of approaching the problem—inspired by our previous failures. While Gettier cases undermine knowledge in a variety of ways depending on the theories they targeted, there seems to be a general trend in the dialectic. We start with a troubling case that poses problem to our original theory (e.g. the classical Gettier cases on the JTB account). We then identify the epistemic drawbacks (negative epistemic features) the case display (e.g. there being a false lemma held by the agent)—or, put differently, we identify the lack of certain epistemic good in the case. Finally, we suggest that the lacking epistemic good is essential to knowledge, and the case’s lacking it explains why knowledge falls short (e.g. the no-false-lemmas account of knowledge).

## 0.2 Two reorientations

What we have learned at the very least from our battles with Gettier cases was that the above strategy hasn’t served us well. In this thesis, instead of looking into particular epistemological problems with the cases and specific epistemic goods in the cognitive agency, I argue that it is the very approach of epistemic evaluations that requires a reorientation—more specifically, there are two reorientations that I wish to explore.

### 0.2.1 The Instance-Generalisation Approach

Firstly, I shall argue for a ‘case-driven’—instead of ‘theory-driven’—approach to formulating an account of knowledge. Traditionally, the dialectic of addressing the Gettier problem seems to be heavily theory laden. By this I mean that particular epistemological features always take centre stage in the discussion—a case meets some epistemic criteria and yet still falls short of knowledge, a further epistemic good is suggested to capture the essential nature of knowledge, and thus forming a new account. This traditional approach seeks to establish a robust relation between

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<sup>3</sup> Again, not everyone is that pessimistic on the prospect of this quest. However, the general pessimism should suffice for a reflection on our existing approach, if not for an abandonment of the project entirely.

particular epistemic features (be it justification, reliability, or aptness etc.) and our knowledge judgments in epistemic cases. Call this the Theory-Instantiation Approach (TIA).

Before introducing the so-called ‘case-driven’ approach, here is a quick disclaimer: by differentiating itself from the theory-driven TIA I do not mean that the new approach is completely non-theoretically laden. Admittedly, as the proposed account of knowledge is developed certain epistemic features would become relevant, and I would inevitably test the theory against a range of ‘instances’ (i.e. epistemic cases) to determine whether it stands. In this regard, the new approach is not so different from the traditional one. What characteristically defines the reorientation, however, is that it places ‘instances’, not ‘theories’, as the primary focus to start our quest. Instead of looking particularly at various epistemic features as a cure for the problem, the new approach looks for commonalities across epistemic cases to diagnose how knowledge is systematically undermined.<sup>4</sup> Note that this approach is indebted to the legacy of the Gettier literature—the latter offers a ‘corpus’ of epistemic cases that serve as the data for our observation. To begin our quest of investigating the nature of knowledge from ‘instances’ (as suggested), I propose that we can try to collect a variety of epistemic cases and look at them *without any theoretical lens* (alas, to our best efforts). If we can identify commonalities among bona-fide cases of knowledge ascriptions and those among problematic knowledge undermining cases, perhaps we would be able to tell why the good cases are good without theoretical presumptions. Working out why the good cases are good does sound like what an informative account of knowledge would do. Call this way of formulating theories the Instance-Generalisation Approach (IGA). Ambitious as it is, this is the approach this project aims to explore. I’ll leave it for the readers to decide whether I’d been successful in keeping with the theoretical neutrality spirit of IGA, when everything is said and done.

One can understand this reorientation as a change from a vertical to a horizontal consideration of epistemic cases—what IGA essentially does is to shift our attention

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<sup>4</sup> Of course, the study of commonalities in Gettier cases is not a novel idea. Zagzebski (1994), for example, notoriously offer an analysis of the general structure of Gettier cases. Note that while Zagzebski employs this idea to illustrate the inescapability of the problem, the current project in turn suggest that understanding the commonalities would help addressing the problem.

from diving into individual epistemic cases and their epistemic features to overviewing the shared feature(s) across a wide range of (bona-fide and problematic) epistemic cases. What commonalities might be found across cases? As hinted earlier, while discussions of cases vary across different epistemic features they focus on, there seems to be a mechanism for undermining knowledge that is common to all epistemic cases—that despite whatever epistemic good the hero possesses, he/she always has a somewhat misguided understanding towards the epistemic situation due to some information unbeknownst to him/her. In this thesis, I shall investigate how blocking this unbeknownst information element in the story would impact on one's epistemic status—and whether it would shed light on the nature of knowledge.

### 0.2.2 Holistic epistemic evaluation

Secondly, I shall argue for a holistic—instead of analytic—approach to epistemic evaluations. It is clear that earlier works in the Gettier literature took the quest at hand to be the analysis of knowledge. More specifically, they aim to articulate a set of individually necessary and jointly sufficient conditions of knowledge, and by so doing, suggest that the notion of knowledge can be broken down into more conceptually primitive components. While more sophisticated accounts today are generally less explicit in this endeavour, the spirit of the conventional practice remains—in the sense that one epistemic component or another (be it reliability, safety, aptness etc.) is being championed in the account, and is suggested to have captured the nature of knowledge. In the above discussion I have characterised the traditional practice (outlined by TIA) as bringing *particular epistemic features* into centre stage. In the new approach to epistemic evaluations, not only do I propose to move on from the focus of epistemic features, I also suggest that we should reconsider our emphasis on this 'particularity' as well. Let me elaborate.

In accounting for the nature of knowledge in terms of unbeknownst information, this study does not aim to investigate any *particular components* 'constituting' knowledge as it were. In fact, I challenge the extent to which these constitutive components capture the nature of knowledge. By contrast, I argue that the epistemic phenomenon that is knowledge is a kind of holistic phenomenon such that its instantiations can be fully evaluated only when the entire epistemic situation is being considered *as a whole*.

Further clarifications are in order: note that I am not arguing here that we cannot identify individual epistemic conditions (as we traditionally do) that are necessary to knowledge. In fact, I even concede that examining these epistemic conditions would considerably enhance our understanding of the notion of knowledge.<sup>5</sup> That being said, the position I wish to advocate is that studying these epistemic components can only take us so far in the quest of capturing the nature of knowledge. Even if we have identified all individual epistemic components for a given case, they wouldn't suffice for a complete understanding of the epistemic situation at hand—to achieve that we would need to consider how the individual components relate to each other (rather than how they operate on their own) in the case. It is in this specific sense that the proposed approach for epistemic evaluations is holistic.

The idea behind this holistic approach is inspired and motivated by the overemphasis of individual epistemic components in the existing debate—and the problems it faced as a result (or so I argue). In the coming chapters I shall discuss a few examples of how taking the overall knowledge evaluations as merely consisting in its individual epistemic components has created problems for some accounts of knowledge—and how taking a holistic perspective might shed light on the situation. More generally, I argue that any accounts of knowledge that attempt to evaluate epistemic statuses by considering specific epistemic goods (such as reliability, safety, and aptness etc.) of individual components (such as target beliefs, pieces of evidence, cognitive processes etc.) will face challenges of various sorts for the fact that other relevant facets in the epistemic situation had not been given their due attention.

Similar with the remarks in IGA, this is not to say that the epistemic significance of individual components are to be disregarded in epistemic evaluations. In fact, as the proposed view develops many of them will come into play across different epistemic situations. Again, the proposed reorientation rests on the shift of emphasis—instead of taking epistemic components as the focus of discussion, it takes epistemic evaluation as a dynamic matter that cannot be assessed out of context. Put differently, I argue that the significance of epistemic cases cannot be fully appreciated when we

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<sup>5</sup> For example, taking safety as a necessary condition tells us that knowledge is essentially incompatible with epistemic luck.

fix our gazes at particular epistemic components which consist in them. Consider a vivid example in epistemic defeat. Under the holistic framework I argue that it is difficult to determine the epistemic significance of an individual defeater without considering its place in the entire epistemic case—such a significance seems to hang much on the defeater’s interconnected relationship with other state of affairs in the situation (after all, defeaters can be further defeated, and their epistemic significance would change upon further defeat). As a result, any individual epistemic evaluation of a defeater would be misguided—in chapter 3, for example, I argue that this is how the problem of misleading defeat emerged.

### 0.3 Structure of the thesis

This thesis considers a new account of knowledge developed from the Instance-Generalisation Approach and the holistic approach. I argue that knowledge construed under the proposed view is by its nature holistic and ecumenical.

The thesis consists of three parts. Part 1 (Chapters 1 and 2) consists of the introduction of the two approaches and articulation of my positive view.

In Chapter 1 I discuss Richard Foley’s (2012) insight that in knowledge undermining cases the agent always lack an important information. I suggest that Foley’s adequate information account (developed from this insight) is an example of IGA, and enjoys the advantage of being an ecumenical view with versatility in tackling ‘knowledge stories’ (in Foley’s term) in the literature. Nevertheless, I argue that the account falls short for its lack of a belief forming process on the agent’s part, which I consider as essential for epistemic evaluations to be possible in the first place.

In Chapter 2 I introduce the holistic approach to epistemic evaluation as well as the element of belief forming process to the adequate information account, thus motivating my own positive view of adequately informed process (AP). Roughly, one knows when one’s belief forming process survives the scrutiny of relevant epistemic norms in the entire situation. I further motivate the view by suggesting that it resonates with the notion of superassertibility discussed by Crispin Wright (1993, 1994), as well as how knowledge is commonly construed in many other instances of our cognitive lives.

Part 2 (Chapters 3 and 4) consists of theoretical comparisons and further motivations for holism in epistemic evaluations.

Chapter 3 discusses the relation between AP and defeasibility accounts of knowledge. I argue that the latter runs into problems with misleading defeat and defeat iterations because it assesses the epistemic significance of propositional defeaters individually and thus out of the entire situation. AP, in contrast, by considering the epistemic role of particular defeaters within the whole case, does not face the problem of defeat iterations and is able to give the desirable verdicts in cases of misleading defeat.

Chapter 4 explores the connections between AP and virtue epistemology (VE). In the discussion of cases that I called 'passive testimony', I argue that contrary to what VE suggests, in particularly friendly epistemic situations one's cognitive success does not need to be creditable to one's cognitive agency. Instead, I suggest a 'minimal' ability condition that one's success needs only be a product of the agency in order for one to claim epistemic ownership. I argue that on the one hand such a condition fits well with AP as a prerequisite for epistemic evaluations, and on the other hand, the holistic approach of AP can be instrumental in evaluating certain tricky instances of partial competence manifestations troubling VE.

Part 3 (Chapters 5 and 6) consists of applications of the proposed theoretical framework and its ecumenical nature of epistemic evaluations.

Chapter 5 is an example of how the AP as an ecumenical theory can be applied in various forms. In particular, I discuss the anti-luck platitude of knowledge and how AP might accommodate this platitude. The chapter first elucidates how knowledge is incompatible with the easy possibility of errors, and thus an anti-luck condition that offers appropriate modal protection from errors is essential to any accounts of knowledge. Following that, I demonstrate the ecumenicity of AP by arguing that it can encompass either the safety principle or the sensitivity principle (depending on one's theoretical commitments), by assuming certain epistemic norms.

Chapter 6 is a speculative attempt to articulate the AP view on epistemic justification, and to further explore the relation between AP and different norms of belief one might

commit. It is suggested that one's belief is justified when it is acceptably ideal (with regards to relevant norms) given one's total evidence. Not only do knowledge and justification fit well intuitively with each other under the AP view, they also resonate with the more familiar distinction of objective and subjective oughts in moral philosophy. Furthermore, I argue that such an ecumenical account of justification demonstrates its versatility in applications, allowing for a variety of hybrid renderings that result in interesting verdicts regarding the lottery and the preface paradoxes.

# **Part I**

## **Knowledge and Information**





# Chapter 1

## Knowledge and Adequate Information

### 1.1 Foley's adequate information account

In the introduction it is advertised that the current project would adopt the Instance-Generalisation Approach (IGA) and look for commonalities in epistemic cases without any theoretical presuppositions. What then might the commonalities be? Problems arise when we attempt to answer this. First, there is no guarantee that epistemologists have a consensual verdict regarding the data—especially for complex Gettier cases where good and bad epistemic features are meddling with one another. Even if we grant that epistemologists have somewhat reliable judgments on instances of knowledge and ignorance, there is no guarantee that these instances add up to any observable commonalities—indeed, what we consider instances of bona fide knowledge seem to be so distinct from one another. One might ask, for example, what interesting commonalities might lie within a case of calculating correctly a mathematical equation and a case of learning the temperature tomorrow from the weather reporter?

While I do not claim that I had the answers to these challenges, we must start somewhere. One less interesting but worth considering response is that knowledge instances as variant and distinct as these might really have less epistemically significant features in common than we expected as it turns out. Granted, the two cases mentioned above are both instances of knowledge, but could it be that they attained this 'knowledge' status in different ways, undergoing different mechanisms, and thus displaying different epistemic features? Note that this wouldn't prevent one to formulate an informative account of knowledge. Indeed, Richard Foley (2012) presented an ecumenical account of this sort, offering an ingenious observation with regards to epistemic instances—while we may come to know for a variety of reasons, there is still a commonality among knowledge stories in that, whenever we ascribe knowledge to one, one does not lack important information regarding the proposition

known. In this chapter I shall look into Foley's account of knowledge developed from this insight.

Let's revisit typical exchanges in Gettier literature under the Theory Instantiation Approach (TIA) paradigm. First, consider an account of knowledge. Then narrate some counterexamples in which the epistemic status of an agent in the described situation cannot be accounted for under the targeted account. More sophisticated (and complex) theories follow to account for these difficult cases, only to face further oppositions from more counterexamples of their own.

Regardless of whether or not one considers TIA had made any progress, one undeniable legacy of the Gettier literature is that it provided us with an abundance of epistemic cases of various sorts. Indeed, this offers IGA the 'data' it needs to begin with. Without the accumulation of Gettier counterexamples displaying various epistemic features, it might be difficult to find a legitimate starting place for the said approach—now, since we have been relatively unsuccessful in addressing these epistemic cases, why not look into them to see whether there are any common features on their part contributing to their vicious triumphs so far? Thus, we start our quest from investigating the commonalities among these problematic 'instances' (or, as Foley describes them, 'knowledge stories') that concerned us.

According to Foley, discussions of counterexamples in the Gettier literature is analogous to storytelling. The narrator who introduces the new case to the literature has constructed the story carefully, describing certain situations surrounding the hero in his believing P. The aim of the storytelling is to elicit certain reactions on the audience part—particularly, to convince the audience (i.e. fellow epistemologists) with regards to the hero's epistemic status. This can go either way—the story can suggest that knowledge is undermined even though the target account is satisfied, rendering the account too weak; or that knowledge is intact despite the said account falls short, rendering the account too strong. Most stories aim to achieve the former, so let's take a look at how the stories achieve this aim.

Insofar as the target account is unambiguously laid out, one might think it wouldn't be too difficult to tell a story to the effect that fellow epistemologists would concede that

the account is satisfied. However, things aren't always that simple. Proponents of the target view may well protest that the account offered by the storyteller wasn't accurately articulated, resulting in more ramifications to the debate. This happens more often than one might think as contemporary accounts of knowledge are often perplexed. Also, the account might even be deliberately vague to some extent—by this I mean it is not always a definitive matter that the conditions (unambiguously laid out) in the account are met in some situations. In these hard cases it would be tricky to determine whether or not the account is met even if everything has been cleared up. However, this is not the focus of Foley's discussion on the game of general knowledge stories—we may leave the complexity of these issues to debates regarding specific accounts. Let's grant for the sake of argument that the hero of the story had satisfied a particular account of knowledge, how then does the storyteller elicit the desired knowledge judgements from the audience? Foley suggests that the storyteller highlights an epistemic shortcoming of the hero—namely, *certain information about the situation the hero missed out* (probably not to his fault). Of course, we seldom are perfectly informed about everything while claiming to know certain things—however, the crucial move for the storyteller is to suggest that the lacking information is of epistemic importance in the situation. This involves storytelling techniques. Consider what Foley discussed (my italics):

The most basic (technique) is selectivity. Real situations are lush, whereas stories are selectively incomplete. The storyteller decides which of a potentially limitless set of details about characters and settings to omit and which to include, and what emphasis to put on those that are included. The ways in which these storytelling decisions are made *pull the reactions of listeners in one direction or another*. It is no different with knowledge stories. Stories in which a character has a true belief can be told to *make gaps in her information seem important*, but they can also be told to diminish the significance of whatever gaps there are. Call the latter a “narrow telling.”<sup>1</sup>

Stories weren't supposed to be a complete account of what happened. Propositions in stories weren't supposed to be treated equally. Instead, they vary in importance to

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<sup>1</sup> Foley (2012), p. 15.

the storyline. Naturally the storyteller would highlight the more important details and omit the less important ones. What's more intriguing is that, according to Foley, not only can storytellers create 'information gaps' (details of the story which is unbeknownst to our hero in the story), they can also emphasise or diminish the significance of these gaps. To illustrate, Foley retold the barn façade county in such a way that the nearby fake barns—and the fact that George (our hero) is unaware of them—are less significant to the story:

Imagine that the barn where he has stopped his car was the location of an especially important event of his childhood. It was his memory of this event that motivated him at great time and expense to return to the region and seek out this specific location. Since he has no interest in the other locations he has passed through or in the other barns he has apparently been seeing, he has paid scant attention to them. It is this particular location that was the sole purpose of his trip.<sup>2</sup>

When the story is retold this way, it does seem less important that George is unaware of the facades in the vicinity. Foley also suggested that we the audience 'may be more ready to concede that he knows'. Indeed, after the modification, one could make a case that George's belief is now safe—given the way George looks exclusively for this barn, he wouldn't have easily believed falsely. As safety is often considered as what undermines George's knowledge in the original case, retelling the story as such indeed made knowledge ascription more plausible. Such results are particularly intriguing when one considers how the retelling is not intended to be theory-laden in the first place—Foley didn't seem to have safety in mind, or aims to make George's belief safe for that matter, when he made the modification. Instead, Foley only aims to alter what is important in the story, and safety comes into play. As a general remark, by seeking commonalities among epistemic cases in a pre-theoretical lens we may discover that certain theoretical features (e.g. safety) would fall in line when they become relevant in specific cases. It might turn out that certain account of knowledge emerged from this non-theoretically laden approach wouldn't introduce any new epistemic feature to our epistemic evaluation, but instead outline a new way of thinking about existing

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<sup>2</sup> Ibid, p. 15-16.

features, and how to determine their epistemic significance across various situations. Keeping this remark in mind, let's take a closer look to Foley's particular account.

As Foley believed that the agent's information gap is essential in knowledge ascriptions, his account tries to put restrictions on information gaps. He suggested that to know one must have *adequate information*. Without specification such adequacy is left theoretically vague. However, Foley thinks that such adequacy could be tested negatively, in that there are no important information gaps<sup>3</sup>—i.e. one must not lack important true beliefs (he takes information just as true beliefs).<sup>4</sup> In other words, Foley's account of adequate information consists only in true beliefs, and nothing (categorically different from true beliefs) more. To know P one needs only to have *enough true beliefs* with regards to P. To determine what is 'enough', one needs only to make sure that there is no true belief important to P that the agent lacks. On the other hand, if S has a true belief that P that falls short of knowledge, S must have missed out certain other true belief(s) important to P. Foley gave the following account:

If S has a true belief P but does not know P, then it ought to be possible to identify a proposition Q such that (i) Q is an important truth and (ii) S does not believe Q.<sup>5</sup>

This, as Foley suggested, is an important shared feature among Gettier counterexamples—it seems that we can always identify in Gettier stories some important information the hero lacks—something that holds 'unbeknownst to S'. Without at least implicitly hinting such lack of information in the story it is very hard to imagine how some true belief falls short of knowledge.<sup>6</sup> In the following section I shall

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<sup>3</sup> According to Foley, there is always an information gap between the agent and the real situation—as he describes, the world is “lush” with facts “radiate out in all directions”, therefore no matter how well informed one might be, it is almost certain that there is some truth about the situation one would missed out. What is essential is that the facts missed out are not important.

<sup>4</sup> Ibid, p.3-4.

<sup>5</sup> Ibid, p. 8. Note that (ii) should be taken as  $\neg Bs(Q)$ , which include disbelief, suspension of judgment, and being not aware of Q.

<sup>6</sup> At the first glance, the account might look affined to positions such as 'no false lemmas'. Upon reflections, however, the two are significantly different—while no false lemmas is an 'inward looking' view demanding no false assumptions from what the agent believes, adequate information is 'outward looking' in requiring that there can be no important truth external to the agent's beliefs. In this regard, it can be argued that adequate information is related to defeasibility theories in some way—note that this will be addressed in chapter 3. For now, another distinctive feature to bear in mind is that Foley's view is advocated to be ecumenical—there can be many reasons a piece of information is important;

examine how this account of knowledge tackles some of the usual suspects in Gettier literature.

### 1.2 Adequate information at work

In the introduction we mentioned how the Gettier game developed in the previous decades—how new accounts learned from previous failures in devising their own theoretical frameworks. As a result, one can expect that a theory developed partly out of the lesson of previous troubling cases would competently tackle the latter—it is, after all, the new vaccine developed to cure those diseases. Consider safety theory for example. It looks much more promising and fitting when addressing the barn façade case as well as the trash chute case (which Sosa devised to undermine sensitivity in favour of safety); perform just well enough to fend off many other cases<sup>7</sup>; and fall short in Temp-style cases (targeted specifically at safety).

As Gettier counterexamples are designed to target particular theories, each of them has an underlying agendum in play—to highlight how some specific epistemic feature fails to capture the notion of knowledge. This makes it difficult for certain theory to accommodate all Gettier cases perfectly<sup>8</sup>. Indeed, since the cases are designed to hinder different (specific) theories by highlighting a variety of epistemic shortcomings, any account which champions particular epistemic goods is bound to fluctuate in performance across them. However, adequate information is no such theory—Foley did not champion any epistemic goods among others. Instead, it is a main feature that the adequate information account remains *ecumenical*. As Foley puts it, ‘knowledge is a mutt. Proper pedigree is not required’.<sup>9</sup> A piece of information can be important

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whereas I take it that no false lemmas view pertains specifically to the agent’s inferences from false assumptions.

<sup>7</sup> I believe there are cases where safety does give the correct verdict but may not necessarily be offering the best diagnosis. Consider the classic 10-coins case where Smith believes truly that the person who is hired has 10 coins in the pocket. Surely he could have easily believed falsely, having not counted the coins in his own pocket—but the better explanation of Smith’s error seems to run along lines like ‘Smith has mistaken the person who would be hired’, which in principle could happen independently from his doxastic modal profile (just as in Temp-style cases).

<sup>8</sup> By this I do not mean to claim that no account on the market is able to give the ‘desirable verdicts’ in all cases. However, as I shall elaborate further there seems to be a gap between getting the verdicts right and offering the best explanation for knowledge ascriptions in the cases. The idea here is that since different counterexamples target on different epistemic features, it is not to be expected in an account of knowledge that it offers the best explanations (of why they know/fails to know) to every counterexamples—the explanation an account gives would fit better in some cases than in others. See fn. 7 for an example.

<sup>9</sup> *Ibid.*, p. 5

for many reasons. This allows versatility in Foley's account to offer the best explanations across scenarios—suggesting that particular pieces of information (important on different scores) are lacking. To observe this ecumenical approach at work and appreciate its versatility, let's run the account against several commonly discussed Gettier cases.

**BARN FAÇADE** George is driving through the country. As he looks through the window he sees a barn-shape building across the field, thus coming to believe that 'there's a barn in the field'. The building he spotted is indeed a genuine barn—however, unbeknownst to him, there are many fake barns in the vicinity, so cleverly disguised that, visitors who had not taken a closer look would most likely mistaken them as barns. It turns out that George is looking at one of the few genuine barns in the area.<sup>10</sup>

With regards to identifying barns it is of course important to notice that there are barn façades in the vicinity. The fact that George lacks this information undermines his knowledge because such a situation would call for a more cautious belief forming practices on George's part regarding his barn beliefs. More generally, George does not seem to have enough grasp of the situation with regards to the truth of the targeted belief. Now, it would seem that barn façades awareness in the environment is important not because lacking it would lead to certain misunderstandings (as in 10-coins case, see fn. 7); rather, so doing would result in risky belief formations with false beliefs in many close worlds. It would therefore be apt to consider that the safety principle is in play to explain the information importance *in this particular case*.<sup>11</sup> As we consider more cases, we can appreciate the adequate information as an *ecumenical approach*—since different stories have different emphases, the lacking information in the cases are *important for different reasons* (i.e. various epistemic features would be in play), it is argued.

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<sup>10</sup> The original case was credited to Carl Ginet and was first published by Goldman (1976).

<sup>11</sup> Again, this shows how IGA would go back to particular theoretical features in application. Granted, adequate information has not assumed any predominant feature to begin with. This doesn't mean that these epistemic features from other accounts cannot be in play when explaining why certain information is important.



FAKE SHEEP Smith is in the country and sees a sheep-shaped object across the field. He thus forms the belief that ‘there is a sheep in the field’. As it turns out, he’s looking at a rock that is incredibly sheep-like in shape from distance. Smith nonetheless believes truly, however, because there indeed is a sheep in the field, hidden behind the rock and not visible from Smith’s location.<sup>12</sup>

Smith obviously missed the information that the object he saw was a rock rather than a sheep. Such missing information is important because it would have prevented him from the ill-formed belief that there is a sheep in the field (in virtue of looking at a rock).<sup>13</sup> Without this information he had mistaken his perception of the rock as an evidence for a sheep, thus believing truly for the wrong reasons. One of the main initial responses to Gettier cases is that knowledge must not be derived from false grounds. One could tell a story in such a way that the missing information is important in light of intuitions along this line of thoughts (or others, see fn. 13).

TEMP Temp forms his beliefs about the temperature in the room by consulting a thermometer. His beliefs, so formed, are highly reliable, in that any belief he forms on this basis will always be correct. Moreover, he has no reason for thinking that there is anything amiss with his thermometer. But the thermometer is in fact broken, and is fluctuating randomly within a given range. Unbeknownst to Temp, there is an agent hidden in the room who is in control of the thermostat whose job it is to ensure that every time Temp consults the thermometer the “reading” on the thermometer corresponds to the temperature in the room.<sup>14</sup>

Temp’s beliefs accord with the actual temperature robustly—he could not have easily formed a false belief regarding temperature. However, they operate under a mechanism unknown to Temp—his beliefs are reliable not because of the thermometer at work but the thermostat manipulated by the hidden agent. This missing

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<sup>12</sup> Adapted from Chisholm (1966).

<sup>13</sup> Indeed, depending on one’s theoretical endeavour, there could be many ways to highlight the importance of the missing information. For example, defeasibility theorists may offer an equally plausible story that the importance stems from the information’s ability to defeat Smith’s justification. While I do think some theories fit better with particular cases than others, I do not claim that all Gettier cases have one and only one corresponding theory that offers the best explanation—sometimes two theories might fare equally well.

<sup>14</sup> Pritchard (2012), pp. 260.

information is suggested to be important—so much so that it undermines knowledge of these safe beliefs. As a general remark, it is suggested that any instances of knowledge require appropriate connections between the agent and the state of affairs. Such connections can have different manifestations—be it the right kind of evidence, an appropriate causal link or an appropriate competence in the belief formation. Depending on the theoretical framework(s) the storyteller commits to, the missing information is important as Temp’s doxastic outcomes (robustly true as they may be) have nothing to do with the relevant features possessed by the agent.

Cases could pose challenge to theories of knowledge in another direction—instead of telling a story where knowledge is undermined for factors the theory fails to account for, one could present bona fide instances of knowledge where the criteria set by the theory are not met. As a theory of knowledge it would be worth seeing how Foley’s adequate information account fares in cases of this kind. The general observation is that when one knows one does not lack any important true beliefs. Take Foley’s own example of some quiz contestant’s true belief that the Battle of Marathon took place in 490 BCE. Suppose she learnt this fact in her high school history class and correctly recalled it, suppose also that she only remembers this fact and nothing else relating to the battle, it seems that we would still be happy to ascribe knowledge to her—at least with regards to the date. Indeed, in the context of a quiz game, not much else matters other than the fact in concerned—the defining feature of ‘knowing the answer’ is simply to give the truth of the answer of the question asked. Since the contestant has the true belief and her memory (we assume) is functioning normally, it is hard to deny her knowledge despite the limitation of her epistemic status on that matter. Now, Foley offers a straight forward explanation from his account—since in the context of a quiz game there’s no important information other than the correct answer itself, the contestant’s does not lack important information. In other words, in this particular situation merely one piece of information (the answer) is considered adequate. Consequently, the contestant knows the answer—not because her epistemic standing is particularly good regarding the question; but simply because it is enough for a quiz game.<sup>15</sup>

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<sup>15</sup> This diagnosis might create trouble, it would seem. If only the target belief is relevantly important in this context as Foley claimed, presumably one cannot have that true belief and fail to know—that is, one cannot be Gettiered in a quiz setting. Indeed, as we will see in the coming section this ties in with

### 1.3 Potential challenges

In the following section I shall raise a few concerns regarding Foley's adequate information view. The first problem concerns whether the information's importance is determined in solely intellectual terms, or do practical concerns play a role on that matter. While such discussion inevitably touches on the controversy between traditional invariantists and pragmatic epistemological views (including contextualism and subject-sensitive invariantism), my objection here is more of a clarificatory remark on Foley's position. As Foley endorsed a pragmatic reading on information importance for epistemic evaluations, my argument against him will focus on how it *need not be the case* given the ecumenical spirit of the adequate information account. Thus, the section here does not aim to positively establish an invariantist position, but rather to make a negative claim—that adequate information is not committed to any pragmatic epistemological views. Such clarification would be relevant in the next chapter as I discuss the ecumenical nature of my own account.

The second and the third problems, on the other hand, point to the same, more serious concern with regards to Foley's view. In particular, by understanding knowledge merely in terms of true beliefs, I argue that adequate information has difficulties in elucidating a sensible connection between information—why particular ones, but not others, are relevant to the target belief in the knowledge story. Indeed, this is a major motivation to consider a new account (as I shall articulate in chapter 2).

#### 1.3.1 Practical importance

In the last sections, I had presented Foley's negative test that supposedly would demystify when information is considered 'adequate'—whenever knowledge is undermined, S must lack certain important information. While it is quite clear what 'lacking an information' amounts to, one might still question what information is 'important' in Foley's lights. It could be argued that the vagueness of Foley's account merely shifts from what pertains to 'adequacy' to that pertains to 'importance'. When and why is some information more important than others in a story? It seems that

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one of the major concerns of the adequate information view. I'm grateful to Martin Smith for this remark.

without addressing this question the negative test cannot be any more illuminating than the 'adequate information' slogan.

Foley did elaborate further on this score. As he sees it, in order to determine the importance of some truth, both practical and intellectual factors must be taken into account. If, both factors considered, a truth is 'important enough', then S must be aware of it in order to attain knowledge. Consider the example Foley discussed:

(T)here is no purely intellectual measure for how important a piece of information is. Information about the atomic numbers of various chemical elements is generally regarded as more important than information about how many grains of salt there are in a shaker of salt, but not because the former is intrinsically more significant and not solely for intellectual reasons either. Its importance derives rather from *complex links with our lives* in all their detail, and in particular, with the full range of *human concerns and values*.<sup>16</sup>

One must examine the above claims with caution. Granted, it is undeniable that the value and significance *overall* of a piece of information cannot be determined solely from intellectual measures. However, this does not mean that we cannot single out the intellectual from the practical and maintain that when it comes to determining values/importance of the information *pertaining to the epistemic*, it is solely the former that is in play. Here is an attempt to distinguish between pragmatic and intellectual importance.

While we could appreciate how the atomic numbers of various chemical elements are more important than the amount of salt in our kitchen, we could illustrate the former's significance in two distinctive levels. The atomic numbers can be important to us because they have wider range of implications and applications in our lives. In other words, such information is more useful with regards to our human concerns. On the other hand, a scientist can consider it more important to our intellectual concerns because it is instrumental to a wider variety of our other inquiries—it leads us to a

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<sup>16</sup> Foley (2012), p. 25-26. My italics. Note that this is a familiar line of argument in epistemology against the more traditional view which maintains that epistemic values can be determined purely in intellectual/truth-aiming terms. For responses, see Pritchard (2016a) and Treanor (2013, 2014).

better understanding of more things compared with the grains of salt information.<sup>17</sup> This marks the distinction between pragmatic and intellectual importance. The pragmatic importance of information seems to be a normative matter with regards to human concerns and values; whereas the intellectual importance thereof is veritic in nature—it concerns first and foremost truths, not about itself (it is very odd at least to ponder on the importance of a statement on its own truth), but other related statements. Keeping this distinction in mind we can even appreciate how the amount of salt in kitchen might be considered more important than fundamental chemical knowledge under appropriate contexts. Suppose I have to know whether there is more salt than pepper in my kitchen, the amount of salt is certainly one of the two important pieces of information required to settle this inquiry, more (intellectually) important than the atomic number of sodium, even though the latter generally has much wider implications to other truths. By the same token, suppose it is my mother's birthday and I wish to bake the perfect cake for her, the amount of salt I have would be more (pragmatically) important than some cold universal chemical facts to me. Interestingly this seems to match with what Foley himself had remarked—the importance (of both sorts) of information in these cases really depends on how the story is unfolded. However, this does not seem to hinder us from clearly distinguishing between the intellectual and the practical—and maintaining that solely intellectual factors are considered when it comes to the epistemic importance of the information.<sup>18</sup>

Perhaps Foley had not been fully elaborative in his pragmatic appeal. Traditional pragmatic approaches to knowledge do not merely highlight how one's belief(s) might be significant in practical measures. Rather they give a story as to how such significance carries epistemic relevance. Take the atomic number of some chemical compound for example. It no doubt is useful to certain aspects of our lives—but this is not what pragmatic epistemologists claim. Rather, the claim is that certain aspects of the epistemic status of a belief depends on the pragmatic importance of it—not in the veritic sense that it supports/disproves propositions (like intellectually important information), rather in the normative sense that our valuing the proposition *demand*s

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<sup>17</sup> Treanor (2013, 2014) made a similar point in his Gold miners analogy.

<sup>18</sup> This only suggests that invariantist is a viable view and should not be taken as a move against contextualism/pragmatic encroachment. The debate between the two is beyond the scope of this project. I wish only to establish that Foley's adequate information account, much aligned with his ecumenical flavour, does not commit oneself to any of the two views.

*higher levels of epistemic standard* for its truth. Foley did express similar thoughts in a pair of cases he discussed:

Consider a foreman who works in a factory that makes highly noxious chemicals and who is responsible for the air purification equipment at the factory. He is aware that the equipment is exceedingly well engineered and aware also there has never been a problem with it during the two years it has been in operation. His job nonetheless requires him to inspect the equipment daily, which he does on his morning rounds. There is a warning light on the equipment that is green when the equipment is working properly and red when it is not purifying the air. The foreman is unaware that the warning mechanism has just shorted so that even if there were a problem with the equipment, the green light would remain on. He could have disconnected the purifier elements to check whether the warning light is functioning properly, but he does not. He looks at the light, sees that it is green, and believes that the equipment is purifying the air just as it always has...Moreover, he is correct. The equipment is working perfectly.

Consider now another story that is in most ways analogous, only the stakes are not nearly so high. The same foreman before going to work at the factory each day uses an electric toaster to toast a piece of bread. The toaster has a small light that is green if the toaster is working properly and red if the coils are not heating sufficiently to toast bread. The make of his toaster has an extremely high reliability rating, and the foreman has never had a problem with it in the two years he has owned it. Unbeknownst to him, however, the warning mechanism...has just shorted in such a way that the light would be green even if the heating coils were not working...he could have gone to the trouble of disconnecting the coils to test whether the warning light is functioning properly, but he does not. He pushes the handle of the toaster down, the green light illuminates, and he starts to prepare his coffee, believing that his bread is toasting as usual, and indeed it is.<sup>19</sup>

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<sup>19</sup> Ibid, p. 26-27. I had not made any changes to Foley's original cases since the details the narrator gave is of paramount importance to Foley's account.

Foley suggests that we are more inclined to grant knowledge in the latter case than in the former, due to the higher stakes involved in erring in the factory. In other words, the insensitivity of the green light in telling whether the machine is functioning normally is more important information in the factory case than in the toast case, since the consequence is more severe. While Foley's verdicts on the cases may be on point, I do not agree that they necessarily have to do with the differences in stakes. In his argument for the foreman's knowledge about the toast, Foley emphasised that the foreman 'has lots of evidence about the reliability of the toaster and...the stakes of his being wrong are minor'. I suspect it is solely the former that alters the verdict for his knowing the toast. In the story there are many other pieces of evidence for the toasting of the bread, more importantly, Foley deliberately downplayed the problematic evidence—it is not even clear whether the foreman had paid attention to the green light, let alone basing his belief on it. On the other hand, although the factory's air purifier is also suggested to be very reliable, the story specifically highlights that the foreman is required to check on the light in his belief formation.<sup>20</sup> Thus, the problem here seems to be that the cases are not that analogous in epistemically relevant respects. If we retell the story to highlight the role of the greenlight in his toast belief formation, the differences in verdict would no longer be so apparent. Suppose the foreman is in charge of toasting breads for the family, and is requested by his wife specifically to check the green light, the light is on despite failing to indicate the functionality of the toaster. The foreman looks at the light and forms the belief that the toaster is functioning properly—and it is, making toasts for the family as usual despite the malfunctioning green light. The thing is, I would be inclined to think that knowledge is undermined in such a story—the foreman does not seem to have acquired the true belief the right way (whatever it is). Indeed, such a case standing alone seems to be just another classic Gettier mishap.

Note that the conclusion I'd like to draw here is negative—I think Foley's take on the cases, and thus his pragmatic take on information importance, are misguided. In particular, the importance of information the foreman lacks don't seem to depend on stakes, but rather on the way he forms the belief. We are certain in the factory case

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<sup>20</sup> The story hadn't offer the foreman clues other than the green light to detect a chemical hazard. I think it is safe to assume that detecting a burnt toast would be an easier task.

that knowledge is undermined not because the consequences of errors are severe, but rather because it is clearer that he relies on an erroneous process (checking the shorted lights) to form his belief(s). While I'm sympathetic to the traditional invariantist view myself, it is not the purpose of the project to establish such view. All in all, rather than asserting that the correct adequate information account is an invariantist one, I wish to maintain a weaker claim that it does not commit one to either direction on this score (*pace* Foley). Thus, in the coming chapter I would not be discussing further how there cannot be pragmatic factors in one's epistemic evaluations. I would instead postulate that my ecumenical view can really accommodate both stances, depending on one's theoretical commitments.

### 1.3.2 Informing the hero and closing the gap

George spotted a real barn in the field. His knowledge is undermined because he lacks the information that the area is surrounded by barn façades indiscernible from real barns at distance. Suppose now George is being informed about this—being aware of the nearby façades he still thinks that the barn he's looking at is genuine, and continue to believe (truly) that there's a barn. Opponents of adequate information might suggest that merely closing the information gap is not enough. Presumably we are still reluctant to grant George knowledge in this retold story. If anything one could argue that the better informed George even becomes epistemically blameworthy for still believing that the barn is genuine. Indeed, there seems to be certain 'defectiveness of justification or whatever', as Foley puts it, in the case. If it is really the case that George doesn't know because he lacks certain information, one would naturally think that had he been given that piece of information knowledge would have been secured. On the same token, as adding the information doesn't 'fix' George knowledge, we might have reasons to suspect that the information is not that 'important' to knowledge after all.

Foley did address this concern. It is important to note that this is not a direct challenge to the adequate information account. Foley never said in the account that adding the important information would grant one knowledge. Instead, he emphasised that it is a negative test—if one fails to know there ought to be an identifiable important information the agent had missed. When George is aware that there are many barn façades in the area, this effectively becomes a new story—and having the important



information (of the original story) does not guarantee George adequate information now. There might be other important information he lacks in this new story that undermines his knowledge. As Foley suggested, the information George lacks in this new story is how the object he spotted looks from the rear and sides.<sup>21</sup> Such information becomes important only after the story was retold. Given that this is a barn façade county looking at the other sides is the best way to check whether certain object really is a barn—without the check it would be too risky to have barn beliefs with so many fakes nearby. A lesson to learn from this is that the importance of information in stories seems to be a dynamic matter. Some other information might rise to relevance when the story is retold. As a result, adding the originally important information to the hero's beliefs is not guaranteed to close the information gap—new gap may (or may not<sup>22</sup>) arise.

While I concede that the story Foley gave is plausible, one could nevertheless argue that better alternatives are available. In 1.2 I briefly discussed how a theory could work in some cases (as in giving the right verdict) while not capturing its core issue (see the case of safety in fn. 7). I suspect similar things hold for this new barn story. Foley did bring up the issue of 'defective justification' of some sort but then suggest that it could be explained in terms of lacking some information. It strikes me that the latter is really derivative of the former. Let me elaborate. When George is said to lack knowledge because he lacks the information about the object's rear and sides, the reason why he needs this information (or in Foley's terms why it is important) goes back to George's justification of his barn belief—his justification is defeated (by the fact that it is a barn façade county) and he needs to look at the rear and sides to verify the barn he saw as authentic (thus defeating the original defeater of his justification). This is not to say that Foley's account is derivative of the defeasibility account of knowledge. In fact, the theory involved in explaining (in the best lights) the significance of information vary from case to case (as shown in 1.2). However, in all of the cases it seems that the explanation inevitably involves some norm(s) of belief formation on the agent's part, be it the defeasibility of justification, reliability/safety of one's processes, or aptness of

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<sup>21</sup> Foley (2012), p. 23.

<sup>22</sup> One could imagine cases where no other information is lacking in the new story and adding the missing information closes the gap for good. For example, if George in the new story is further informed how the rear and sides look for the thing he saw, we would grant knowledge to him as to whether it is a barn (or a façade).

cognitive successes. It is my opinion that the importance of information really derives from these norms of belief forming practices. Without looking back to the explanatory roles played by the norms, the adequate information story consisting only in true beliefs is essentially incomplete. This point would become even more apparent in the next section.

### 1.3.3 Relevant information

In 1.3.1 I had discussed how information under Foley's account might be important to our target belief—on practical and intellectual levels. However, the link between the two propositions still isn't entirely clear. The question I have in mind is this: now the hero has a target belief and there is important information he lacks—how are the two related with regards to, say, supporting/defeating one another's truth? Why is some information, but not other, relevant to our target belief?

According to Foley, important truths could be found 'in the neighbourhood of P'<sup>23</sup>. Admittedly this is somewhat vague, but it does suggest certain conceptual or spatiotemporal 'closeness' between the important truths and P. Foley elaborate such closeness in later chapters:

Some propositions are so closely connected with P that it is neither possible for P to be true without their also being true nor for S to believe P without also believing them. At the other extreme are truths so distant conceptually, spatially, temporally, or causally that they play no discernible role in her believing P or in P's being true. Between these two extremes are truths that play some role...either in P's being true or S's believing P.<sup>24</sup>

This discussion needs a bit more unpacking, in order for us to appreciate how one truth is 'close' to another in Foley's lights—that I have particular visual perception of a barn, or that there are façades in the spatial vicinity, are close to my belief that there's a barn; that Brown is in Barcelona, on the other hand, is far off in relation to my barn belief(s). That the number 621 was drawn, or that there are altogether 1000 balls in

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<sup>23</sup> Ibid, p. 8.

<sup>24</sup> Ibid, p. 29.

the draw, are close to the truth that ticket 126 is a loser; while there being 52 cards in a deck is again some remote truth to the lottery. These cases are relatively unproblematic because the contrasting propositions I bring up are obviously far off. However, if spatial closeness is one of the criteria, are propositions like there being a fake sheep inside the barn, or there being a dead beetle inside the number 621 ball, close to the target propositions respectively? Spatially they are even closer than the fake barns and other balls in the vicinity, why do our intuitions suggest that they are not relevant (I suppose that we do) to the target beliefs? Consider the following three truths. i. Smith completed university at age 23; ii. Smith met his wife at the university; iii. Smith has a bachelor degree. All of them hold for Smith and are personal information about him. Supposedly they are close in one way or another (e.g. Smith wouldn't have met his wife had he not attended the university). Why does i (but not ii) support the truth of iii? Is there anything in Foley's arsenal that can account for this truth-supporting relation?

#### 1.3.3.1 Over-intellectualisation

Explaining the links between one belief supporting another is no easy task. It often involves complex belief forming processes not necessarily explicable, let alone be aware of, on the agent's part. I mentioned above that Foley's account of knowledge consists only in true beliefs (i.e. information in Foley's terms). Thus, the natural move for Foley to illuminate such links is to suggest (as he does) that 'how truths are connected is itself information, indeed, often crucial information'<sup>25</sup>. However, if we take these complex links between truths as merely more truths, thereby reducing our belief forming processes to true beliefs, one can argue that we are left with a very implausible view. Here is why.

For one thing, if this information is so crucial we certainly need it in order to know. But the links between truths, as I have suggested, are exceedingly complex. The concern here is that we are left with an overly intellectualised account of knowledge. Suppose I'm a chicken-sexer, where the link between my perceptual experiences of the chicks and my chicken-sex-beliefs is not explicable (at least to our present knowledge), what is the true belief that I need to hold in order for me to know the chicken-sex? Put aside

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<sup>25</sup> Ibid, p. 32.

this more controversial case and consider our everyday empirical knowledge—S believes that there's a barn and this belief is supported by S's visual perception of the barn. What other important true beliefs must a layman adult agent possess to link up the support? Is something like 'usually things I see suggest that they exist' suffice? Or does he need to have the complete knowledge of their neurological processes behind a successful visual recognition (presumably this is very crucial to his seeing the barns)? Do agents normally (even implicitly) hold these beliefs when they recognise a barn?

Also, reducing the links between propositions to just more truths had not settled the problem of explaining the relevance of information. Consider this. In order to explain how some information is relevant to the target belief, we must consider the links between them. Now Foley characterises them as more information themselves, and suggest that they are 'crucial'. How then are they in turn relevant to the relevance (and also to the target belief)? We will need yet more true beliefs explaining such relevance. It seems that considering the links as just more information only moves the issue to a higher order—even worse, it has introduced a regress of relevance of information. Once again we may ask ourselves—does an average person really hold higher order relevance beliefs as such, when recognising a barn?

### 1.3.3.2 Reducing cognitive agencies to true beliefs

I hope these concerns, together with my discussion in 1.3.2, had made a case that how the agent connects their information to P, or more generally the agent's belief forming processes, are not reducible to true beliefs. Even if there are responses to address the over-intellectualisation and the regress of relevance, there will still be elements in our epistemic practices that cannot be captured merely by true beliefs. It seems to me that in epistemic activities there are more characteristics on the hero's part, as a rational cognitive agent, than the aggregate of his doxastic attitudes to propositions.

Suppose Omni has an eidetic memory helping her to store and retrieve her true beliefs with impeccable precision. She has also processed every information there is (either experienced herself or testified from others). As a result, she is an all-knowing being. Suppose now that Omni decided to share her information with Oppy, by inducing every

true belief she possesses to Oppy's brain (for the purpose of the discussion let's grant that the information includes even the links between every belief, and their higher order links and so on). What's peculiar is that, as Oppy's beliefs are induced, his cognitive faculties have nothing to do with those beliefs (except perhaps for storing them in memory). Yet he is nevertheless in possession of the complete information of the universe and the connections between the information. If knowledge consists only in information, Omni and Oppy must be on par when it comes to what they know. However, I would like to think that this is not the case—Omni is an all-knowing agent but Oppy is not. Indeed, the epistemic status of Oppy does not resemble a human knowing agent commonly construed. If we say that Oppy knows everything, we seem to be using the word 'know' metaphorically—like what we do when some non-agential entities are in possession of some information (e.g. Google knows that the Battle of Marathon took place in 490 BCE; AlphaZero knows the variations for a particular opening etc.).<sup>26</sup>

#### 1.3.3.3 The beetle in the box

Consider another story discussed by Foley himself that causes trouble in the opposite direction. Suppose S has the true belief that there's a beetle in the box. She has no other information regarding this beetle belief. However, she does not lack important information either, for it is stipulated that there is no other information relevant to the story—the world is so simple that there is always a box and a beetle (there is no rich history where the two come into existence), and that the beetle is always in the box. Now the negative test of the account is met—there is no lacking important information (for there is no important information in the first place, the only relevant truth in the story is the target belief itself). On the other hand, Foley concedes that S does not know—she has this one belief but nothing else to support its truth at any measure.<sup>27</sup>

One less interesting response to this challenge, as Foley suggests, is to admit that the negative test does not always capture adequate information. In other words, this test on adequacy has 'restricted applicability' and only works under the premise that the

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<sup>26</sup> See chapter 4 for a more detailed discussion on why our epistemic status must be a product of our own cognitive agencies.

<sup>27</sup> Unlike the chicken sexer, S is not said to be a 'box expert' who is known for producing reliable beliefs about what's inside boxes.

world is considerably rich in information. Thus it is incapable of tackling extreme cases such as this. This doesn't mean adequate information fails—S certainly does not have enough information for that matter. 'It is the world that is lacking, not S', as Foley remarks. The world, Foley suggests, is 'informationally deprived' with regards to P such that P cannot be known. Foley termed this situation as a knowledge block.<sup>28</sup>

Is this really the case? Can P hold in the world and at the same time the world is informationally deprived with regards to whether P? Upon reading the case my first reaction is—is there really no other important information in the Beetle case? Now at least there is the situation which the beetle is located in a certain place inside the box. Possessing such information (say, if S were to look inside the box) would certainly grant support to S's beetle belief—just as the rear and sides looks of the barn would verify the authenticity of the barn. To this end, Foley adds that there is no such information either. It is mandated that the box cannot be opened (in fact, let us grant that it is metaphysically impossible to open it) and there is no other way such that one can test if a beetle is inside. But now I feel that it is not the world that is lacking—only that the bits of world relevant to P is not accessible to us (much like someone builds a wall along the two sides of the barn front, circumcising its back and sides—now if it is a true barn the rear and sides surely still exists in the world, it's just that there's no way for us to see it). After all, there exists a beetle in the box in this world (impossible to be seen by us) which corresponds with the truth 'there is a beetle in the box'—how is the world lacking? It seems that we need to differentiate here between what the world lacks and what the world holds but is inaccessible to us. The latter would still be information of the world—in fact, information that we necessarily lack. To this effect, Foley's own counterexample to his account would not stand. S (necessarily) lacks the information about the situation inside the box. Thus, S does not know P—indeed P is unknowable.

This, however, does not mean that Foley's account is particularly well placed in addressing the case. As argued in 1.3.2, I do not think that the above explanation captures the core reason why S cannot know. Sure, S lacks the information about the situation in the box, but this piece of information is important because it *provides*

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<sup>28</sup> Ibid, p. 45.

*support for the truth of his beetle belief* that she otherwise lacks. As I see it, the straightforward explanation for S's ignorance is that her belief forming process is in some way infelicitous. She has no support whatsoever regarding the truth of his beetle belief, nor is her belief a result of any norms of belief forming practices as an epistemic agent. These, I suppose, provide the explanation behind the importance of any given information.

#### 1.4 Concluding remarks—going beyond adequate information

This chapter presents a critical account of Foley's adequate information view. While I ultimately part ways with Foley, it is his insightful observation about the Gettier literature (and knowledge in general) that motivated this project in the first place. All in all, I find his discussions about the commonalities of knowledge stories, as well as the thought that knowledge hindrance stems from the agent's lack of grasp of the total story to be generally on point—I only disagree on how one should unpack these ideas. Specifically, moving forward I would like to achieve two aims in my positive account. Firstly, to explore an invariantist-pragmatist friendly approach to determine the importance of information. Secondly, to introduce belief forming processes on the agent's part that i. connects information to the truth of the target belief and ii. is not itself reducible to mere true beliefs.

## Chapter 2

# Motivating Knowledge as Adequately Informed Process

### 2.1 Revisiting knowledge stories

The main goal of this chapter is to motivate my own positive account of knowledge. As remarked in chapter 1, I concede that Foley's approach to knowledge is broadly speaking on point. One knows if one possesses enough information. I also suggested that Foley's view is missing a crucial part in belief forming processes. While this chapter would introduce process to adequate information—thus addressing challenges to Foley's account (together with other difficult cases), this is not all that the proposed view is about. In particular, it is not enough for an account of knowledge to merely extensionally capture instances of knowledge—a good account needs to 'capture' the 'nature' of knowledge, to explain why meeting particular epistemic criteria is essentially tied to the concept of knowledge as well. I take this to be true for the proposed account—not only does it offer apt verdicts to a wide class of knowledge stories, the key idea that one's belief formation exhibits an adequate 'grasp' regarding the whole story (unpacked in a specific way) strikes me as a helpful elucidation of what knowledge by its nature amounts to. Thus, this chapter shall address a number of epistemic cases, and discuss independent motivations for the account connecting knowledge with the agent's adequate grasp of the epistemic situation.

Before giving a positive account of what is considered 'adequate', more could be said regarding the knowledge stories in Gettier literature. Following what I characterised as the Instance-Generalisation Approach, I shall discuss what I consider the important common features, and lack thereof, among these knowledge stories—when compared to bona fide cases of knowledge.

Foley takes it that whether we ascribe knowledge to the hero in a knowledge story depends on what information he/she lacks. More could be said regarding how this trick is done in the stories. To highlight how the hero lacks certain information, necessarily



there is something that we know but the hero doesn't. Much like a Shakespearean dramatic irony, I believe it is the imbalance of information between us and the hero that generates corresponding knowledge judgments the narrator so pleased—while our hero is unable to adequately grasp the situation, we as the audience are always in the epistemic position to say that the hero is lacking something important in forming his/her true belief(s). This is why one of the most common phrases in knowledge stories is 'unbeknownst to S...', followed by some details of the story given exclusively to the readers but not the hero. As a result, regardless of how well justified the hero's belief is and what other epistemic virtues he/she demonstrates, the storyteller can always point to the unbeknownst information (privileged to the readers) and suggest that had S been aware of such information, S would not have arrived at the target belief the way he/she does (the audience, knowing that S is mistaken about the situation in some way, surely would have formed the target belief in a different way). This counterfactual statement, I suppose, plays an important role in illustrating how the missing information is epistemically important—the lacking information matters because having it would alter the way S forms his/her target belief, one way or another.

This is how my account differs from Foley's in a nutshell: The importance of certain information is determined not by practical concerns but by the role the information plays in one's belief forming process. In his book, Foley asks 'when is true belief knowledge?' Similarly, the question I would like to tackle is this: 'when does a belief forming process produce knowledge?' Let's suppose that in knowledge stories the narrator along with the audience has access to the entire situation (at least regarding P) while the hero does not. If the hero grasps that situation *adequately* regarding the truth of P, his knowledge of P follows; on the other hand, if more needs to be said about P in the situation (than the hero is aware), then his belief forming process falls short. I shall explain more on what 'adequacy' amounts to, as well as on the information gap between us and the hero.

Although it is essential in knowledge stories that there's a gap of information between us and the hero, such imbalance doesn't mean that knowing is a comparative matter. The hero does not lack knowledge because he is less informed than us. 'We' comprises of both the storyteller and the audience of the story—supposedly the two are informationally on par, in principle the storyteller has not withhold anything from

the audience. More importantly, 'we' are supposed to have a full grasp of the situation—there is (in principle) no information the storyteller missed out with regards to the target belief in the situation. As far as I can tell in the literature, 'we' always know as to whether P, and this is why 'we' seem to always be able to identify what the hero lacks in the story.

Consider TEMP (see 1.2) for example. While 'we' (the narrator as well as the readers) agree that Temp lacks knowledge, we are surely in the position to know the temperature of the room in the case for ourselves—via the broken thermometer, knowing that the hidden agent would adjust the thermostat according to its reading. If this is so, knowledge would be achieved just in case the epistemic status of the hero is raised to the same heights as ourselves. Imagine the agent in the story is tired of getting victimised in every case that he requested the narrator not to withhold any fact from him about his own situation, so the narrator granted his wish. Here is an example where, in Foley's terms, 'the knowledge gap is closed'. Consider this modified case of TEMP.

TEMP' Similar to TEMP, but Temp' in this case was informed by the hidden agent that the thermometer is broken, but he assured Temp' not to worry, as he would be responsible for adjusting the thermostat according to the thermometer's random reading, ensuring the broken device to accord with the room's temperature. Temp' trusted the agent and continued to form temperature beliefs based on the reading on the thermometer.

The hidden agent informs Temp' just as the narrator did to the audience about the whole story. Regarding the epistemic situation in TEMP', our hero and we are on the same page. As a result, Temp' surely knows the temperature as he is well aware that what grounds the truth of his beliefs is not the thermometer (not a normally functioning one at least) but the diligence of the hidden agent, just as we do.

The moral of this new story isn't that in order to know we need to achieve certain epistemic standard of others. As remarked the significance of the narrator's (and audience's) epistemic status is just that they have a grasp of the entire situation. Thus, it strikes me that what matters to knowledge is not how the hero's epistemic standard

fares against that of other agents; but rather how it fares *in face of the entire situation*. When is the hero's information 'enough'? When do we have information gaps? Instead of asking whether the hero lacks some important information, ask ourselves whether unveiling the entire situation to the hero would make any impact on his/her belief formation—if the hero would continue to form the target belief(s) the same way<sup>1</sup>, such a process is good enough for knowledge; if the hero needs to employ a different process, the original way is all in all not good enough under the situation. This is the spirit of the adequately informed process account of knowledge (AP)—S knows that P just in case S's belief forming process remains intact after unveiling the entire situation. In my opinion this is an important lesson from many knowledge stories in the literature. Knowledge is undermined not because of the information gap between us and the hero, rather the failure of the hero to fully grasp the situation and employ his belief forming process accordingly.

The plan of this chapter goes as follows. Section 2.2 searches for theoretical inspirations of articulating the AP view as an epistemic analogue of the notion of superassertibility; section 2.3 outlines the account and makes further elucidations to some of its key features; section 2.4 explores further motivations for endorsing AP—arguing that it addresses a variety of knowledge stories and resonates with the ways knowledge (or other epistemic states) are construed in other fields; section 2.5 summarises the chapter and discusses the plan for the next part of the thesis.

## 2.2 Theoretical inspiration of AP: Superassertibility and truth

Why suggest knowledge as belief formation evaluated in face of the entire situation? Granted, following the IGA, there is no doubt that 'unbeknownst to S' (and hence the imbalance of information) is an element common to Gettier cases. However, the counterfactual statement 'had S been aware of the entire situation S would have altered the way he/she comes to believe P'<sup>2</sup>, while striking me as quite naturally extending the knowledge stories discussion in explaining S's common epistemic defects, can look *ad hoc* to other's eyes. We can't literally identify such counterfactual

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<sup>1</sup> That is, insofar as he is a responsible agent and wouldn't just disregard new information he learned. A specific requirement on normative epistemic ideality would be introduced as I articulate the account.

<sup>2</sup> Or, put differently, 'if we were to form the target belief, having grasped the entire situation we would not have come to P the way S did.'

claims in knowledge stories—why should we interpret the commonalities of the stories this way? Why favour this take, for example, over Foley’s supposition that what matters in knowledge stories is having all the important information in our human concerns? I believe this is where theoretical considerations may step in—in IGA we begin our quest from observing common features among instances, but mere commonalities do not make an account of knowledge, at some point we have to conceptualise them to yield meaningful epistemic claims.

To begin with, one obvious advantage of the adequate process over Foley’s adequate information is the introduction of belief forming processes (not reducible to true beliefs) on the agent’s part. As discussed in 1.3 one of the drawbacks of Foley account is the lack of belief formation element. The proposed account on the other hand does not follow this more radical approach of reducing knowledge to some true beliefs—instead it takes belief forming processes as an essential facet of our epistemic evaluations. How then do we come to this specific articulation of belief formation, where one’s belief-forming process is evaluated with regards to the *entire epistemic story*? One response is that, as discussed in 2.1, this stems from Foley’s insight on selective storytelling, or as I take it, the observation that knowledge stories generally involve an agent who (emphasised by the narrator) suffers from defective belief formation because he/she does not have an entire grasp of the situation. But now I wish to discuss another independent support for AP. Far from being an *ad hoc* characterisation, AP really resonates with certain notion in the literature, albeit not from the epistemological tradition—Crispin Wright’s superassertibility theory of truth<sup>3</sup>.

Wright’s notion of superassertibility comprises of an epistemic aspect—the statement must be warrantably assertible by the agent (as Wright puts it, the agent must engage in a ‘bona fide investigation, governed by an exercise of the his/her rationality and other appropriate faculties’<sup>4</sup>); and a veritic aspect—as a theory of truth superassertibility requires the said agent’s warrant to be *ideal* in a specific sense so as to ensure that the agent is not mistaken about the statement (‘we have to be able to foreclose on the possibility that rational subjects, carrying through a genuine

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<sup>3</sup> See his full discussion in Wright (1993) *Realism, Meaning and Truth* (2<sup>nd</sup> ed.) and Wright (1994) *Truth and Objectivity*.

<sup>4</sup> Wright (1993), p. 413.

investigation in the appropriate way, could *mistakenly* arrive at a state of information which justified the assertion of that statement'<sup>5</sup>, italics in original). In what specific sense does he take 'ideal' to mean? According to Wright, if P is superassertible, the body of knowledge one has warrants the assertion of P and would not cease to warrant it no matter how 'favourable' one's circumstances are and how one's body of knowledge is enlarged.<sup>6</sup>

Wright describes 'favourable circumstances' as ones where 'both the subject and the background conditions are optimal for the acquisition of knowledge'<sup>7</sup>. It is noteworthy that in his discussion one's circumstance need only be 'sufficiently favourable' and is something one could improved upon (it could become more favourable as our epistemic position advances). Michael Lynch offers a more elaborative story on the epistemic position of superassertible statements (or what he calls 'superwarranted beliefs'<sup>8</sup>):

(S)uperwarrant does not posit an idealized "End of Inquiry". A superwarranted belief is one that is warranted by some state of information available to *ordinary inquirers*, which, in fact, would never be defeated or undermined by subsequent increases of information also available to ordinary inquirers.<sup>9</sup>

Lynch's reading is consistent with Wright's characterisation of 'favourable circumstances'. In short, Wright does not require the warranted assertion to be epistemically ideal/optimal—it could be sufficiently favourable (ordinarily rational agent with appropriate faculties, engaging in a bona fide investigation, under normal background conditions) insofar as it stays warranted in the most ideal circumstance (i.e. would not cease to be warranted no matter how the circumstances and the body of knowledge are improved). This idea resonates with AP's requirement on knowledge—our belief-forming process needs not be epistemically impeccable, it can

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<sup>5</sup> Ibid, p.413.

<sup>6</sup> Ibid, p. 414-415.

<sup>7</sup> Ibid, p. 414. This characterisation is not circular as superassertibility is meant to account for truth instead of knowledge.

<sup>8</sup> Lynch (2009). Lynch named the notion 'superwarrant' instead. Also, the subject of the predicate 'is superwarranted' is a belief in Lynch's account instead of an assertion. Despite their differences I shall treat Lynch's discussion on his notion as equally applicable to Wright's superassertibility—I believe there is no significant need to differentiate the two notions for my purpose.

<sup>9</sup> Lynch (2009), p. 38-39, italics in original.

be an ordinary process insofar as it stays ‘warranted’ (in Wright and Lynch’s terms, I shall explain what this amounts to for AP in the coming section) no matter how much our epistemic circumstances are improved. I shall model superassertibility in my development of the AP view in what follows.

## 2.3 Adequately informed process and knowledge

### 2.3.1 Outlining the account

There are numerous efforts to capture the intuitive notion of superassertibility. Wright, for example, suggested that for a statement to be superassertible is ‘for the actual world to contain the materials whereby not merely can a flawless case be made for asserting it but this case will survive no matter how much more thereafter we come to know.’<sup>10</sup> Wright considers superassertibility as ‘the generalization of mathematical provability’ because it provides warrant that is itself ‘flawless’ and ‘conclusive’, thus ‘must stand unimpugned by the discovery of other proofs.’<sup>11</sup> In his later work he characterised superassertibility as having a warrant (or being able to warrant) that ‘would survive arbitrarily close scrutiny of its pedigree and arbitrarily extensive increments to or other forms of improvement of our information.’<sup>12</sup> A more recent work by Lynch (2009) described superwarrant beliefs as being ‘*continually warranted without defeat*’ at every ‘successive stage of inquiry’<sup>13</sup>. While displaying minor verbal differences, I take these to be the overall account of superassertibility, and consider the adequately informed process as its close relative—an epistemological counterpart if you will. Instead of articulating a theory of truth, AP is employed to formulate a theory of knowledge. One knows that P just in case one comes to believe P via an adequately informed process—i.e. a way of belief formation that would survive any increments of information or other improvements on epistemic conditions (such as enhancements of the agent’s cognitive capacity, betterments of the epistemic environment etc.). More precisely:

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<sup>10</sup> Wright (1993), p. 415.

<sup>11</sup> Ibid, p. 415.

<sup>12</sup> Wright (1994), p. 48.

<sup>13</sup> Lynch (2009), p. 38, italics in original.

AP: S knows that P just in case S comes to believe P via process M in the actual world, and is ideally permitted to continue believing P via M had S obtained the information regarding the entire situation U.

More can be said about the nature of M and U (I trust that there is relatively little mystery as for S and P). While I maintain that M is a cognitive process irreducible to propositions (as discussed in 1.3), I am more sympathetic to reducing beliefs regarding our agency and epistemic environment to information. Suppose we grant this, U can then be represented as a set of propositions—consisting of the totality of information regarding P. I believe AP thus construed reflects how knowledge by its nature is an interplay between agency and the world. AP states that knowledge is a doxastic output (with propositional contents) of one's mental process, to which such process is scrutinised in light of the total state of affairs (consists of a set of true propositions). Simply put, it is an evaluation of our cognitive performance in the world. When we say knowledge is a relation between mind and world, what's in play is not merely the agent and a true proposition, rather it amounts to the agent's epistemic position in face of the complete situation about the truth of P in the world.

Another matter that certainly requires further elucidation in the account is this: what does 'ideally permitted' amount to? While (from the notion of permission commonly construed) it clearly suggests some deontic gestures, more unpacking is needed. According to AP, S's process M is good enough (for knowledge) if it is acceptable in the ideal epistemic situation regarding P (say, if an ideally rational epistemic agent with perfect information would come to believe P via M). As noted by Lynch, M here needs not itself be an idealised epistemic practice—it is meant to be achievable by ordinary agents while deemed acceptable in the most ideal epistemic circumstances. Let's consider further what this acceptable ideality amounts to.

Suppose an ideal epistemic agent  $S_i$  and you both know that there's a sheep in the field. You learned this from your friend across the field. Does AP rule that  $S_i$  also learned the fact in the very same way? Presumably having the full grasp of the situation  $S_i$  wouldn't need to learn anything about the field from others—as an ideal epistemic agent who has access to all information, there surely are numerous ways she could arrive at the sheep belief. She could have trusted someone's testimony (just

as in your case); she could have visually recognised the sheep behind the rock for herself; or heard it bleating in the vicinity. When AP judges that S in ideal circumstances would form the belief P via M, it isn't suggesting that M is the only way to P that S must adopt. Rather, when AP is satisfied, M is among one of the many ways which S in ideal epistemic circumstances would adopt. Suppose possible worlds are ranked by a set of epistemic normative ideals N.<sup>14</sup> Call all worlds which satisfy N ideal epistemic worlds ( $W_i$ ). AP is satisfied if S would form the belief via M in at least one  $W_i$ .

Even this more articulated version of AP might face challenges. As I have supposed, M only needs to be *acceptably ideal*. Although we could put our hero's epistemic state under the scrutiny of ideal circumstances, it is important to bear in mind that our hero is no ideal agent. Indeed, it would be too demanding to expect any knowledge yielding M to ideally satisfy all epistemic norms we desire—we need our account to be able to tolerate less-than-perfect but nevertheless acceptable processes. Consider the following example. Hong Kong is mainly comprised of an island and a landmass connecting to mainland China. As a populous city millions of citizens travel across these two places, and there are three crossed-harbour tunnels available. Suppose Stephanie lives in the eastern part of the landmass and works at the eastern part of the island. The best way of transportation is of course to pass through the eastern tunnel. However, she is not aware of this option, and had been crossing the central tunnel everyday.<sup>15</sup> Had it come across Stephanie that she could have saved much time crossing the eastern tunnel she would definitely adopt this improved way. However, this is not to say that our now enlightened Stephanie would no longer consider her original way a viable option. It surely wasn't an ideal route, but it got Stephanie from home to work for years. There could be many ways to travel from one point to another, some ways are decidedly favourable than others, while it is unclear that there is one way that is rightfully 'the best'. Similarly, not all Ms are epistemically on par, when everything is uncovered, S might consider another process M' as a better

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<sup>14</sup> Note that since AP is ecumenical the member(s) of N is left unspecified. Epistemologists might endorse different norms if they so pleased (see discussion in 2.3.3.3, as well as in the forthcoming chapters 5 and 6).

<sup>15</sup> People living in Hong Kong would appreciate what a sad story this is—indeed, even people from the central regions would sometimes opt for the other two tunnels to avoid heavy traffic from the central tunnel.



way than M—but it doesn't follow that M would fail the AP test. The question AP asks is whether M survives as a viable option. Suppose we attempted to solve an equation. As we check the solution we discover that the model answer is much simpler and more elegant—our teacher awards us the marks nevertheless, as this doesn't damage the integrity of our original proof. As long as we had not made any mistaken steps, some unnecessary detours are tolerable to the ideal standard of our maths teacher.

In 2.2, I discussed how superassertible statements can be possessed by ordinary inquirers—what makes them 'super' is that these ordinary warranted assertions survive no matter how one's epistemic situation is improved. The requirement of AP is similar on this score. We wouldn't demand M to be ideal for S to know—we only need M to be acceptable under the most ideal circumstances. Following the above formalisation, call the innermost sphere of possible worlds ranked under N ideal epistemic worlds ( $W_i$ ), such that Ms in these worlds have met N perfectly; call the sphere outer to the innermost acceptable epistemic worlds ( $W_{acc}$ ), while Ms in these worlds are not considered as perfectly aligning with N, they are nevertheless acceptable under N. AP is satisfied just in case S forms the belief via M and in at least one  $W_{acc}$  S would continue to form that belief via M.

### 2.3.2 Contrasting superassertibility

Despite being inspired by Foley's insights on information and Wright's notion of superassertibility, there are some noteworthy facets that are unique in AP. In this section I shall compare AP with its counterpart in superassertibility (putting aside of course the obvious distinction that they concern different subject matters)—by highlighting the differences I hope that one can better understand AP as an epistemic view. In the next section I shall contrast AP with Foley's adequate information, and consider why the former should be preferred as an account of knowledge.

One issue stemming from their subjects of inquiry is the modality of their warrants. Superassertibility, insofar as it seeks to capture truths, demands only that the warrant for asserting a statement is *possible*—without demanding any subject actually possessing the said warrant (indeed, Wright's theory of truth posits only that all truths are *knowable*, but *not necessarily known*); while AP concerns the actual (not merely

potential) epistemic state for particular agents, and as a result requires the actual possession of the warrant (or more generally, belief-forming process) that ‘survives the scrutiny’ for knowledge ascriptions.

On a related note, it is also important to bear in mind that Wright’s (as well as Lynch’s) notion involves warrant as an essential component while AP characterises our epistemic activities with a less intellectually laden mechanism—belief-forming processes. In chapter 1 I expressed my reservations towards the prospect of reducing cognitive agency to information, such as putting in words how a chicken sexer comes to his beliefs. It is noteworthy that such chicken sexing process would not be considered as warranted in Wright’s light either, as his notion of warrant carries the traditional flavour of justification which provides rational support for the assertion<sup>16</sup>. As Wright admitted, ‘any reliabilist conception of knowledge’ which ‘abrogate all connection between knowledge and the possession of reason to believe’ would not amount to warranted assertions in his view. On the other hand, AP is compatible with reliabilism and other forms of broadly externalist views of justification—and thus has no problem granting chicken sexing as a knowledge conducive process. A process would be adequate so long as it remains intact upon unveiling the entire situation (such that an ideally situated epistemic agent would continue to form the target belief via that process), regardless of whether the agent is in the position to offer reasons for the belief<sup>17</sup>. To summarise, *vis-à-vis* warrant, AP is stronger than superassertibility in terms of modality (the agent must indeed possess the process), but weaker in terms of intellectualism (it releases the agent from giving rational supports in the process).

As a notion which is intentionally devised to understand truths, superassertibility does offer ‘stability’ and ‘absoluteness’ (in Wright’s terms) to the truth values of the asserted statements—such that their warrants ‘cannot be defeated or improved’<sup>18</sup>. I believe that this aspect of superassertibility naturally extends to AP as well—the modifications I

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<sup>16</sup> Wright (1994), p. 58.

<sup>17</sup> While I am myself sympathetic to the externalist reading of the account, I don’t see why M in AP couldn’t be taken as an internalist notion. This would involve arguing for some principle along the lines of ‘all agents in an ideal epistemic situation must form their beliefs via processes that provide rational supports’. This, along with AP, would suggest that all knowledge conducive processes must be warranted (in Wright’s lights). I am unsure whether such principle involves any commitments beyond what the internalists are willing to make. Thus, I leave to the readers to judge whether such view is plausible.

<sup>18</sup> Wright (1994), p. 45.

made for AP strike me as bearing only epistemic significance that would not have compromised the truth conduciveness of M in superassertibility. The process satisfying AP still ‘conclusively’ verifies P, just as superassertibility ‘proves’ the truth of the targeted statement. Not only is the truth condition embedded in this account of knowledge, it would supposedly block any possible Gettierisation as, by definition, an adequate process would ‘foreclose on the possibility’ that one is mistaken about the statement<sup>19</sup>.

### 2.3.3 Contrasting adequate information

#### 2.3.3.1 Introducing process

One of the most notable differences between adequate information and adequate process, as their name suggest, is the introduction of *cognitive agency* in the latter. I had argued that what makes Foley’s adequate information account unsatisfactory is the missing of cognitive processes on the agent’s part, to connect the information S possesses and the truth of the targeted belief (see 1.3.2 and 1.3.3). Although adequate information suggests to account for such connection with more true beliefs, there are genuine concerns that corresponding propositions are not always identifiable. Adequate process allies with the more traditional view on this score, suggesting that our epistemic activities essentially involve certain mental processes of ours (albeit less intellectual than Wright’s warrant) which are responsible for forming our beliefs. Such process is *sui generis*, and is therefore irreducible to true beliefs. Indeed, it is hard to imagine obtaining a set of true beliefs would amount to a belief-forming process on the agent’s part. Unlike true beliefs which are propositions, a belief-forming process seems to be some kind of mechanism—like a coffee machine—with information as input and propositional attitudes as output. It would be quite odd to suppose that the mechanics of the coffee machine is reducible to coffee of some sort. Likewise, a belief forming process of an agent is a metaphysically different entity compared to beliefs, with its aim to take in information, process it and produce true beliefs. In AP view, it is this mechanism that connects between information and the truth of P.

It might be helpful to understand more about the workings within various mechanisms—how exactly do certain cognitive process produce true beliefs? As a

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<sup>19</sup> Wright (1993), p. 413.

matter of fact, the general idea that our beliefs are the product of cognitive processes echoes with the conventional view within psychology. Moreover, certain efforts had been made in neuropsychology to identify certain cognitive processes responsible for belief formation (Halligan and Marshall 1994; David and Halligan 2000; Young 2000; Halligan and David 2001; Connors and Halligan 2015), however, this empirical inquiry is not the chief concern of AP. Instead, it only matters to AP that there exist certain cognitive mechanisms which in normal circumstances produce true beliefs—an epistemic agent needs only to possess the mechanisms, not necessarily to understand them (at least not for a broadly externalist reading of AP). This aligns with many other epistemic theories on the market—each suggesting different epistemic evaluations of belief forming processes. To name a few, process reliabilism highlights the truth conduciveness of the process, postulating that a process that produces many true beliefs (over false ones) is what constitute justification; virtue theoretic approaches suggests the value of knowledge lies in how our cognitive agency plays a significant role in attaining true beliefs; Plantinga’s proper functionalism suggests that beliefs are warranted if the cognitive faculties responsible for producing them function ‘properly’ or ‘according to its design’; adequate process, in this regard, argues that what matters to epistemic evaluations is the ‘survivability’ of the relevant process *vis-à-vis* the entire situation.

#### 2.3.3.2 Holism and analyticity of knowledge

Speaking of the entire situation, a noteworthy characteristic of adequate process is its holistic take on epistemology. Foley is on point in supposing that knowing is a matter of having enough information. The issue however is with his emphasis on the epistemic importance of individual true beliefs. I would like to suggest that the idea that one’s epistemic status could be assessed by attending to some particular proposition is misguided. One of the key hypotheses of the AP view is that to fully evaluate whether one knows, we must consider the epistemic situation at hand as a *whole*. Indeed, this is one of the main proposals I would like to champion in the research project: a ‘gestalt’ approach in epistemic evaluations. The basic idea is that epistemic phenomena are *gestalt phenomena*—while they are constituted by

individual epistemic components (information in S's possession<sup>20</sup>, cognitive processes, epistemic environment), the full epistemic significance of the entire phenomenon cannot be accounted merely by evaluating its individual components.

To illustrate, consider how the importance of information seems to be a dynamic matter as the story unfolds—suppose George sees a barn (at the front), presumably how the rear and the sides of the barn look (RS) would not bear any importance in his barn belief; suppose now that someone testifies to him that this is a barn façade county, RS would become an important piece of information (that George lacks); suppose further that it turns out that the testifier is lying, there really are no fake barns in the vicinity, from this perspective George would again cease to consider RS to be important for his barn belief. The holistic approach of AP suggests that the epistemic importance of information in this case can only be determined under the context of the whole story (that George looks at a real barn, is told that he's in a barn façade county, and that the testifier is lying).

Admittedly, more evidence will be needed to convince one to embrace this holistic approach. While I do have more to say in support of the approach, I plan to discuss this in later chapters more explicitly. In particular, in chapters 3 and 4 where I compare the AP view with the defeasibility view and virtue epistemology respectively, I shall present how certain difficult cases for the two views can benefit from the holistic approach in AP. I hope these explanatory advantages would make holistic epistemology a more attractive theoretical option with a wide range of applications—but for now I beg the readers to simply keep an open mind.

If this holistic assumption for epistemic evaluations should stand, it would provide a possible alternative explanation against knowledge being analysable—the epistemic phenomenon of knowledge is not reducible to more basic concepts, not because knowledge is conceptually primitive<sup>21</sup>, but rather that the phenomenon is not meant to be broken down in the first place. There is no denying that we can identify some essential components constituting knowledge (and make a case that these

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<sup>20</sup> I'm following Foley's terminology here. I do not intend however to distinguish between S's information and S's evidence for my purpose.

<sup>21</sup> See Williamson (2000).

components are epistemically more basic)—such as relevant information, competent cognitive processes, and friendly epistemic environment. However, one could maintain that understanding the full epistemic significance of knowledge cannot be achieved by fixing our gazes at the epistemic goods of its more basic individual components.

### 2.3.3.3 Practical and intellectual importance of information

In chapter 1 I outlined two characteristics that set the proposed theory apart from Foley's account—to introduce belief forming process and be invariantist-friendly. While AP does not specifically postulate anything in favour of traditional invariantism, the idea is that AP is theoretically neutral in this matter and is thus compatible with either views. It comes down to whether we include practical considerations into our epistemic evaluation of the hero's entire situation. Consider DeRose's (1992) bank case. Contextualists' proposal about the significance of practical stakes stems from the intuition that the severe consequence (to the hero's personal interests) of the bank closing on Saturday carries epistemic importance in the whole story, such that it demands higher epistemic standards (e.g. gathering more evidence) for knowledge ascriptions. Traditional invariantism, on the other hand, denies this significance of practical stakes in determining the hero's epistemic status. This disagreement does not hinder any of the parties from embracing AP—traditional invariantists, for example, could hold that knowledge is achieved just in case the agent's process remains intact when the entire intellectually related situation is unveiled (while contextualists welcome both intellectual and practical considerations in assessing the entire epistemic situation). Put differently, under the AP account, contextualism (or subject-sensitive invariantism) and traditional invariantism disagree not on whether our belief formation should be evaluated against the entire situation, but rather on *what in the entire situation is epistemically relevant*.

This remark has more general applications which highlight the ecumenical nature of AP. The adequately informed process view, in its bare-bones, is theoretically neutral in many regards. Apart from the traditional invariantism/pragmatism opposition, a proponent of AP could be an internalist or externalist (see fn 17), a reliabilist, a modal epistemologist, a virtue theorist, or what have you. The only constraint AP applies is

that the agent's process cannot be voided as the whole story uncovers. However, this constraint says nothing about what undermines a process in an epistemic situation. One can make a case for their own theses, if they so please, on what features are epistemically significant to belief formation. This involves rules that agents should follow in ideal epistemic situations (recall the evaluation of the 'entire situation' involves how an ideal epistemic agent with perfect information would evaluate M). In other words, one can 'beef up' the AP account with various epistemic norms one champions, to specify the epistemic ideals the agent's process is measured against (see fn 14). In chapter 5 I would attempt to beef up my own AP account, taking safety as an example, and demonstrate how the principle can be embedded in AP given certain epistemic norms<sup>22</sup>.

#### 2.3.4 Closing the knowledge gap and supervenience

As discussed in chapter 1 and section 2.1, Foley talked about closing the knowledge gap in his adequate information account. That is, how an epistemic agent can turn from ignorance to knowledge by improving his epistemic status—he simply needs to acquire more information. This mechanism of closing the knowledge gap by adding certain epistemic goodness seems to hold for other accounts of knowledge too. In defeasibility theories it is assumed that the hero would come to know had he obtained undefeated justification; for safety it is supposed that the hero would come to know had he become protected from easy errors; in virtue epistemology knowledge might be obtained had the agent's cognitive competence played a more significant role in the success etc. Of course, this is hardly surprising—after all, they are meant to account for knowledge, adding the corresponding epistemic goodness required by them would surely change one's 'knowledge status' (i.e. from ignorance to knowledge). While these theorists (apart from Foley) didn't seem to have in mind such mechanism of closing knowledge gaps, I believe that the knowledge gap talk applies to them just as well.

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<sup>22</sup> It is worth noting that the chapter serves more purposes than demonstrating AP's ecumenical applicability, as I am sympathetic to safety myself—I hope that the discussion of the relationship between safety and AP, as well as the epistemic norm I will suggest, make a case for why safety, or more generally an anti-luck element, is (as Pritchard calls it) an 'important platitude' of knowledge.

Another way of unpacking what an account amounts to with regards to changing the 'knowledge status' of the hero is by articulating a certain supervenience thesis. Consider adequate information. If what is essential to closing the knowledge gap is to add more information on the agent's part, the agent's knowledge status cannot change without a change in his/her information acquired, holding the external epistemic environment constant<sup>23</sup>. As a general remark, all accounts of knowledge seem to have an underlying supervenience thesis of some sort—that one's knowledge status cannot change without an improvement of one's specific epistemic feature (be it one's justification, doxastic modal profile, or aptness, for example). In this regard, the AP view holds a knowledge-process supervenience assumption (KPS): holding the external situation constant, one's knowledge status cannot change without a change in one's belief-forming process. This thesis turns out to be relevant in the coming section (2.4.1) and in future chapters as I discuss how AP tackles various epistemic cases. While closing the knowledge gaps by perfectly informing numerous Gettier victims in the cases, there will be times where the now-knowing agent seems to be employing the same belief-forming process as he previously did. To defend KPS (and thus AP), the main objective is to maintain that in these cases *a different process must be in play* for the enlightened agent. Without further ado, let's review the epistemic cases covered in chapter 1 and see how AP tackles them.

## 2.4 Further motivations for AP

### 2.4.1 Resolving difficult cases

#### 2.4.1.1 Addressing knowledge stories

In the coming section, I will take a look at some of the difficult epistemic cases discussed in chapter 1 and suggest how AP tackles them accordingly. The general idea of the test is to identify the belief forming method (M) in the story, hypothesise that all relevant information in the story is given to the hero, and see if the hero would still come to the corresponding beliefs via M.

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<sup>23</sup> Of course, if we were to retell the story so drastically such that the external epistemic environment is no longer unfriendly, the agent's knowledge status would change (consider if there really are no fake sheep or fake barns in the vicinity, one's original perceptual experience surely amounts to knowledge). However, this is not the type of scenarios we took interest in.



### FAKE SHEEP (see 1.2)

Smith comes to his sheep belief by perceiving a sheep-shaped object in the field and taking it as a sheep. Had he been informed that the object is actually a rock, Smith would no longer come to that sheep-belief by such perception. Suppose Smith gets closer to the object and recognises that it is actually a rock, but much to his surprise he discovers also that behind the rock lies a real sheep. Smith in this case would have grasped the entire situation (as far as the FAKE SHEEP story goes)—he would still hold the sheep-belief, not by the sheep-like-rock perception, but instead by the sheep-perception he gained looking behind the confusing rock. Indeed, Smith doesn't even need to form his belief via perceptual recognition. Suppose he gains the information from testimony—say his friend who had just passed through the field clarifies the state of affairs to him, Smith would still form the sheep belief, by testimony of his friend (that there's a real sheep behind the sheep-like rock). So it wouldn't matter how you expand the story to inform Smith—either way his original M would have lost its epistemic integrity, and Smith would no longer form his beliefs via M.

### BARN FAÇADE (see 1.2)

George comes to his barn belief by perceiving a barn-shape building across the field. Had George been informed that the area is filled with fake barns that only have the façades, the mere front look of the barn-shape building would no longer be good enough to support his barn belief. Suppose a countryman passes by and tells George about the surrounding fake barns. George would think that his original belief formation is too risky—just looking from the front the building he spotted could easily be a fake. Indeed, this is why Foley's modified barn case adding the environmental information alone fails to close the information gap (see 1.3.2). Now suppose further that George walks to the object and examine the rear and the sides, discovering that it is one of the rare genuine barns in the area. After all these hassles, George retains his barn belief, but we wouldn't say that he comes to his belief via his original process—he couldn't just look at the front, in such epistemic environment it is only when he checks the other sides of the building could he rule that it is a barn (not a façade).

TEMP (see 1.2)<sup>24</sup>

Temp comes to his temperature belief(s) by reading a thermometer in the room. Had he been informed that the thermometer is broken, he would no longer rely on the thermometer regarding temperature beliefs—at least not the way he did before he realised its defects. Here comes the tricky bits. In TEMP, the ‘process’ of learning temperatures from the broken thermometer is indeed reliable—a hidden agent controls the thermostat so that the temperature of the room corresponds to the thermometer’s random readings. Suppose Temp is aware of all this, wouldn’t he continue to form his temperature beliefs by reading the thermometer (not for trusting the functionality of the device but for trusting the diligence of the hidden agent)? Granted, Temp could safely continue to form temperature beliefs by looking at the thermometer display. What I wish to argue here is that, a very different M is in play as he continues to do that. Although his displaying behaviour remains unchanged, the cognitive processes manifested by the behaviour had shifted upon learning the whole story. Temp’s original M involves reading what the thermometer displays and *assuming that the functioning device reflects the temperature of the room*; the new process (M’) involves reading what the thermometer displays and *assuming that the room temperature changes in accordance with the random thermometer readings*. If we take our cognitive process to consist in the explicit behaviour as well as these tacit assumptions, it is clear that Temp would no longer adopt M for forming his temperature belief(s)—after all there is no functioning device to rely upon in the epistemic situation.<sup>25</sup>

BEETLE (see 1.3.3)

It is unclear how S comes to her beetle belief in Foley’s story. Her belief is not grounded by any perceptual or testimonial evidence whatsoever. Indeed, it is said that she walked into a room, saw a small, sealed box, and then holds the true belief that

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<sup>24</sup> It is worth noting that TEMP may not be considered a ‘Gettier case’ for no luck is involved in Temp’s temperature beliefs, whereas standard Gettier cases all seem to be lucky one way or another. As my discussion often includes a wide range of cases (not necessarily involve luck), I would avoid characterising them as Gettier cases but simply refer to them as ‘epistemic cases’ or ‘knowledge stories’ (following Foley).

<sup>25</sup> Borrowing from the archery analogy in virtue epistemology: Compare an expert and a novice archer shooting the same target. As a matter of luck, the novice exercised an exact replica of the expert’s shot. However, we wouldn’t grant that the novice and the expert had gone through the same shooting process—yes, their shoots turn out to be physically identical, but the expert took the shot by adjusting his aim and strength in accordance with wind speed and distance etc.; while the novice took the shot randomly without considering any relevant factors.

‘there’s a beetle inside the box’ out of nowhere. Foley thinks that S does not know, but lacks no important information because the world offers none for S to learn about. In 1.3.3 I argued that the latter claim is dubious. But putting this matter aside, I don’t think AP would be satisfied either way. Whether or not S lacks any information, her epistemic situation surely isn’t ideal—she lacks a belief forming process that connects her to her beetle belief. At best, her belief formation would be characterised as wishful thinking or guesswork. These Ms, I suppose, would never be adopted in any ideal epistemic situations.

On a more general note, if the observations from Foley and I are correct that what does the trick for knowledge stories is the imbalance of information, the AP requirement of M surviving any informational expansion should be able to fend off any Gettierisation of our epistemic situations. The narrator would have a hard time devising a case that S satisfies AP but falls short of knowledge due to something unbeknownst to him—for if AP is satisfied, the narrator herself would also have formed her belief the same way as the hero. Consider the awkward position of the narrator when closing the knowledge gap if KPS doesn’t stand—she would be conceding that to know P she herself would come to believe P the same way as a Gettiered victim (who lacks knowledge) does.

These are the cases we considered so far in the previous chapter. Undoubtedly, given the vast amount of literature on the matter, many other cases have been left out here. While I do not plan to exhaustively discuss all epistemic cases regarding knowledge in this thesis, I would certainly go through more cases in the coming chapters as I examine different accounts of knowledge and specific counterexamples troubling them—more importantly, I shall highlight how AP as a holistic approach should tackle those cases. For now, I wish to discuss more on determining changes in one’s belief-forming process.

#### 2.4.1.2 More on KPS and ‘the same process’

The critical strategy for AP to block knowledge stories is to suggest that had S been adequately informed about the story, S would not have formed the belief by the same process. A potential way to challenge this view is to articulate a knowledge

undermining case where the hero's M has certain merit (e.g. truth preservation) such that he would form the belief(s) the same way he did even after unveiling the whole situation. Indeed, AP is incompatible with cases such as these. Thus, I have to maintain that such cases cannot be genuinely articulated. The idea is that when closing the information gap and turning a Gettierised scenario into an instance of knowledge, S's process must have changed. In other words, holding the external situation constant one cannot change one's knowledge status about P without also changing one's process to P (KPS).

Considering how widely successful epistemologists have been in devising counterexamples that satisfy specific theories of knowledge, it is difficult to see how I would be able to pre-empt these cases for good. Can one really argue that these cases are impossible to articulate? Instead of giving a knock-down argument, I would like to offer a 'sceptical' take against the possibility of these cases—consider knowledge stories which one could make the best case that the processes involved are the same (between knowledge and ignorance), then suggest that even in those cases a change of process is in place. If even these cases involve a change in M, we have good reason to think that one cannot close the information gap without changing one's process.

Consider cases discussed above, I take it that both BARN FAÇADE and TEMP arguably involve the same processes upon S learning the entire story—unlike many other knowledge stories which involve completely different processes, George still has veridical visual perception of the barn that at least partially constitutes his barn belief formation and Temp continues to form his temperature beliefs by looking at the thermometer. However, I had argued that neither of their original processes remain intact and new processes are actually in play respectively. Let's push further and make the process as similar as possible upon closing the information gap.

When discussing TEMP I suggest that while both reading from the thermometer, before learning the whole story Temp forms his temperature beliefs by assuming that the functioning thermometer reflects the room temperature; whereas after being informed about the broken thermometer and the hidden agent Temp forms his temperature beliefs by assuming that the room temperature 'reflects' the random thermometer reading. However, the intuition of the two being distinctive processes

might stem from the unnecessary ‘direction of fit’ difference between the two<sup>26</sup>. To avoid this aspect of the case meddling with our intuition, consider the case of Temp’’ where the hidden agent managed to adjust the broken thermometer (and did it invisibly) according to the room temperature. To this effect, the broken thermometer functions just as it normally does—reliably indicating the temperature of the room. What is notable here is that upon learning the situation, the process involved in forming the temperature beliefs might be considered even closer to the original process—Temp’’ checks with the thermometer, assuming that it reliably reflects the temperatures of the room.

I don’t think this modification of TEMP would reverse our existing verdict—it seems that Temp’’ is just as epistemically undermined as Temp, something is intervening between the process and the truth to the effect that knowledge is undermined. If AP were to stand, what could have differentiated the new process from the original? Granted, Temp’’ seems to have acted the same way all along when arriving at his temperature beliefs. However, I argue that we can indeed differentiate the epistemological underpinnings behind the belief-forming processes before and after he learns the whole story. While both trusting that the thermometer readings would indicate true temperatures of the room, Temp’’ is relying on a very different source of information after learning the whole story—before he depended on the reliable build of the thermometer by its factory (which, unbeknownst to him, had disappointed him); afterwards he relies on the promise of the (no longer) hidden agent (who Temp’’ reckons to be very dependable, let’s suppose—as Temp’’ is said to be informed about the entire situation). Insofar as we consider *shifting our source of information* a change in belief forming process, Temp’’ original M would not have survived unveiling the whole story—again, there is no normally functioning thermometer to rely upon.

Is there a general rule for determining whether there’s a change in process while closing the knowledge gap? What differentiates the processes Temp’’ employs before and after according to AP? Before noticing the hidden agent, Temp’’ falls short of knowledge because his process is not acceptable in the most ideal epistemic situation (a perfectly informed ideal epistemic agent would not form the temperature beliefs via

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<sup>26</sup> Pritchard (2007, 2012)

his process); while after being informed the whole story the new process (trusting the hidden agent) is deemed acceptable. Let's conjecture this as the general rule—in cases where a knowledge gap is closed, a change in process is always reflected in a change in its alignment with N (from previously unacceptable worlds to  $W_{acc}$  at the least). On the other hand, if we can identify a significant change in conformity to particular norms of belief formation, it is a good indication that a change in one's belief-forming process is in order. In the case of Temp'', I argued above that the perfectly informed Temp'' relies on a different source of information in his belief formation, constituting a different process. Note that this change in sources of information highlights a better alignment with epistemic norms—presumably one should appropriately identify one's source of information (the hidden agent instead of the broken thermometer) when forming beliefs. Violating this rule is what makes original Temp'' ideally unacceptable for knowledge attribution (he did not know what/who actually informs him)—and what differentiates his process from that of the perfectly informed Temp''<sup>27</sup>.

#### 2.4.2 Motivations from other fields: Information imbalances and epistemic situations

One knows just in case one's belief forming process remains intact upon unveiling the entire situation—or, as Wright puts it, 'survives any information expansion'. On the other hand, when knowledge is undermined, certain information deficiency must have deemed one's process inadvisable in the eyes of an ideal agent. So far I have discussed two independent reasons in support of this view—it summarises well the common problem spotted in knowledge stories; and enjoys theoretical backings from Wright and Lynch's works on truth. I would like to make an additional note that the view also resonates with the ways epistemic states are commonly construed in numerous professional fields and everyday situations. As mentioned above, Wright considers superassertibility as a generalisation of mathematical provability. An

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<sup>27</sup> Note that I do not take this as a general rule for individuating processes. In principle, there can be different processes that align with N equally well (I suppose, or at least, that any belief-forming process must have a unique alignment pattern with regards to N is a stronger thesis I do not need here). KPS only requires that we can identify a change of process whenever there is a change in knowledge status (i.e. whenever one closes the knowledge gap, turning an instance of ignorance to knowledge), rather than identifying a change of process at any time. I maintain that the strategy I employ here stands for this specific task. Whenever we identify a significant change in conformity of certain epistemic norms such that one's belief formation becomes ideally acceptable, one's underlying belief-forming process cannot remain the same.

adequately informed process, much like a mathematical proof, would stand by itself and withstand any additional scrutiny it faces. While the survivability of S's belief forming process is an important facet of AP, let's flip our attention to the other side of the account—what is unbeknownst to S in knowledge stories. Indeed, the tie between epistemic states and what I called the 'informational imbalances' in certain situation might be tighter than we think, observable even outside the context of epistemological debates.

Many human activities involve making decisions based on what we know, to achieve some specific goals. Presumably we always hope to achieve our goals but only sometimes do so. The less interesting explanation of our failures is that the world does not always go our way despite our efforts. The explanation worth looking at, however, is that we are not making the right decision in a particular situation. When it comes to decision making processes, there are again two most obvious potential explanations for failure—that our rationality falls short or that our understanding of the situation is insufficient. Both issues are at the heart of what epistemology concerns, however, it is the latter that I would like to address here.

According to AP, one's grasp of the situation is represented as the information in one's possession being measured against the totality of relevant information. As it turns out, many activities that involve decision making are particularly cautious on the extent to which the participating parties are being informed about the situation. In finance, a prominent hypothesis of an efficient market is that all information is transparent (thus accessible) to participating parties, which in turn determines the prices of every stock and commodity in the market. Indeed, one of the chief objectives of financial regulatory authorities is to ensure the fluid exchange of information such that no 'player' is informationally deprived (at least in terms of availability, agents may of course differ in diligence of learning all information—however, it is the job of the authorities to at least make the information as widespread and easily accessible as possible). In the context of stock exchange, it seems fair to say that the agents' epistemic states are tied intimately with their informational standings.

In psychological research, a key experimental design on studying human behaviours involves creating informational imbalances. Prior to the experiment, it is common for

researchers to withhold the true purposes or main hypotheses of the study from the subjects. This is to avoid what psychologists called 'demand characteristics'—that the results would be contaminated by the subject's intention to behave in accordance with (or, if they are not feeling cooperative, in contrast with) the hypothesis. What's more, withholding information (or occasionally even deceiving subjects with false information) is sometimes an essential part of testing the hypothesis. In social psychology, for example, group dynamics are often studied by putting together experimental subjects with confederates. In Asch's classic experiment (1951), subjects were grouped with many other confederates (unbeknownst to them—they take the confederates to be subjects just as themselves), and were tested if they would conform with the confederates in giving obviously wrong answers to some perception tasks. Information imbalance between subjects and confederates is created to devise potential circumstances of conformity. The confederates were fully informed about the situation as well as the experimental hypothesis; while the subjects were simply under the impression that the study investigates visual perception in groups. In this context, again, epistemic states are evaluated just in terms of information about the entire situation—'how well informed the subjects are' and 'what the subjects know/ do not know' are often interchangeable as far as the study is concerned. Indeed, after the experiment ethical protocols often require a debriefing session with the informationally deprived subjects, informing them with the entire situation and the true purpose of the research, thus 'closing their knowledge gaps'.

Not every one of us could be a 'player' in the stock market or a researcher in psychology. However, it seems to me that the close connection between our information standings and epistemic states extends beyond professional fields and is fairly apparent in some everyday scenarios as well. Speaking from experience, as someone who studies epistemology and enjoys playing board games with friends, I'm surprised at how many times competing in a game is a matter of having a better epistemic position (or, a better grasp of the situation) over your opponents. In particular, being in a favourable epistemic position is often a matter of gathering enough information and preventing others from doing so. To pick a better known example, imagine it is Christmas and you are playing Cluedo with your family. How does the game work and how do you get to know about the truths behind the murder? The game starts off when every detective is equally informationally deprived (alas, you get



the same amount of different information, but none of you have enough information regarding the murder to begin with)—you aim to gather enough information, or ‘clues’, from each other (and doing so faster than everyone else). The game ends when you know the murderer (as well as the weapon and the room), i.e. gathering enough information in the situation to deduce them.

Indeed, detective novels in particular have put much emphasis on balancing the informational standings among the narrator and the readers so as to ensure a ‘fair play’ in the epistemic competition of uncovering the murderer. In van Dine’s seminal *20 Detective Rules*, the first and foremost rule of detective novels states that ‘The reader must have equal opportunity with the detective for solving the mystery. All clues must be plainly stated and described.’<sup>28</sup> This effectively rules that the readers must be informationally on par with the detective.

While the scenarios discussed above vary in one way or another, a key theme common in them seems to be that the epistemic statuses of agents in respective fields are all closely tied to the level of information they possess, whereas any epistemic discrepancies between agents are often cashed out in terms of information imbalances (just as what we observed in knowledge stories, see 2.1). Admittedly, this does not speak specifically in favour of the AP view. However, it does offer reasons for us to consider the general approach of epistemic evaluation which investigate the relation between knowledge and information.

### 2.5 Concluding remarks—moving forward

In this chapter I had introduced the adequately informed process view. It is an ecumenical account that is invariantist-friendly with belief forming process as an irreducible component (*pace* Foley). I had outlined three attractive features of this view. First, it is based on what I consider the essential common feature in knowledge stories (i.e. the hero’s informational deprivation *vis-à-vis* the entire situation) and is thus effective in addressing them. Second, it receives theoretical support from Wright and Lynch’s works on truth, thus inheriting the robust connections between the agent’s process and the truth of the propositions. Third, the connection between epistemic

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<sup>28</sup> Van Dine (1928).

states and the information about the situation resonates with many epistemically related activities in other fields of our lives.

The second part of my thesis consists of theoretical comparisons. I would discuss some of the more prominent accounts of knowledge and evaluate how AP fares against them, or whether AP accommodates well with them. In addition to comparing theories, I confess that my wider goal is to promote AP and articulate my view more completely. In this chapter I outlined the 'Gestalt' approach to understanding epistemological phenomena as an important facet to my AP view. This idea would return in chapters 3 and 4. In chapter 3 I shall discuss the older defeasibility theories of knowledge, due to the similarities between AP and this line of accounts. I shall evaluate how AP would tackle the potentially troubling misleading defeater cases, and suggest the importance of assessing our *epistemic situation (U)* holistically. In chapter 4, I shall offer a critical discussion on virtue epistemology, and discuss how a holistic approach to *cognitive processes (M)* would have benefitted certain virtue theoretical views of knowledge.



## **Part II**

### **Holism and Theoretical Comparisons**



## Chapter 3

### Adequately Informed Process and Defeat

#### 3.1 Introductory remarks

In previous chapters I had described the new approach to epistemic evaluation and developed my positive account of knowledge from it. This chapter marks the second part of the thesis—I shall examine how the articulated adequately informed process (AP) view fares against other theories, and by doing so highlight the advantages of treating epistemic evaluation as a holistic matter. This chapter in particular discusses the defeasibility theories of knowledge.

One should have particularly good reasons to motivate a reassessment of a theory of knowledge as old as defeasibility. As one of the earlier attempts to offer a reductive account of knowledge, defeasibility account(s) proposed that knowledge is true belief with undefeated justification.<sup>1</sup> At first glance, such a claim appears to be very sensible—if there is some other fact that would speak against one's existing justification without one realising it, it seems that we wouldn't want to grant one knowledge; by the same token, it seems right to think also that if one indeed knows such and such, one's justification for the belief cannot be undermined (rendered unjustified<sup>2</sup>) by further facts.

Despite its *prima facie* plausibility, the defeasibility view has been shown to be ultimately unsatisfactory in light of some emerging difficult cases (which I shall address in coming sections). Now, are there any particular motivations for reconsidering this view? For one thing, although few now would think that defeasibility is a promising account<sup>3</sup>, many nevertheless consider it to be an important facet of knowledge—indeed, even externalist theories had attempted to incorporate a defeasibility condition

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<sup>1</sup> This idea will be unpacked in 3.3.

<sup>2</sup> A common view on justification is that it comes in degrees. Thus, it seems that a belief can become less justified without being unjustified altogether. In the case of defeasibility accounts I take it that its proponents (Lehrer and Paxson 1969, Klein 1971) took interest only on propositions that render one's original justification unjustified.

<sup>3</sup> Klein (2004), however, still seems to champion this account.

of some sort to their views.<sup>4</sup> Along this line, Pritchard (2016b) also suggested that ‘it is incumbent upon any theory of knowledge to explain how it handles cases involving epistemic defeaters’.<sup>5</sup> In this regard, my chapter aims to achieve similar goals.

More importantly, as far as the current project is concerned, the adequate process (as well as Foley’s adequate information) view does seem to share certain affinity with defeasibility accounts—if one’s existing process (or warrant in Wright’s term) survives the scrutiny of any further expansion of evidence (or, for Foley, there’s no important information one lacks), doesn’t it mean just that one’s belief remains undefeated in the whole story? Lynch (2009) is more explicit in his characterisation of superwarrant that one’s belief must be ‘continually warranted without defeat’ at every stage of inquiry.<sup>6</sup> If AP is the epistemic counterpart of Lynch’s superwarrant (or Wright’s superassertibility), it would be natural to suppose that the tie between AP and defeasibility is close as well. It is not difficult to see how intimate the relation is between adequate information and defeat. Indeed, one might go so far in considering that the two notions are describing two sides of the very same creature—while the epistemic significance of defeat is negative by nature (i.e. the negative impact it brings to our knowledge/justification), adequate information (in spirit)<sup>7</sup> seems to capture the positive picture of the idea (the epistemic good of one’s process/warrant remaining intact, or undefeated). It strikes me that the distinction between defeasibility and AP is a matter of perspective—rather than individual propositions, AP takes interest in the epistemic performance of one’s process in the case as a whole. Such a distinction will prove to be helpful when confronted with difficult cases.

Due to their affinity I believe that the relation between the two views is worthy of a deeper exploration. I shall first carry an overview of various types of defeater in the literature. Many of them would be relevant to the following discussions. Then I shall consider defeasibility as an account of knowledge, comparing it with the proposed AP view. I shall examine the strengths of the two conditions, and determine if they entail

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<sup>4</sup> Goldman (1979) added defeasibility condition as an additional clause to his reliabilist view; Grundmann (2009) offered a modified version incorporating defeat while, as he argued, ‘stays with the reliabilist spirit’.

<sup>5</sup> Pritchard (2016b), p. 3065.

<sup>6</sup> Lynch (2009), p. 38.

<sup>7</sup> I concede that superassertibility offers an even closer analogue here as they both hold an internalist commitment on warrant.

one another. Along the way, some difficult cases for the defeasibility view will be discussed, and I shall suggest how AP would be able to tackle them. At the end I will relate the issues in this chapter with the wider theme of this thesis and make some remarks on the holistic approach to epistemic evaluations.

### 3.2 Types of defeat

With regards to what constitutes defeat, Bergmann (2006) distinguished between a *propositional* defeater and a *mental state* defeater. Both defeaters play the role of undermining one's justification. However, as their names suggest, while a propositional defeater is a proposition (that holds in the world) that need not necessarily be accessible to the agent's mind, a mental state defeater (also known as psychological defeater, see 3.2.3) must be one's mental state—either in the form of a belief or an experience.<sup>8</sup> It is a common view that even propositional defeaters (which defeat without the agent necessarily possessing them) would suffice in undermining knowledge—indeed, defeasibility accounts of knowledge (Lehrer and Paxson 1969; Klein 1971, 1976) speak only of propositional defeaters. As this chapter concerns defeasibility's relation to an account of knowledge, I will follow suit and take defeaters to mean propositional defeaters unless stated otherwise.

#### 3.2.1 Mechanisms of defeat

Regarding how defeaters defeat justification, the distinction between rebutting and undercutting defeaters, credited to John Pollock (1974), remain the centre of discussion in literature. A rebutting defeater for one's justification of a proposition P is a reason for one to believe  $\neg P$ , or some proposition Q that is incompatible with P. While an undercutting defeater for P is a reason that undermines the connection between P and one's justificatory grounds of believing it.

Consider some examples for the two types of defeaters. Suppose George spots a barn-like object in the field and forms the belief that there's a barn. Suppose further a local farmer next to him tells him that the object he sees is actually a barn façade. George would then possess a rebutting defeater for his barn belief—he had obtained a reason to believe the negation of P (a barn façade is, of course, *not a barn*). Consider

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<sup>8</sup> Bergmann (2006), p. 154-156.



yet another case. Suppose Mary walks into a museum and sees a vase appearing to be red in colour, and forms the belief that the vase is red. A security guard then walks to her and informs her that the vase has been irradiated with a set of red lights. Mary ceases to believe that the vase is red, for she now possesses an undercutting defeater for her belief—note that unlike the case of rebutting defeaters, this is no evidence that the vase is *not red*; instead, she had a reason to *no longer believe that what she sees supports P* (her red-vase experience could very well be due to the red lights after all).<sup>9</sup>

Further studies investigated the relation between rebutting and undercutting defeat (Casullo 2003, 2016; Sturgeon 2014). In particular, Pryor (2013) suggested that when one possesses a strong reason to believe  $\neg P$  or incompatible proposition Q that defeat one's belief that P, one would naturally question one's original grounds for believing P and no longer consider it as a reliable indicator of P's truth. Thus, it is argued that rebutting defeaters have a tendency to collapse into undercutting defeaters.<sup>10</sup> However, such a relation doesn't apply in the other direction, apparently—for undercutting defeaters do not seem to constitute a rebutting defeat in any obvious way. Having a good reason that one's grounds is not a reliable indicator of P's truth is not by itself a reason to believe  $\neg P$  or some incompatible proposition Q.

### 3.2.2 Genuine and misleading defeaters

Suppose S is justified in believing P. However, S's justification is defeated by a proposition D. Suppose a further twist of event that D is in turn defeated by new evidence D'. In virtue of what originally undermines S's justification is itself defeated, it seems plausible to consider that S's original justification for P remains intact after all<sup>11</sup>. Defeaters like D, despite being true propositions, are not considered as carrying the same epistemic significance of undermining justification as genuine defeaters (those that are not further defeated by other propositions), and are commonly viewed as 'misleading'. Consider for example the barn façade case discussed above. Suppose the local farmer is actually a jokester who lied to George about there being barn façades. The alleged defeater of the farmer's testimony would then be

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<sup>9</sup> For more discussion on the mechanism of defeat, see *interlude*.

<sup>10</sup> Pryor (2013), Pritchard (2016b)

<sup>11</sup> Lehrer and Paxson (1969), who first introduced cases of this sort, were in favour of this position; Harman (1973), on the other hand, argues that this is not always the case.

misleading—and George’s original justification regarding his barn belief should not be undermined after all.

The significance of genuine and misleading defeaters would take centre stage in the coming discussion, as defeasibility theories of knowledge in the literature had heavily debated on such issue as well. I take it to be conventional to say that at least all genuine defeaters are knowledge undermining<sup>12</sup>. However, the extent to which misleading defeaters undermine justification, and *ex hypothesi* knowledge, had led to extended debates among the proponents and critics of the defeasibility view. Defeasibility theorists like Klein (1971, 1979) as well as Lehrer and Paxson (1969) maintained that knowledge is not defeated by misleading defeaters, while Harman (1973) argued that some misleading defeaters can undermine knowledge if certain social epistemic underpinnings were involved. Levy (1977, 1978) further suggested that the characterisation of when a defeater is misleading, as well as when a misleading defeater undermines knowledge, are both overwhelmingly difficult tasks that make the prospect of any defeasibility accounts unpromising. Indeed, it is fair to say that the inability to convincingly address these concerns had led to the eventual demise of this early approach.

### 3.2.3 Normative defeaters

In her book on testimonial knowledge, Lackey (2008) made the distinction between psychological and normative defeaters. Psychological defeaters are defeaters S possesses and actually undermines S’s doxastic justification, regardless of whether itself is in turn true or justified; whereas normative defeaters are defeaters that S is not aware of, but ought to be so.<sup>13</sup> In his discussion regarding his preferred account of knowledge and epistemic defeat, Pritchard (2016b) investigated at length the role played by normative defeaters in difficult Gettier cases—and how anti-luck virtue epistemology is well positioned to offer a diagnosis. In fact, it is not hard to appreciate why normative defeaters, instead of psychological ones, take centre stage when it comes to challenging epistemic cases—for insofar as we consider justification (broadly

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<sup>12</sup> Thus, any bona fide knowledge case that allegedly involves a defeater would be a case of *misleading* defeat.

<sup>13</sup> For further discussions on what makes knowing a proposition normative, and the epistemic significance of those propositions, see Goldberg (2016, 2017).

construed) as an essential component of knowledge, any case that involves a psychological defeater (deeming S's belief doxastically unjustified) would be out of the question immediately.

However, it is important to note that Lackey's characterisation doesn't seem to be exhaustive. In principle, there could be defeaters that are neither psychological nor normative—true propositions that S is unaware of, and it is not the case that S ought to be aware of either. Such propositions are defeaters because had S been aware of them, S's justification would have been undermined. Defeaters of such kind are undoubtedly of interest to defeasibility theorists—while psychological defeaters are ruled out without much controversy, whether the normativity of the unaware defeaters matters to knowledge ascriptions is a question worth exploring.

### 3.2.4 Types of defeat of interest

As our primary concern rests in knowledge (particularly, difficult cases where instances of JTB fall short of knowledge), we can locate the kinds of defeat of our interest with regards to the above parameters. Pritchard (2016b) noted that these axes of characterising defeat are in principle independent of each other. This chapter will focus on discussing propositional defeaters that are misleading and non-psychological (as all genuine/psychological defeaters would uncontroversially undermine justification and thus knowledge), while remaining open whether they should be rebutting or undercutting. Whether the normativity of defeat would impact on knowledge ascriptions will also be discussed.<sup>14</sup> With the preliminaries set up, let's now look into the defeasibility view of knowledge in detail.

## 3.3 Defeasibility theories of knowledge

### 3.3.1 The no-defeaters condition of knowledge

The defeasibility view of knowledge blossomed in the 1970s, with Lehrer & Paxson (1969, Lehrer 1970) along with Klein (1971, 1976, 1979, 2004) as main proponents.

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<sup>14</sup> One might reasonably doubt that whether there can be misleading defeater undermining one's justification that is neither psychological nor normative. I shall present a case that seems to tick all these boxes in 3.3.3.

To grasp how this 'fourth condition' works, consider Klein's earlier attempt<sup>15</sup> in articulating the view.<sup>16</sup>

Klein's defeasibility theory of knowledge:

S knows that p at  $t_1$  if and only if

(i) p is true;

(ii) S believes p at  $t_1$ ;

(iii) p is evident to S at  $t_1$ ;

(iv) there is no true proposition such that if it became evident to S at  $t_1$ , p would no longer be evident to S.<sup>17</sup>

Klein's account essentially rules that the justification of one's belief that p cannot be defeated. Consider some of the previously discussed Gettier-style cases.

FAKE SHEEP (see 1.2)

That there's a sheep in the field is true (i) and Smith believes it (ii). Moreover, on the basis of his visual perceptual experience, Smith is justified in believing that there's a sheep (iii). However, knowledge is undermined because the no-defeater condition is not met—there's a true proposition that would render Smith's belief unjustified had Smith been aware of it, namely, that the object he sees is actually a rock.

BARN FAÇADE (see 1.2)

As in FAKE SHEEP, that there's a barn is a justified true belief of George's. Despite looking at the real barn, George's knowledge is still undermined. According to defeasibility theorists, the no-defeater condition is not satisfied. That he is in barn façade county surrounded by fake barns in the vicinity serves as an undercutting defeater for George's justification—as it is stipulated in the story that the façades and the genuine ones are visually indistinguishable (in the front) to travellers like George.

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<sup>15</sup> Earlier attempts of defeasibility accounts are more straight forward and intuitive—later developments of the condition became rather complex and long-winded to address challenges.

<sup>16</sup> See also Lehrer & Paxson (1969), p. 227 for their articulation of the view. I opt for exploring Klein's account here because the 'fourth condition' in his account is more apparent so that we can refer to the no-defeater clause more easily in the coming discussion.

<sup>17</sup> Klein (1971), p. 475.

Learning about the façade county George would no longer consider his barn-like visual experiences as sufficient grounds for his barn beliefs.

TEMP (see 1.2)

Similar to BARN FAÇADE, Temp's temperature beliefs are justified and true but fall short of knowledge because an undercutting defeater is present. Had Temp noticed that the thermometer is malfunctioning, he would no longer consider the thermometer readings as acceptable grounds for his temperature beliefs.

### 3.3.2 Tom Grabit and the problem of misleading defeaters

It can be argued that defeasibility theories are too strong as an account of knowledge. This lies in the challenge they face in tackling misleading defeaters. It seems that in some cases where the unknown defeaters are misleading, knowledge would not be undermined. Consider the widely-known case of TOM GRABIT.

TOM GRABIT S saw someone removed a book from the library by concealing it under his coat. S was sure that the man is Tom Grabit. Thus, S comes to the belief that Tom Grabit stole a book from the library, and plans to report the crime. Unbeknownst to S, Tom's mother has asserted that Tom was out of town on that day, and John Grabit, Tom's twin brother, was in the library instead. As a further twist of the story, Mrs Grabit is a pathological liar—the existence of John Grabit, Tom's twin brother, is completely made up; also, unlike what she had claimed, Tom was not out of town and was indeed in the library (seen by S) on that day.<sup>18</sup>

Many (including defeasibility proponents) agreed that S does know that Tom Grabit stole the book. S indeed recognised Tom in the library and had never heard Mrs Grabit's false claims. It would be too stringent to consider S's justification (and thus knowledge) undermined due to the faulty testimony (presumably miles away) he never heard. If we subscribe to this view to the extreme, we could easily lose knowledge by false utterances of any untrustworthy/pathological person we never encountered. On the other hand, we can surely make a case that Mrs Grabit's testimony is indeed a rebutting defeater in TOM GRABIT. That she had made those claims is a true

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<sup>18</sup> Adapted from Lehrer & Paxson (1969).

proposition that would provide strong evidence for believing something incompatible with P (namely, it is John, instead of Tom, who stole the book from the library). Thus, it seems that we wouldn't want to exclude all of the most far-fetched true propositions that would potentially undermine justification had we been aware of them, if we wish to preserve many of the knowledge we think we possess.

Defeasibility theorists surely wouldn't concede that their view is too strong. Indeed, they consider Mrs Grabit's testimony as a misleading defeater that doesn't amount to genuine defeat. A proposition D is a defeater for S's justification E if and only if E supports P but E+D does not. A defeater  $D_m$  is misleading if and only if there's another defeater D' which in turn undermines  $D_m$ 's power to defeat S's initial justification—i.e. while E supports P and E+ $D_m$  does not, E+ $D_m$ +D' in turn supports P.<sup>19</sup>

#### *Interlude: Mechanisms of defeat iterations*

Consider the mechanisms of such iterations of defeat<sup>20</sup>. It would be natural to assume that the defeat could either be rebutting or undercutting on each level. Let's examine each of the possible scenarios more closely.

As discussed in TOM GRABIT Mrs Grabit false testimony serves as a rebutting defeater supporting that Tom Grabit did not steal the book (for he was out of town). Moving to another level, is the defeater that defeats this misleading information rebutting or undercutting? It could go either way really, depending on the pathological details of Mrs Grabit—if she simply makes random groundless assertions without caring about their truths, D' would amount to an undercutting defeater for  $D_m$  (we would no longer have sufficient reasons to think that E+ $D_m$  does not support P); on the other hand, if Mrs Grabit is a pathological liar in the sense that she only seek to utter falsehoods (thus indicating that Tom is not out of town and the man in the library is not Tom's twin brother John), D' would instead be a rebutting defeater for  $D_m$  (E+ $D_m$ +D')

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<sup>19</sup> Admittedly, the notion of misleading defeat is itself difficult to cast out and it is important to note that the picture provided here is just a broad characterisation of  $D_m$ , and defeat iterations in general. For attempts to capture misleading defeat, see Levy (1978) and Klein (1979).

<sup>20</sup> Not to be confused with the higher-order defeat discussions in the literature which concerns facts that undermine the cognitive process involved in the belief formation. For a more detailed discussion distinguishing higher-order defeat and undercutting defeaters, see Christensen (2010).

gives us good reasons to think that Tom indeed stole the book in the library—contrary to what  $E+D_m$  suggests).

On a similar note,  $D_m$  could serve as an undercutting defeater as well. Suppose you seem to see a red object in front of you, but again our dear Mrs Grabit asserts that the object is illuminated by red lights<sup>21</sup>. Without knowing that she is a pathological liar, the red-light-illumination information undercuts your justificatory grounds that the object itself is red. Now can we suggest that further defeat to this misleading undercutting defeater could be either rebutting or undercutting, depending on Mrs Grabit's pathological habits (just as we do in TOM GRABIT)? Granted, if she utters random claims, the undercutting  $D_m$  would itself be undercut—we will reconsider our initial red object experience as reliable indicator of truths, having undermined Mrs Grabit testimony as reliable grounds for our beliefs; however, it strikes me that intriguingly this undercutting  $D_m$  cannot be rebutted—say if Mrs Grabit exclusively utters falsehoods, meaning that Mrs Grabit's assertion supports that there are *no red lights*, we sure will have good reasons ( $E+D_m+D'$ ) to think that the object is indeed red. That being said, I don't think that this rebuts  $D_m$ —for  $D_m$  being an undercutting defeater does not suggest that the object is not red to begin with, it's just that we do not have enough justification to believe that it is red. Now one might say that  $D'$  rebuts on this suggestion by claiming the contrary—that we indeed have enough justification. This, I think, is a dangerous move that risks conflating rebutting and undercutting defeat altogether—for in the process of restoring one's initial justification regarding the red object, doesn't the undercutting defeater  $D'$  (that Mrs Grabit makes random assertion) establish that we indeed have enough justification as well? Is it then also a rebutting defeater in virtue of making this claim (contrary to what  $D_m$  suggests)? If we wish to preserve a clear distinction between rebutting and undercutting defeat, it seems that a plausible option is to accept that while rebutting defeat can be further defeated either way, undercutting defeat can only be iterated by further defeaters of its own kind. This imbalance, I believe, trades on the asymmetry between the two mechanisms of

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<sup>21</sup> For convenience I develop the undercutting cases analogously with Mrs Grabit's misleading testimonies. Note that I do not think false testimony plays an essential role in cases of misleading defeat, and one can construct a case of misleading defeat without testimonial involvements. For example, suppose I participated in an experiment testing the effect of a hallucination drug. I would have good reasons to doubt what I see as constituting sufficient grounds for beliefs. Such a defeater can in turn be misleading, if I later learn that I was assigned to the control group and suffered no hallucination.

defeat—rebutting defeat tends to collapse into undercutting defeat but not vice versa. Since an undercutting defeat offers no positive reasons for believing the (negation of the) target proposition, further defeat iterations have no relevant claims to rebut.

### 3.3.3 The weakened defeasibility account and further problems from misleading defeat

Consider now the modified defeasibility view that seek to adapt the problem of misleading defeaters. As noted above, defeasibility theorists do not consider misleading defeaters as constituting genuine defeat (and presumably, only genuine defeaters undermine knowledge). Thus, one can take the modified account to be replacing the no-defeater clause with the ‘no-genuine-defeater’ clause. In the exchange between Levy (1978) and Klein (1979), the modified defeasibility account is stated as follow:

S knows that p if and only if:

- (i) p is true.
- (ii) S believes that p.
- (iii) There is some evidence e such that e justifies p for S.
- (iv) Every defeater of the justification for S of p by e is a misleading defeater.

By allowing misleading defeater in bona fide knowledge cases, however, this modified account faces the challenge of becoming too weak. As there are various axes of characterising epistemic defeat, misleading defeaters come in many kinds. While some instances of misleading defeat are benign (as in TOM GRABIT), others might be knowledge undermining. Gilbert Harman (1973) notoriously suggested that the social aspect of Mrs Grabit’s testimony would impact on our knowledge judgments regarding S’s belief. If we imagine Mrs Grabit whispered those claims at home, we’d surely feel safe enough to preserve knowledge for S; however, if Mrs Grabit goes out and testifies the claims to everyone in the town but S (suppose S is in the library that time), the misleading information seems to have penetrated S’s epistemic community deep enough to cause trouble—S would seem too lucky to have missed the misleading defeater from the outreaching Mrs Grabit.



The intuition would become more apparent if one considers another analogous case introduced by Harman where the fake news penetration is further institutionalised. Consider the following case.

PRESIDENT Suppose Jill reads the newspaper reporting that the president had been assassinated. The report is actually true. However, in the attempt to suppress the true story, the president's associates requested major media to broadcast fake news that the president is fine in the assassination attempt (imagine the paper Jill read was one of the earlier reports that the office failed to block). Near all of Jill's peers received the fake news and believe that the president is alive. Jill, by incredible luck, managed to miss all of the broadcasts with false reports and peer discussions, and continue to believe (truly) that the president was dead.<sup>22</sup>

Again, it is argued that even though what Jill missed is a misleading defeater, the fact that it has been widespread in Jill's epistemic community had undermined Jill's knowledge in a barn-façade like fashion—despite having the appropriate connection with the truth, the nearby fakes surrounding the agent had made her belief too (veritically) lucky to count as knowledge.

One possible explanation to connect the anti-luck aspect displayed here with defeat is to introduce normativity. One might argue that widespread misleading information, in virtue of being very easily accessible (indeed, the broadcasting in Jill's case is intended to reach the whole epistemic community), imposes certain epistemic ought to relevant agents. Consider Pritchard's (2016b) discussion on this score. Suppose George is again looking at a barn in a county. Unlike BARN FAÇADE, however, there are not fake barns in the vicinity—the twist of the story is that a sign along the road (of considerable size such that it is easily visible to all passers-by) misleadingly indicates that this is a barn façade county. Now the scenarios of one coming across this sign driving through the county is clearly modally close—suppose the sign is considerably large and well located such that 'people couldn't have missed it'. Suppose now through incredible happenstance George indeed missed the sign (he looked aside chatting to

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<sup>22</sup> Adapted from Harman (1973).

his passengers at that very moment), and continue to think that he is looking at genuine barns (as he is, the sign is after all misleading). The modally close misleading defeater would still undermine knowledge, it is argued, not purely because of the modal closeness—but also because of normative considerations of some sort. It is not just that George could have easily looked at the sign, he should have looked at it—after all drivers should pay attention to road signs as information on it are usually relevant to driving (or more generally, an epistemic agent should pay attention to information in the vicinity concerning the place). Because George is not doing what he ought to do as an epistemic agent (noticing obvious informational signs), knowledge is undermined even though what he carelessly (and blissfully) missed is misleading.

While the normativity side of the story adds complexity to the case, and epistemic reasons to think that knowledge is undermined, it seems that not all the knowledge-undermining misleading defeaters have to be essentially normative. Sometimes the agent might have missed a modally close misleading defeater without being at fault. Suppose George's friend Smith was on the same car and saw the sign. Smith is colour blind. As it happens, the sign has a certain red-green colour combination such that the word 'façade' on the sign is not visible to colour blind people. What Smith saw in the county are many (real) barns, and a sign indicating that 'this is the barn county' (as Smith takes it, people living here are just so proud of their barns that they name their county after them).

While there might be inclinations to grant knowledge to Smith, I submit that we really should battle against such intuition. Following Harman's diagnosis of the outreaching Mrs Grabit case, it seems odd to grant knowledge exclusively to someone who is more informationally deprived than others in the community, despite the fact that what the agent missed would have misled him. Developing on the social aspect of the case, while the sign had failed to mislead Smith, it is intended to mislead people passing by the county in general. People like Smith would have easily fallen victim to the sign when their epistemic peers notice the sign and discuss with him—Smith would surely concede with what his peers saw, taking into account that himself is colour blind. Indeed, George whom we assume is not colour blind is with Smith, and it is of incredible luck that George missed the sign himself, keeping Smith's true beliefs intact.

If we agree that Smith does not know about the barns in this case, it would seem that misleading defeaters need not be normative in order to undermine knowledge—for it is not the case that Smith ought to pick up the misleading information in the epistemic environment. He could easily have done so (if George had been more attentive, or Smith had encountered others in the vicinity), but being colour blind him missing the misleading information had not violated any epistemic norms.

The upshot of the above discussion is that the relation between knowledge and defeaters becomes even less apparent, and it is difficult for defeasibility theorists to point out when exactly a defeater would undermine knowledge. It is uncontroversial that genuine defeaters defeat knowledge. It is also clear that psychological defeaters are incompatible with knowledge as well (be it genuine or misleading, I suppose), for it is very hard to consider oneself justified (even for externalists like Goldman) if one is consciously aware of some propositions that defeat one's belief. When it comes to the domain of misleading defeaters one is unaware of, however, the picture becomes gerrymandered. With interconnected social, modal and normative aspects of the misleading information all carrying epistemic significance, whether a non-psychological misleading defeater undermines knowledge doesn't seem to be a matter decidable purely in defeasibility terms. The problem introduced by misleading defeaters, to sum up, is this—on the one hand excluding them all from cases of knowledge would be too strong a view due to the classical TOM GRABIT; on the other accepting misleading defeat *simpliciter* as compatible with knowledge would be too weak due to case like Jill, George and Smith, where knowledge is undermined for modal, normative and social reasons. Furthermore, the distinction between benign and knowledge undermining misleading defeaters does not seem to have promising prospect. Even if we are able to determine when exactly knowledge would be undermined taking into account the integrated social, modal and normative aspects, it is unclear what role the no-defeater clause plays in such a view at the end of the day.

A further concern that complicates matters for misleading defeaters is the iterations of defeat. As mentioned, misleading defeaters are all further defeated. Let's grant for the sake of argument that all misleading defeaters are compatible with knowledge. In principle the defeaters ( $D'$ ) that defeat the misleading defeaters ( $D_m$ ) can themselves be defeated by  $D''$  (assuming that  $D_m$ ,  $D'$  and  $D''$  are all true propositions, that is,  $D'$  is

misleading in defeating the alleged misleading defeater  $D_m$ ). In such cases, considering  $D_m$  as compatible with knowledge would become problematic—if it is  $D'$  that is misleading in defeating  $D_m$ ,  $D_m$  would really be undermining  $S$ 's initial justification after all. Defeasibility theorists might come to an easy fix to the problem by putting a constraint to defeat iterations—that  $D_m$  is a misleading defeater only if the defeater  $D'$  that defeats it is not itself defeated by any other defeater  $D''$ . Alas, how about cases where  $D''$  is in turn misleading (and thus  $D'$  genuinely defeats  $D_m$ , making  $D_m$  really a misleading defeater)? Following the above constraint, defeasibility theorists would have mischaracterised  $D_m$  as not being a misleading defeater. The fact that there is no non-*ad-hoc* way to stop the possible iterations of defeat seem to have conflated the boundaries between misleading and genuine defeaters and the epistemic significance of satisfying the no-genuine-defeaters clause after all. For if  $D'$  is defeated by  $D''$ , does it make  $D_m$  a genuine defeater really? Notice how easily one can come up with a true proposition  $D'$  that misleadingly defeats a genuine defeater (there can always be a distant pathological liar story given), we might come to the conclusion that either there are no genuine defeaters at all, or that they are not so different from misleading defeaters anyway.

### 3.4 Adequate process and defeat

This section will explore the relation between adequate process and epistemic defeat. As noted in the introduction AP and defeasibility impose very similar requirements to our belief formation—while AP demands our belief forming process to survive the scrutiny as we unveil the entire situation unknown to us, defeasibility rules that it cannot be defeated by truths we are unaware of. The difference seems to be a matter of focus—while AP looks primarily at the epistemic goods of an adequate process, defeasibility strives to avoid defeaters which are knowledge undermining.

Another potential difference is that early accounts of defeasibility view justification as reasons that demand reflective access on the agent's part, while adequate process does not have this internalist commitment. However, such distinction may not be essential—although the notion of defeat is traditionally cashed out in internalist terms, attempts have been made to account for it in externalist fashion<sup>23</sup>. In the following

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<sup>23</sup> See, for example, Grundmann (2009).

discussion I shall remain open for both interpretations of defeasibility, thus making its comparison to the ecumenical AP easier.

As I conjectured that defeasibility theories of knowledge (DT) and AP are two sides of the same coin, let us consider whether  $DT \leftrightarrow AP$ . By examining both directions of the biconditional, we can appreciate how the adequate process view is different from defeasibility theories, and why the former should be preferred.

### 3.4.1 Does defeasibility entail adequate process?

Suppose S has sufficient grounds in forming some true belief that P, and there is no defeater for S's belief formation. Now if we take the strong defeasibility view where all defeaters (thus including all defeaters S is unaware of) are excluded (call it  $DT_{strong}$ ), it follows that S's belief forming process would remain unharmed by any acquisition of new evidence—for such defeasibility view rules that there is no further true proposition that would undermine S's existing process.

Let's put this differently and with more clarity. To establish the conditional  $DT_{strong} \rightarrow AP$ , I argue that  $DT_{strong}$  and  $\neg AP$  jointly leads to a contradiction. Consider  $\neg AP$ . If adequate process is not satisfied in S's belief forming process, such process fails to withstand the scrutiny of maximum evidence expansion (i.e. gaining knowledge about the entire situation). This means that there is certain information S obtains during the expansion that S's original process fails to address. On the other hand, it seems that meeting the criteria for  $DT_{strong}$  blocks the possibility of there being such information—as there can be no true proposition which S is unaware of that would undermine S's original process.<sup>24</sup> We thus arrive at a contradiction that there is a proposition that undermines S's process and there cannot be one.

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<sup>24</sup> With regards to the way processes are undermined, traditional  $DT_{strong}$  suggests that S would become unjustified after being aware of the defeater (E+D), which would not apply in AP's view. But as noted we would not limit  $DT_{strong}$  to internalist interpretations. Following AP, let's suppose an ecumenical reading (see Ch. 2) to defeat such that a defeater D undermines S's process by deeming it unsatisfactory under certain epistemic norms with regards to forming the true belief that P (while before obtaining D S's process is satisfactory). Even if one prefers to stay with the internalist rendering of defeat, insofar as we take the internalist condition as a more stringent requirement to our belief forming processes, the argument would still go through (given that we are only considering one way of the biconditional here (from  $DT_{strong}$  to AP)).

Consider now the more tolerant view where all misleading defeaters are taken as compatible with knowledge<sup>25</sup>. Call this  $DT_{\text{weak}}$ . If we are right in thinking that  $DT_{\text{weak}}$  is too weak in 3.3, then surely I wouldn't advocate that AP is entailed by it. I will argue to establish  $DT_{\text{weak}}$  and  $\neg$ AP in order to reject this conditional. Consider the knowledge undermining cases of misleading defeaters such as PRESIDENT. There is little doubt that  $DT_{\text{weak}}$  is met—as all misleading defeaters are compatible with knowledge, the misleading broadcast Jill had missed does not violate  $DT_{\text{weak}}$ . There are still no 'genuine' defeaters, in  $DT_{\text{weak}}$  lights, for Jill's belief. I'd like to turn to AP now, and argue that Jill's belief forming process does not remain intact when the entire situation is unveiled.

When told that the government is trying to suppress the truth with widespread misleading news, can Jill still form her president belief by reading the truth reporting newspaper? Of course, one might think, knowing that herself is possessing the reliable source of information all along, what bars her from continuing in relying on the newspaper to form the belief? As tempting as this verdict may be, I would like to argue for the contrary—Jill's original process is not adequate for the entire epistemic situation. Revisiting the AP view:

AP: S knows that P just in case S comes to believe P via process M in the actual world, and is ideally permitted to continue believing P via M had S obtained the information regarding the entire situation U.

Similar to the strategy adopted as I address certain difficult cases in chapter 2, it strikes me that the processes involved before and after Jill learned about the entire situation are significantly different. Granted, in both scenarios Jill rightly put trust on the newspaper, a reliable source of information, in forming her president belief. However, as a holistic approach the epistemic significance must be examined in face of the entire epistemic story rather than the very process taken out of context. It is misguided to simply 'pick out' from the story the agent's processes 'before and after', put them alongside each other, and compare their likeliness individually. To determine whether

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<sup>25</sup> Due to the difficulty of determining the epistemic significance among various misleading defeaters outlined above, I shall not consider a 'moderate' view where only some misleading defeaters are included—it is unclear that substantial views of such kind can be articulated at all.

a process M really survives in the holistic approach, think of putting M on an epistemic ‘trial’ against the entire epistemic environment (relevant to P). To defend its case, M must demonstrate the ability to withstand reasonable challenges the situation put forth, such that the agent is not missing out important aspects of the situation (or important information in Foley’s terms) and get things right merely by luck.

Now consider the unenlightened Jill who forms her president belief from reading the reliable newspaper. When confronted with the fact that herself is actually extremely vulnerable to fake news which had been spread among her community, Jill’s process of simply trusting the newspaper (as part of her general trust to the media in news reporting) would not be able to address the challenge. What addresses the challenge from the misleading defeater in the case is the fact that the newspaper she’s reading is the source of information that is *exclusively* reliable under the circumstances. That is, despite the fact that the government is trying to suppress the truth, the newspaper report survives as one of the few credible sources for the truth of the matter. Thus, it seems to me that a different process is involved in the belief formation for enlightened Jill—when confronted with her vulnerability of widespread president belief contrary to what she had read in the newspaper, Jill wouldn’t simply describe her belief formation by stating that ‘but I read that the president is dead from the newspaper’ (that wouldn’t be enough); instead she needs to explain that ‘I know there are fake news out there now, but I managed to come across the truth before the government could suppress it’. This somewhat reflects that enlightened Jill is not adopting the more naïve trusting-the-newspaper process. Indeed, such treatment of PRESIDENT is analogous to that of BARN FAÇADE discussed in chapter 2—when confronted with the fact that the real barn he is looking is surrounded with fake ones, it isn’t enough for George to defend his belief simply by saying that ‘I saw a barn in the field’, instead, he needs to explain that ‘I know the place is filled with confusing façades, but luckily I was looking at a genuine barn—someone in the neighbourhood pointed that out to me (or, I had examined the rear and the sides of the barn myself)’.<sup>26</sup>

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<sup>26</sup> While it might be tempted to think that similar things could be said with regards to TOM GRABIT, I think we really should resist this suggestion. As I see it, it comes down to the environmental penetration of falsehoods in one’s epistemic situation. I take it that PRESIDENT and BARN FAÇADE are akin to each other on this score, while TOM GRABIT seems to be the odd one out. I shall discuss how AP evaluates TOM GRABIT in the coming section.

This is the general approach to determine whether a process M remains intact in face of the entire situation. It is worth noting that there can be other ways in arguing that AP is not met given this specific case. As we had compared PRESIDENT with BARN FAÇADE just now, it turns out that the two share another commonality in epistemic luck. As currently articulated, Jill's belief in PRESIDENT is incredibly lucky in that she is modally vulnerable to forming false beliefs instead—had she encountered the widespread TV broadcasts or the discussions on the matter from her epistemic peers, she would have been easily misled to form a false belief. Similar to BARN FAÇADE, such luck is 'environmental' as Jill is indeed having the appropriate connection with the truth but is surrounded by modally close falsehoods.<sup>27</sup> Now, it strikes me to be highly counterintuitive that someone would knowingly form beliefs via a process that is unsafe (i.e. process that would easily lead to falsehoods). If we accept this, then it is clear that Jill's original process M, being unsafe under the circumstances, would not be an acceptable belief forming process in the holistic lights.<sup>28</sup>

If one accepts one of the arguments above, PRESIDENT would be a case where  $DT_{\text{weak}}$  is met but AP is not. It follows then  $DT_{\text{weak}}$  does not entail AP.

### 3.4.2 Does adequate process entail defeasibility?

Consider the other side of the biconditional. If S's process remains intact in face of the trial of the whole epistemic story, does it follow that there would be no defeater for S's process? As an account of knowledge, AP surely needs to exclude at least all genuine defeaters<sup>29</sup>—for it is relatively uncontroversial that they are knowledge undermining. Intuitively this seems to be the case—if there is a defeater (not further undermined by other truths) that speaks against S's existing process M (either in rebutting or undercutting fashion), S being aware of it would no longer form the belief(s) via M. Now if  $DT_{\text{weak}}$  holds only the no-genuine-defeater clause, it seems that AP entails  $DT_{\text{weak}}$ .

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<sup>27</sup> Pritchard (2005). Note that a certain robust virtue epistemology view (Sosa 2007, 2009) disagrees with the verdict here and maintains that the subject knows in virtue of having the right connection with the true belief. It might be expected that cases such as PRESIDENT would analogously amount to knowledge in Sosa's lights.

<sup>28</sup> For a more detailed discussion of AP and safety, see chapter 5.

<sup>29</sup> To avoid the problem of iterations let's suppose genuine defeaters are strictly undefeated such that no further true proposition (misleading or otherwise) in turn defeats them. Let's suppose also that  $DT_{\text{weak}}$  is committed to the exclusion of only these defeaters.



Similar to 3.4.1, I shall establish the conditional by arguing that AP and  $\neg DT_{\text{weak}}$  jointly leads to a contradiction. We know that if AP is met, S would continue to form his/her belief that P via M after being aware of all relevant propositions with regards to the truth of P. We also know that if  $DT_{\text{weak}}$  falls short, there exists a genuine defeater D for S's belief forming process<sup>30</sup>. By the nature of a defeater, we know that had S been aware of D, S would no longer form his/her belief that P via M (or, in older accounts, S would be no longer justified in believing P given E+D). In virtue of the defeater being genuine, we know that no other proposition in the entire story would in turn defeat D. Thus, the epistemic significance of D to S's process would not change by other true propositions. It follows that after being aware of all relevant proposition in the story, S would not continue to form his/her belief that P via M (due to the undefeated defeater D he/she is now aware of). This contradicts the consequence from AP, thus,  $AP \rightarrow DT_{\text{weak}}$ .

The story complicates as we consider misleading defeaters—since the epistemic significance of  $D_m$  is indeed changed by other propositions. In particular, we would be interested in instances where the epistemic significance of  $D_m$  decreases to the extent that knowledge is preserved. The classical TOM GRABIT case offers exactly such scenario. Since  $DT_{\text{strong}}$  excludes all defeaters (genuine or misleading), it falls short in explaining why S knows in TOM GRABIT. As  $DT_{\text{strong}}$  is too strong, I have to reject that AP entails  $DT_{\text{strong}}$ .

I had argued in 3.3.2 that in TOM GRABIT S knows and  $DT_{\text{strong}}$  is not met—in particular, there is a rebutting defeater (that Mrs Grabit testifies that Tom was not in the library) for S's justification. To offer the desirable verdict for TOM GRABIT and reject that  $AP \rightarrow DT_{\text{strong}}$ , I shall argue that AP is satisfied in the case. One noteworthy epistemic good S enjoys is that his belief is safe—given that Mrs Grabit isn't going out to tell everyone about her delusional claims, S wouldn't have easily come across her misleading testimony. However, it strikes me that AP is stronger than safety—while unsafe beliefs would render a process inadequate (as in 3.4.1), safe beliefs wouldn't

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<sup>30</sup> Of course,  $DT_{\text{weak}}$  could fall short because one of the JTB conditions is not met as well. However, I take it that AP encompasses the tripartite conditions (with an ecumenical reading for J, I shall discuss the notion of justification and its connection to AP in the last chapter). Thus, any uninteresting negation of  $DT_{\text{weak}}$  due to  $\neg(\text{JTB})$  would result in a contradiction to the AP view either way.

secure an adequate process. In other words, just because S's belief is safe does not mean that S would continue to form the belief via the same process after learning the whole story—knowledge can be undermined for non-modal reasons (e.g. the case of TEMP). Let's examine whether M in this case survives the scrutiny of the entire situation U independent from safety.

S forms the belief that Tom Grabit stole the book from the library through witnessing someone (who S is sure to be Tom) hid a book under his coat and exited the library. Would this belief forming process M withstand challenges put forth by U? Granted, there exists one true proposition  $D_m$  that had S came across it S would be misled and no longer form his belief that P via M. However, the holistic approach in AP champions that the epistemic significance of the entire phenomenon cannot be fully determined by the individual components constituting it—just as we cannot pick out one's individual process to examine its significance without considering the epistemic situation one is in (in 3.4.1), it is also misguided to think that the overall epistemic significance for individual defeaters can be assessed out of the context of the whole story. Instead of examining what  $D_m$  had done individually to S's process, ask what impact  $D_m$  made to M under the circumstances outlined by U. That is, we should not just inquire what Mrs Grabit's claims would have done to S's process, rather we need also to take into account that her claims are *misleading and far-off*—what would some misleading and far-off claims have done to S's process?

From this perspective, I argue that the far-fetched misleading information uttered by Mrs Grabit has not constituted any reasonable challenge on the table such that S must address—knowledge does not demand one to consider and rebut all potential information that might confuse oneself. Note that this is not to say that  $D_m$  in such a case does not amount to defeat—instead I am examining the epistemic significance of such defeat on the holistic perspective, and suggests that it is not enough to undermine knowledge. Surely, being only aware of what he saw in the library, unenlightened S would not be able to offer any answer to Mrs Grabit's pathological lies should he be confronted with her. However, it strikes me that such a challenge should not be raised on the trial considering the entire story—particularly the fact that it is a piece of misleading information with little to no social penetration in S's epistemic community. I therefore suggest that S would have no problem standing by his

unenlightened M of visually recognising Tom Grabit in the library. When confronted with the fact that a pathological liar testifies the contrary at her house, S could rightfully object that ‘but I cannot go out to find all of the pathological people and reject their false claims (that are at odds with my beliefs) before committing to my well-grounded beliefs—those are their problems, not mine!’ Not only do I submit that S would withstand such unreasonable challenge with this response, I also think that such a response is in the arsenal of unenlightened S (indeed, in the arsenal of any rational epistemic agents), rather than exclusively for S who is aware of the whole story.

If I was right in arguing that S’s original process withstands Mrs Grabit’s challenge, TOM GRABIT would be a case where AP is met but  $DT_{strong}$  is not. It follows that AP does not entail  $DT_{strong}$ .

### 3.5 Concluding remarks—misleading defeaters and the holistic approach

In 3.2, I explicated the problems misleading defeaters present to defeasibility theories of knowledge—since only some misleading defeaters are knowledge undermining and it is difficult to further distinguish among misleading defeaters, defeasibility theories (DT) are either too strong or too weak. Being logically weaker than  $DT_{strong}$  but stronger than  $DT_{weak}$ , and offering desirable verdicts from misleading defeater cases like PRESIDENT and TOM GRABIT, the adequate process view seems to be well placed in tackling the problem of misleading defeat.

Importantly, AP does not confront the problem ‘head on’ to determine what lies in  $D_m$  that undermines knowledge—the prospect of doing so remains dim in my opinion. Rather, AP offers to dissolve the problem by examining difficult misleading defeat cases from another perspective.<sup>31</sup> It is misguided to take S’s process and the individual misleading defeater out of the whole story to examine whether the latter undermines the former. The full epistemic significance of an individual component in a knowledge story can only be assessed when that component is put under the context of the entire epistemic environment (U). This is especially true for misleading defeaters, as they are by definition undermined by other proposition(s) in the case. Adequate process

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<sup>31</sup> As advertised at the beginning, adequate process and defeasibility seem to be two sides of the same coin.

proposes to evaluate S's epistemic status holistically—against the entire epistemic situation instead of its individual components. From this new perspective, Jill in PRESIDENT falls short of knowledge not because the newspaper report she read is rebutted by the broadcast, but because her process of trusting the newspaper as a common source of information cannot withstand the challenge of her vulnerability to fake news under the epistemic environment she's situated (i.e. the news manipulation by the government). On the other hand, S in TOM GRABIT knows not merely because the proposition of Mrs Grabit's claims is further defeated by other true proposition(s), but because S without knowing about Mrs Grabit can disregard such far-fetched possibility of being misled and continue to trust on his own visual recognition in the library—that the defeater is misleading and far-fetched is something S can appreciate only when the overall epistemic situation is under consideration.

Viewing the problem of misleading defeat from the holistic perspective also avoids getting into the trouble of iterations of defeat. Instead of inquiring what impact a fourth order defeat ( $D'''$ ) would have to the misleading defeater  $D_m$ , AP simplifies the matter and inquire instead whether the situation as a whole ( $E + D_m + D' + D'' + D''' \dots$ ) is one such that S's original process would be adopted by a rational and responsible agent who is perfectly informed.

In this chapter I had considered how taking a holistic approach of epistemic evaluations such as AP would shed light on difficult issues we encounter in defeasibility theories. Our journey of theoretical comparisons continues in the next chapter, where we move our attention from the holistic evaluation of the external epistemic situation to that of cognitive agency—specifically, we will consider the prominent virtue theoretic view on knowledge, and whether the holistic approach of AP would draw any significant implications on it.



## Chapter 4

### Adequately Informed Virtue Epistemology

#### 4.1 Introductory remarks

S knows that P only if S's true belief is a product of S's ability. Despite having heated debates about how to cash out this condition in detail, many contemporary epistemologists had at least conceded that such platitude of knowledge, often referred to as virtue epistemology (VE), is generally correct (Sosa 2007, 2009, 2010, 2015; Greco 2003, 2007, 2009, 2012; Pritchard 2012; Kallestrup and Pritchard 2013, 2014; Turri 2011, 2016). This chapter explores a minimal rendering of the ability condition modified from Duncan Pritchard's modest virtue epistemology. I argue that knowledge, in virtue of being a cognitive achievement *owned by certain subject<sup>1</sup>*, is committed at the very least to a minimal requirement of competence manifestation.

However, it is important to note that this proposal differs from Pritchard's weak ability condition, and for that matter other stronger virtue theoretic views, who take VE as a condition that connects true beliefs to our cognitive agencies, and offers a diagnosis for difficult cases (i.e. the Gettier cases). To this end, I follow Jennifer Lackey's (2007) argument against what she called the *Deserving Credit View of Knowledge (DCVK)*, and maintain that we need not deserve credit for everything we know. As a result, the proposed minimal ability condition is much weaker than DCVK (or for that matter, any account of VE in the market), to the extent that satisfying the condition does not even exclude classical Gettier cases. Instead, I argue that this minimal condition serves a different (more limited) role of demanding certain standard of cognitive ownership in our knowledge.

This chapter first discusses the view of robust virtue epistemology, and Pritchard's argument from epistemic dependence against such view; following that, I shall sketch Pritchard's weakened ability condition, and argue that it is still too strong; afterwards,

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<sup>1</sup> Pritchard (2016b) made similar remarks regarding the ability condition.

I shall introduce the even weaker ability condition and discuss its epistemic significance.

The chapter ends by looking into an interesting case against VE, and argue that accompanying VE with the adequate process (AP) condition would shed light to the situation. Through the lens of adequate process, I suggest how VE would be benefitted by taking a holistic approach on competence. Far from being *ad hoc* conjunctive conditions, the two actually complement each other neatly in depicting the overall world-to-agent epistemic picture of knowledge.

## 4.2 Robust virtue epistemology

### 4.2.1 Epistemic evaluations as performance evaluations

Many virtue epistemologists hold that virtue theoretic condition (of various sorts) alone would suffice for knowledge. Call this view, following Pritchard, robust virtue epistemology (RVE). According to RVE, knowledge just is the successful epistemic product of cognitive agency. The success of performance in activities could be evaluated in many ways—with regards to epistemic activities it would be natural to think that success is rated in terms of the acquisition of true beliefs. However, it is clear that mere success in our cognitive activity is not enough for knowledge. As various Gettier cases had shown, one can obtain a true belief and fail to know. To this virtue epistemologists give the following diagnosis: in cases where a true belief falls short of knowledge it seems the truth of the acquired belief (the success) had very little to do with the agent—in the sense that the former is a product of the latter's cognitive competence, which consists in agents' cognitive faculties. Consider FAKE SHEEP:

FAKE SHEEP Smith is in the country and sees a sheep-shaped object across the field. He thus forms the belief that 'there is a sheep in the field'. As it turns out, he's looking at a rock that is incredibly sheep-like in shape from distance. Smith nonetheless believes truly, however, because there indeed is a sheep in the field, hidden behind the rock and not visible from Smith's location.<sup>2</sup>

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<sup>2</sup> Adapted from Chisholm (1966).

Let's focus on virtue epistemologists' diagnosis of this infamous story. There's no doubt that Smith *successfully* acquired a true belief—that there's a sheep in the field. Moreover, it is also obvious that Smith employed his cognitive competence in obtaining the belief—he formed the belief based on seeing a 'sheep' in the field. However, virtue theorists claim that the true belief is not a product of Smith's competence in a specific, important sense.

Why a specific sense? Because more generally speaking, that any belief is a product of cognitive agency is undeniable, it would seem. Beliefs (or any other doxastic states really) are essentially produced by our cognitive faculties. For Smith, that there's a sheep in the field is a product of certain cognitive processes initiated from his visual perception. Whether or not the corresponding perceptual stimulus (the sheep-shaped rock) leads to successful recognition—in this particular case it does not, for Smith takes the rock to be a sheep—wouldn't change the fact that whatever belief(s) resulted (be it 'there's a sheep' or 'there's a rock') is a product of Smith's cognitive processes.

In what specific sense then is his true belief not a product of his ability? While it is the case that the belief is true and is a product of Smith's cognition, the truth of the belief has nothing to do with him. Granted, it is Smith who sees the sheep-shaped object and thereby forms the belief; however, whether the belief so formed is true is a separate issue, in Smith's case his belief is true due to the hidden sheep behind the rock, which is not perceived by Smith at all. Thus, it seems that on this score the success (i.e. getting to the truth) is not creditable to the agent's cognitive process. According to VE, this additional 'creditable' relation between truth and competence, or—as Sosa puts it—the aptness condition, is necessary for knowledge.

Considering analogous cases in other non-cognitive performance evaluations might help to illustrate the notion of aptness. Consider the case of archery—the athletic performance that virtue epistemologists are infamously fond of. Imagine a skilful archer making a shot, thereby hitting the bullseye. Note that there are two aspects regarding such shot—it is successful (hitting the bullseye) and it is competent (the shot displays the archery skills of the archer). Note also that these two aspects seem to be independent from one another—a shot can hit the bullseye regardless of whether it is skilful (imagine a novice luckily hitting the target); on the other hand, a shot can display



archery skills whether or not it actually hits the target (after all, even the most skilful archer cannot hit the target every time—those missing shots nonetheless display skills). Building on that structure virtue epistemologists propose a third evaluative notion for performances—aptness. Aptness is not a separate factor for performances, nor is it a mere combination of success and competence, rather it necessitates the conjunction of success and competence, and on top specifies a relation between the two. When the shot is apt, it is successful *because of* its competence displayed. Not only must the experienced archer's shot be skilful and successfully hitting the bullseye, such success has to be creditable to the skills displayed in that shot. To see how adding the relation differentiates aptness from the mere conjunction of success and competence, imagine an expert archer fires a skilful shot, a strong gust of wind blows the arrow off, but the wind is so strong that it also moves the target towards that direction—the arrow after all hits the bullseye, several inches from its original position. Here the shot is successful and competent, but not apt—for the success is due not to the expert's skill, but rather to the incredible happenstance of the wind moving both the arrow and the target accordingly. The gust of wind seems to have demolished the causal relation between the two conjuncts.

Indeed, the case described above seems to follow the recipe for Gettier-style cases—where one forms certain beliefs on some good epistemic grounds, 'goes off the target' due to some bad luck unbeknownst to one (the 'sheep' is really a rock, or the gust of wind blowing the arrow off), but gets the true belief anyway because some further unexpected states of affairs—again unbeknownst to one—somehow make the proposition true (a sheep is there behind the rock, making 'there's a sheep' true, or the gust of wind incredibly repositioned the target perfectly too).<sup>3</sup> It is not difficult to appreciate how the virtue theoretic condition, which aims to exclude cases of such kind, is supposed to work as a theory of knowledge. Take belief formation as a specific kind of performance, in which success is evaluated by whether the belief is true, and competence by whether the belief is creditable to the agent's cognitive ability, aptness in such cognitive performance is thus evaluated by whether the acquisition of truth is creditable to the agent's cognitive ability.

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<sup>3</sup> See, for example, Zagzebski (1994) for a recipe for standard Gettier cases.

Consider FAKE SHEEP. Smith successfully forms a true belief and had done so competently. However, since the truth of his belief has nothing to do with his competence (but rather with the existence of the unseen sheep), Smith's belief is inapt. Thus, VE rules that Smith does not know.

In addition to the alleged success in resolving Gettier-style cases in RVE, VE generally also enjoys certain strengths as an account of knowledge. One advantage is that it fits well within a broader theoretical framework of performance evaluations—knowledge is just a species of apt performance, while analogous features could be observed in other activities (for example, the accurate shot credited to the skilful archer). Accounting for knowledge as such would therefore not be arbitrary or *ad hoc*—we do not invent new conceptions and add them to knowledge, so to speak, just to get rid of the undesirable Gettier counterexamples. Another strength of the virtue theoretic approach is that it offers explanation to why knowledge might be more valuable than mere true beliefs—a concern that dates back to Plato's *Meno*. We credit the experienced archer's skilful shot but not the novice's lucky shot, despite the fact that they are equally accurate—for the accuracy of the former displays competence and the latter does not. Similarly, knowledge is distinct from mere true beliefs in that the success also demonstrates the agent's cognitive prowess, which is supposedly epistemically valuable.<sup>4</sup> A final point I would like to remark concerning the advantages of VE—something I shall return to later in this chapter—is that it highlights the ownership of knowledge. Unlike truths which are independent from agents, knowledge is an epistemic status that essentially *belongs to someone*. All instances of knowledge involve a subject who knows certain proposition(s). Virtue epistemologists attempt to specify the relationship, or a requirement for ownership if you will, between the proposition known and the person knowing it. Particularly, S possesses knowledge of P just in case the truth of P is the product of S's cognitive competence. While I am not suggesting that other theories necessarily fail in accounting for such epistemic ownership, I believe VE has the edge on this score, for being more explicit in

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<sup>4</sup> The last allegation might be a bit brief and is surely open to challenges. Yet for present purpose I will leave the discussion of the value problem at this point. Proponents of virtue theories might expand on why this might be the case. See Zagzebski (2003), Riggs (2002) and Greco (2003) for more detailed discussions.

elucidating why my knowledge is *mine* (as remarked by Pritchard 2016b)—because it is produced by my cognitive competence and so credited to me.

There are different lines of virtue epistemology. One notable point of differentiation concerns how the ‘because of/is creditable to’ relation should be unpacked. Sosa (2007, 2009, 2010, 2015) and Turri (2011, 2016), for example, are inclined to read the relation as certain competence manifesting its disposition(s) in obtaining the success—that seeing a sheep manifests the disposition of our visual perception to recognise objects; Greco (2007, 2009, 2012) and Pritchard (2012) hold that the relation pertains to causal explanation—that our visual perceptual ability plays a salient role in explaining our cognitive success (getting the true belief that there’s a sheep). For the purpose of this chapter I would put this differentiation aside—a general characterisation of VE would suffice for the minimal ability condition I have in mind. Thus, I would try my best to remain theoretically neutral on this matter in my following discussion. Remarks about VE, for example, that knowledge is apt beliefs or successful product of cognitive agency, that a belief is apt when its truth is creditable to one’s competence etc., should be taken as virtue epistemology in its generic form.

#### 4.2.2 Pritchard on epistemic dependence and the failure of RVE

Robust virtue epistemology is the view that knowledge is just the successful epistemic product of cognitive agency (or simply, apt beliefs). As hinted earlier, I believe that RVE is ultimately unsatisfactory.

The prominent reason for such a failure is its inability to accommodate various scenarios of what Pritchard (2015) called *epistemic dependence* in knowledge. The notion epistemic dependence suggests that sometimes whether one knows can depend upon factors that are external to one’s cognitive agency.

This surely needs more unpacking—insofar as one accepts the factivity of knowledge, whether one knows would always depend upon factors external to the subject. Whether or not the targeted proposition is indeed true is a matter entirely independent from the subject, and rests rather on states of affairs in the external world. If ‘there is a sheep’ is a true belief, its truth surely wouldn’t be dependent upon any person’s

epistemic status—but rather the fact that there's a sheep in the field. However, consider the notion of aptness, it actually entails the truth condition—granted, whether the target proposition is true does not rest on one's apt belief; but it is still the case that whenever one's belief is apt it is true. Therefore, RVE suggests that whenever aptness is satisfied, the belief has to be true.

What Pritchard suggested is a dependence of a different kind—which is meant to challenge the alleged robust relation between knowledge and apt beliefs. Pritchard claimed that even in cases where one's belief is apt (that the believed proposition is true and is creditable to one's competence), one's epistemic status can depend upon the external environment—a factor that is independent from aptness. This claim is directly at odds with the RVE thesis—that whether one knows is determined solely by virtue theoretic conditions.

How exactly does epistemic environment impact on her knowledge? Part of the answer lies in what Pritchard called environmental luck. Environmental luck is a form of veritic epistemic luck that is supposedly incompatible with knowledge, in virtue that it is a matter of luck that one's belief is true (Pritchard 2005). However, it appears that aptness is compatible with environmental luck. To see this, consider BARN FAÇADE.

BARN FAÇADE George is driving through the country. As he looks through the window he sees a barn-shape building across the field, thus coming to believe that 'there's a barn in the field'. The building he spotted is indeed a genuine barn—however, unbeknownst to him, there are many fake barns in the vicinity, so cleverly disguised that, visitors who had not taken a closer look would most likely mistaken them as barns. It turns out that George is looking at one of the few genuine barns in the area.<sup>56</sup>

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<sup>5</sup> The original case was credited to Carl Ginet and was first published by Goldman (1976).

<sup>6</sup> Kallestrup and Pritchard (2014) offered a more elaborated epistemic twin earth case comparing the epistemic status of two physical duplicates. Their possessions of knowledge differ because the modal profiles of their targeted belief diverge unbeknownst to them (say, one is in barn façade county and one is in a normal environment). In virtue of being duplicates, it is hard to imagine that they should differ in their manifested competence, given that their actual interactions are both veridical and their experience should be identical. Their difference in epistemic status seems to lie merely in the modal profiles of their true belief—something independent of one's cognitive agency, and so not accountable by the notion of aptness. For the purpose of the present discussion, I shall focus on the shorter, more popular barn façade case.

To challenge RVE as a sufficient condition of knowledge, Pritchard makes two remarks on BARN FAÇADE—that George’s belief is apt and that George’s belief falls short of knowledge.

Let’s consider the first claim. One’s belief is apt just in case the cognitive success is creditable to one’s competence. In virtue of successfully recognising a real barn, it would seem that George’s barn belief is indeed apt—there is nothing ‘intervening’ between the subject and what makes the belief true (contra FAKE SHEEP), the successful recognition indeed displayed the competence of his perceptual faculty.<sup>7</sup> Revisiting the archery analogy—the experienced archer could have analogously faced a scenario which, unbeknownst to him, many of the targets in the vicinity are holograms, and it is a sheer matter of luck that he had fired his shot to a real target. Now had he decided to shoot at another target, his shot would easily have been unsuccessful—he would have hit nothing. However, it seems that insofar as he luckily picked up the real target, the achievement of the successful shot itself would not be affected by the luck of such selection—his shooting the bullseye nevertheless displayed his archery skill, despite the fact that it is lucky that the skill is displayed. Now aptness only rules that competence on the agent’s part must be manifested in obtaining the success, it does not require that such manifestation could not be lucky. Thus, it seems that we ought to credit the achievement to the archer’s competence. Analogously, the cognitive success of George (the true belief that there’s a barn) should also be considered as George’s achievement creditable to his visual recognition, in virtue of his (albeit luckily) seeing the real barn.

Consider now the second claim. It is undeniable that George’s apt belief signifies certain cognitive achievement, which is at least a positive epistemic status. The question that follows, rather, is whether this cognitive achievement is sufficient for knowledge. Pritchard argued that it is not. According to Pritchard (2005, 2007, 2009, 2012, Pritchard, Millar & Haddock 2010), it is a platitude of knowledge that it is incompatible with luck. Since aptness is conceptually compatible with environmental luck and knowledge is not, there are bound to be cases where the former is met while

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<sup>7</sup> Beside Kallestrup and Pritchard, the claim that there could be lucky apt beliefs is conceded also by notable robust virtue epistemologists such as Sosa. While other RVE advocates, including Greco and Turri offered arguments against such claim.

the latter is not. In FAKE BARN, George's cognitive achievement falls short of knowledge because his belief, while aptly true, could very easily be false (had he looked at another 'barn' nearby) given the unfavourable epistemic environment. It seems that knowledge should be a more specific kind of cognitive achievement which demands certain degree of modal stability of one's true belief, and is consequently more intolerant to luck than mere cognitive achievements.<sup>89</sup> Therefore, Pritchard suggested that an anti-luck condition *not accounted for in virtue theoretic terms* should be added in order to fully account for knowledge. Pritchard called this insufficiency problem of RVE *negative epistemic dependence*—in that an agent could lose knowledge due to unfavourable environment external to her cognitive agency.

Environmental luck is just part of the story and Pritchard offered in his epistemic dependence objection to RVE. The complete charge against such view, as he claimed, is double-bind. Not only is the ability condition insufficient, it is also accused for being unnecessary—in that there are possible scenarios such that the epistemic environment would be so favourable that it enables inapt beliefs to be considered as knowledge. The idea that one could obtain knowledge due to favourable environment external to one's cognitive agency is what Pritchard called *positive epistemic dependence*. The thought, originally due to Jennifer Lackey<sup>10</sup>, is that our acquisition of knowledge is not always creditable to our own effort (at least not to a large part<sup>11</sup>). Take typical testimonial cases for example. We rely mostly on other's cognitive labour to acquire certain information. If I were to visit an unfamiliar city and wish to go to a particular location, it makes sense (and is surely the better strategy) to rely on the locals' cognitive competence—their mastery in travelling around that area—instead of

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<sup>8</sup> Note that Sosa bites the bullet and maintains that George does have knowledge in FAKE BARN, thus addressing the sufficiency challenge. However, I do not intend to offer in-depth evaluations for every virtue theoretic view on the market—who surely would have different strategies in tackling FAKE BARN. The lesson here is that insofar as we grant our intuition that George fails to know, along with the theoretical commitment that knowledge is incompatible with luck (Sosa, biting the bullet, had to deny this; see also Hetherington (2013) for argument against this view), barn-façade style cases would pose a genuine sufficiency challenge to RVE in general.

<sup>9</sup> For further discussions on the anti-luck platitude of knowledge and how the AP view address this issue, see Ch 5.

<sup>10</sup> Lackey (2007, 2009).

<sup>11</sup> Indeed, it is noteworthy that this is where Lackey and Pritchard's views on testimony diverge. While Lackey maintains that the agent deserves no credits for the success at all, Pritchard holding the weak ability condition argues that testimonial success is still significantly (just not primarily) creditable to the agent. More detailed discussion will follow in the next section regarding Pritchard's modest virtue epistemology.

my own. Now suppose that I depend entirely on other's testimony in finding the way (successfully) to the national museum in Edinburgh.<sup>12</sup> Insofar as we are prepared to say that I thereby know the way to the museum (which is a very plausible claim if we accept the transmission of knowledge by testimony), such a case would be a challenge to RVE, for it seems that we now have an instance of inapt knowledge—the truth of my belief seems to have nothing to do with my competence but is rather mainly creditable to that of the testifier's. Conversely, are we prepared to say that the true belief is only knowledge for that other person, but not for me? Following the virtue theoretic lines, it seems that we have to. However, to deny that we could obtain testimonial knowledge seems too radical a position to hold. After all, much of the beliefs we hold are gathered from other epistemic agents, it doesn't seem plausible that what we know are all creditable to our own competence in RVE's lights.

Just as there are various strategies to tackle FAKE BARN, virtue epistemologists paid efforts to explain away the problematic epistemic reading in testimony—for example, by employing a more lenient ability condition such that the acquired belief is still significantly creditable, albeit to a lesser extent, to subject's cognitive agency, in the act of receiving testimony. But more on that later—for now I should stress that Pritchard's epistemic dependence argument against RVE presents a double-bind problem to the ability condition. It does not deny that virtue epistemologists would be able to resolve the sufficiency problem or the necessity problem independently. Instead, Pritchard argued that no single robust virtue theoretic proposal could address both positive and negative epistemic dependence at the same time. The problem is 'double-bind' in the sense that the sufficiency and necessity counterexamples are pulling the ability condition towards opposite directions—while the latter demands a more lenient competence manifestation in order to accommodate standard testimonial cases, the former imposes a more stringent requirement such that luck could be ruled out purely in virtue theoretic terms. Bearing this structural difficulty in mind, the hope of articulating a stable ability condition which satisfactorily addresses both challenges seems less promising.

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<sup>12</sup> Adapted from Lackey's Chicago tourist case (2007).

While I do not reject such possibility altogether, it is not my intention to evaluate them here. As noted at the beginning I defend only a minimal rendering of the ability condition that has no business in offering an account sufficient for knowledge. Thus, I would put aside half of the double-bind problem—namely the negative epistemic dependence of RVE—and focus only on discussing the testimonial case, in other words whether the ability condition is necessary. Finding a necessary place of the ability condition to knowledge would thus be the main objective in the coming sections.

### 4.3 Weakening the ability condition

#### 4.3.1 Pritchard's weak ability condition

How then should the ability condition address the case of testimony? As hinted above I believe that once we give up RVE—the thesis that virtue theoretic condition on its own is sufficient to account for knowledge—we could put aside one horn of the dilemma (the sufficiency problem in FAKE BARN) and accommodate paradigm testimonial knowledge by *weakening* the ability condition. To this end, Pritchard (2012) endorses what he called modest virtue epistemology.

According to Pritchard, the ability condition could be weakened by the extent to which the cognitive success is creditable to one's cognitive agency in cases of testimony. In its general form virtue epistemology had not specified the degree to which the success needs to be creditable to the ability. Consider how virtue epistemologists could avoid the troubling phenomenon in testimonial knowledge by requiring a lesser role on the agency part. Let's concede that the cognitive success of knowing the way to the national museum is mainly creditable to the ability of the testifier—this, argued Pritchard, does not however negate the possibility that some smaller, yet still significant role could be played by the subject who receives the information. For example, when I wish to get to the museum and therefore ask for directions, certain measures on my part take place to give myself the best shot in obtaining the information—I wouldn't have asked just anyone, or have believed anything they say. Instead, I demonstrate my ability to select an informant (say, an apparently sensible adult who looks like a local, perhaps not holding a map or a camera looking around the place like myself), my ability to comprehend whatever he conveys, and my ability to filter away obviously false responses (say, if you were to tell me to get back to the



airport, take the first available flight and the pilot will bring me to the museum, I wouldn't have trusted you). Imagine now after all these hassles I found an informant, and he helpfully explained the correct directions to me, leading to my success in arriving at the museum at last. It seems right to say that I do know the directions, the truth of my direction-related beliefs are mainly creditable to the informant, but I should take some credit in obtaining the truth too.<sup>13</sup>

Before proceeding, a subtle distinction is in order—it seems that in meeting the ability condition there are two renderings in which the cognitive success is said to be creditable to the cognitive agency, in one sense we can say that the *truth of the belief is creditable* to one's ability; in another we say that *one's ability is creditable in enabling one to obtain the true belief*, though it is not necessarily directly creditable in the truth of the belief per se. It seems that the ability involved in testimonial cases pertains exclusively to the latter enabling sense. To illustrate the distinction consider an analogy in sport team achievements. A successful basketball team might have had multiple wins in a season—and the wins might be rightfully credited to the players, who displayed great individual and team competence; however, it seems to me that the wins could also be credited to the managerial team of the club in a different sense. After all, it is the manager's incredible work that made possible the assembling of such a strong roster with incredible team chemistry, it only seems right that the acquisitions of those wins is at least partly (and indirectly) creditable to the manager's ability—although he surely isn't creditable for making the shots or executing the plays that constituted the wins per se. Similarly, in testimonial cases it seems that I didn't really aim at the truth of the beliefs myself, but rather employed my skills in enabling myself to obtain relevant truths from the work of others. Let's call the former direct-truth-aiming skills 'first order competence' and the latter enabling-obtainment-of-truths skills 'higher order competence'. It strikes me that both competences could rightfully be credited for cognitive success, thereby satisfying the ability condition—unless epistemologists have further motivations to limit the condition to a particular type of

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<sup>13</sup> Here I put aside potential objection that young children may not demonstrate abilities of this sort. For one thing, the plan here is to be as charitable as possible with regards to testimonial competence; for another, VE might bite the bullet and maintain that young children in that case indeed lacks the intellectual sophistication to be display virtue in such cases. What I wish to put forth in the coming sections however is an objection that should apply more generally to mature epistemic agents.

competence, I would be entitled to knowledge about the museum's directions in virtue of skilfully obtaining the truths from the work of others.

While it is unclear whether Pritchard has this subtle distinction of competence in mind, his discussion on the abilities displayed in obtaining testimonial knowledge surely falls under the higher order category outlined above. In testimony, our competence might be playing an indirect, lesser albeit still important role in our success. It seems plausible then for Pritchard to maintain that our cognitive success should at least be *significantly, though need not be primarily, creditable* to our cognitive agency. In other words, our cognitive ability should play a salient role in explaining, though *need not necessarily be the overarching factor to*, our success.<sup>14</sup> Embracing this weak ability condition, paradigm testimonial cases pose no challenge to virtue epistemology as a necessary condition to knowledge, since in such a case at least some competence on the agent's part is displayed in the process of acquiring the truth.

It is worth noting that according to Pritchard, this modest line of ability condition does not entail aptness—a central notion held dearly by other virtue epistemologists.<sup>15</sup> As one's epistemic competence needs not be the overarching explanatory factor to the acquisition of truths, Pritchard's weak ability condition does not demand one's cognitive success to be 'because of' one's competence (for example, testimonial beliefs would be inapt despite satisfying the weak ability condition, since my getting the true belief is not 'because of' my ability but rather the testifier's ability). Since the 'because of' relation is theoretically laden in the literature to indicate the stronger causal explanatory reading of competence—meaning 'primarily creditable to' or 'being the overarching factor for', instead of the more general reading (as I take it) such as 'creditable to' or 'a product of', in my following discussion I would avoid using 'aptness' and 'because of' in my characterisation of the general position for VE, and stay with the (I think) neutral expression that one's belief formation is virtuous just in case one's cognitive success is creditable to/a product of one's cognitive competence. Putting the

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<sup>14</sup> Higher order competence highlighted above is perhaps a type of salient, yet not overarching, factor. Note that I do not thereby claim that this kind of competence exhausts all non-overarching salient factors.

<sup>15</sup> Kallestrup and Pritchard (2016) is explicit on this remark.

terminological clarifications aside, the point I really wish to push forward here is that even this weaker ability notion is too strong for my liking.

#### 4.3.2 The case of passive testimonial knowledge

As Foley remarked, our judgement about epistemic status depends heavily on the details given (and emphasised) in the story. In the above descriptions of the testimonial case, I believe I had been particularly charitable to the idea that my getting the truth is somewhat creditable to my competence—I did a lot to give myself the best shot for the true belief. But is that always the case for testimonial knowledge? I want to argue that at least in cases where we passively receive others' testimony, rather than actively seek for information we need, it is much less clear how the success could still be creditable to me.

After I visited the museum, I stopped by a local bar in Edinburgh to get a drink. The people I met there, who told me that they were Edinburgh locals, kindly inform me many claims about the city. Being a visitor unfamiliar with the place, I am not in a position to doubt the assertions they made. Trusting on their goodwill to inform me, I take their word for it and believe what they claimed. Now I actually learned considerably more about Edinburgh—as it turns out nothing fishy is happening in the case, let us suppose. People in that pub are honest fellows who want to help me understand more about the city. I, by opting to believe in their say-so, obtained a lot of true beliefs regarding Edinburgh. Do I then know those propositions (say, that the author of Sherlock Holmes was born here)?

I'm attracted to say that I do. After all, we obtain many new information from others without necessarily inquiring them (i.e. actively seeking for their truths) in the first place. Not only are we at times not engaging in active inquiries, usually we are even unable to make the inquiry because we lack relevant background information (indeed, if I don't even know what Sherlock Holmes is, how am I supposed to ask them if its author came from Edinburgh?) On the other hand, to posit that one knows via testimony only if one is actively inquiring the matter sounds very odd—if the sources of information are just as good/reliable (imagine it is the same person you were conversing, in one scenario you asked the person whether the author was born here and he replied 'yes',

in another the person informs you the same content without you asking), why should we favour active inquiry over passive reception, to the extent that the former amounts to knowledge and the latter falls short? Why is it that your epistemic status should depend upon whether or not you seek for the information in the first place?

To appreciate further the oddity of this imbalance, consider the other side of the story. Suppose you are the local good fellow in the pub who told me that the author of Sherlock Holmes was born in Edinburgh. You would have thought that your words amount to testimony to me—regardless of whether or not I asked you for the information in the first place. However, the denial of passive testimonial knowledge on the receiving end means also the denial of active testifying on the testifier's part—that is, your claims cannot amount to testimony unless you were asked to do so (just so that I can play my part in significantly acquiring the truth). From the view of the testifiers this is surely a bizarre position to hold.<sup>16</sup>

Suppose then I do know from the pub locals that the author of Sherlock Holmes was born in Edinburgh. Let's examine whether such cognitive success is creditable to me. I concede that the following competences are likely in play on my part:

- i. I listened and comprehended reasonably well to enable my receiving the content of what people testified, making possible my belief formation;
- ii. I did not pick the testifier myself, but once the pub fellow testified something for me, it is still up to me to judge whether he is a trustworthy source in this regard—if he tries to give a lecture on the history of Chinese classical poetry, I might have good reasons to doubt his authority over such field. Since knowledge of this sort requires a really specific expertise that just isn't easy to come by (unlike casual trivia about one's home town), and the chance of encountering an expertise on this field in a local bar in Edinburgh isn't very

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<sup>16</sup> Testimonial knowledge has a huge body of literature that would add complexity to the said cases. One worry here is that I'm too gullible in the pub case to know. While I do not intend to explore in detail the extended debate, I think it is at least a plausible view that in virtue of engaging in common social epistemic practices and in fact having a reliable source of information the agent is entitled to testimonial knowledge despite lacking any significant credits. The main point I wish to make here, however, is that putting gullibility and its impact on testimonial knowledge aside, the epistemic status pertaining to testimonial activities should not be determined by whether or not the agent seeks for the information actively—which seems to be what the weak ability condition requires to enable partial manifestation of cognitive agency.

promising. The judgement of testifier's authority over relevant field is thus a competence possibly displayed in passive testimonial cases.

- iii. As in active testimonial cases, I could also filter obviously false assertions. I may know very little about Edinburgh, but I do know it is not a city in China. If the local testifies that Shanghai and Edinburgh are of walkable distance and advises me to make a short trip for Shanghai tomorrow morning, I would not have believed so—I would even cease to take his other testimonies seriously.

Indeed, these competences are present whenever we receive testimony—for example, even when no outlandish assertions were made and iii does not effectively filter anything, the filter is nonetheless there. The thought however is that i-iii altogether do not satisfy even the weak ability condition. If i-iii are all the competences one displayed in forming the belief (again, I'm trying to be as charitable as possible when considering potential competences), the success (truth acquisition) would not be creditable to one's competence at all, I don't think. Let's set the preliminaries straight and examine carefully along i-iii. In order to be creditable for the success, I take it that the competence should at least involve efforts/measures to considerably<sup>17</sup> improve the likelihood of success. This is what I meant by giving oneself 'the best shot' in success by selecting a testifier that seemingly knows the way—it increases the chance of my getting the correct answer, to some extent. When the expert archer fires his best shot, his competence involved—including practices such as taking aim at the bullseye; holding certain position between his arms and wrists; checking if the wind is too wild that might impact on the stability of the shot etc.—all serve the purpose of improving the shot's accuracy. Take the higher order competence analogy in the basketball team management. When the manager takes credit for building a successful team<sup>18</sup>, he didn't merely check that the team hadn't recruited any bad players (that would only prevent him from being blameworthy for losses, but not make him praiseworthy for

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<sup>17</sup> Or 'significantly', sticking to the weak ability condition terms—note that I didn't employ words like 'overarchingly' or 'primarily' which imply the stronger condition.

<sup>18</sup> Note that following many virtue epistemologists who have a specific rendering of competence manifestation, there's a disanalogy here in that I don't think the winning of the games themselves manifested the managers' competence. Instead, the basketball manager case is analogous with testimonial cases only to the extent that they both involve what I call higher order competence—their abilities do not directly amount to success themselves, but instead aim at enabling/putting one in the position for success.

wins, I think), rather he should have made considerable efforts in assembling a group of good players.

Analogously, I think i-iii at best serve only as the prevention of outlandishly false beliefs—that is, I am at best just not blameworthy for false beliefs, but also not praiseworthy for true ones. Consider iii, isn't it precisely the prevention of obviously false beliefs? Granted, by inductive reasoning the exclusion of certain falsehood does increase the chance of success. Alas, the impact is really incredibly small. What the competence excludes are just propositions that are hardly sensible for believing in the first place. There is a vast number of sensible claims such competence cannot help with (say, whether the author of Sherlock Holmes was born in 1859 or 1860). When I am in the bar and the testifiers feed me with a bunch of unfamiliar information, insofar as their claims stay within the realm of common sense, the competence in iii effectively offers little to no help at all for my chances of securing truths. Thus, iii cannot be a salient factor for the cognitive success. That is, the success is not significantly creditable to my displaying competence iii; similarly, i would not be a salient factor for any success either—since it is just the prerequisite competence to make possible belief formation, listening and understanding what testifiers say surely do not speak to the truth of the proposition at all.

At last, consider ii, which is a competence with more interesting epistemic underpinnings. When you passively receive information in a classical literature lecture, and correctly judge that a classics professor is trustworthy when it comes to ancient Chinese poetry, it seems right to say that your competence had significantly put you in a position to succeed rather than to fail. You appropriately put trust on a person who is an expert in the relevant field (contrast, for example, if you trust that classics professor while he's forecasting the probability of economic recession in the coming financial year, your chance of getting things right would be significantly worsened). However, such competence has a limited scope of applicability. When it comes to Edinburgh trivia, how should one judge whether or not a testifier is trustworthy? Is there such a thing as a trivia expertise anyway? Unlike professional fields, trivia claims are often scattered and easily made up. Unlike highly specified knowledge, it is also relatively accessible to the general public, such that you'd lack the legitimate reason to doubt the person's (who you've met in a pub) authority over the topic. I think in

cases of this sort, the decision to trust the testifier rests upon a good faith that one normally offers truthful information to others. Effectively, I simply take the person's word for it as a conformity of a (perhaps groundless) socio-epistemic norm<sup>19</sup>. Mind that I am not suggesting this practice is problematic—I only want to remark that even if we grant (as I do) that it is acceptable, it wouldn't be a 'competence' that is creditable for the success it brings. My leap of faith in humanity does no epistemic work in improving my chances of success, unfortunately. In the successful basketball team case, if the manager does nothing in enabling team success, but merely trust that his players would bring their very best to win every game (as he should, believing in the players). Again, there isn't necessarily a problem with such (perhaps laissez-faire) managerial style. But whenever the team is indeed winning, we wouldn't say the success is creditable to the manager at all.

#### 4.3.3 A minimal ability condition and the ownership of knowledge

From the discussion above I hope I had presented a case that in passive testimony it doesn't seem very plausible that our success is creditable to our competence. Nevertheless we still want to say that we do know the information as a result of their testimony—how many times in our lives had we learned little fun fact—that we never heard of and have no way to tell whether or not they are true—simply by trusting others' telling? My proposed way out of this puzzle is to endorse an even weaker ability condition.<sup>20</sup> It seems that in certain testimonial cases where the epistemic environment is particularly friendly, knowledge does not require cognitive success to be creditable to one's competence. Specifically, it does not demand our competence to contribute to a better epistemic position for success *in any significant way* (contra Pritchard).

If the relation between true beliefs and competence is not bridged by creditability, how should the ability condition be spelt out? I say we do not need the bridging relation between success and ability to begin with—we do not need our competence to

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<sup>19</sup> Whether our practices of testimony are really 'groundless' hinges on a more general debate about the structure of warrant. Wright (2004) and Coliva (2016), for example, hold that our entitlement to testimonial knowledge requires the background assumption that people's say-so are usually reliable; while Pryor (2004) suggests that such assumption is not necessary. On the other hand, while Wright maintains that background assumptions should themselves be warranted, in Coliva's view they could be groundless.

<sup>20</sup> I do not reject the possibility of alternative solution for virtue epistemologists. I am only offering a potential view which I think complements well with the adequate process account.

contribute to the betterment of our epistemic position (or improve our chances of success, if you will). Sometimes when the epistemic environment is particularly enabling, the required epistemic work of securing success could be done entirely outside of one's cognitive agency (such as the testifier's own competence). I also conjectured that we don't need a link between the world and our competence (at least not in virtue theoretic terms) in order to account for knowledge—such task is left for the proposed adequate process theory. In turn, the ability condition would just be a necessary condition for knowledge which plays a quite different role. If this should hold we could be content with an ability condition that consists simply in success and competence (or, in Sosa's term, accuracy and adroitness, i.e. the double-A structure). To elaborate, it is a necessary condition for knowledge that one's cognitive success is a product of (but is not creditable to) one's competence.

Here I argue that 'being a product of' and 'being creditable to' one's competence should not be taken as interchangeable terms. The latter seems to have embedded in it some sense of 'because of' relation; while the former, as I take it, simply states the conjunction of accuracy and adroitness. Importantly, while I think that by being creditable for the success one's competence plays a role in explaining the truth (or at least, in explaining why one is able to obtain the truth), merely being a product of one's competence does not imply such a role—the success could be a product of the competence, without needing the latter to have anything to do with the fact that it is successful. Consider again the *laissez-faire* manager who had done nothing for putting the team in the position to win—what he does is just to operate the organisation, arrange games, pay the salaries, sort out the venue etc. Suppose further the team is very successful nonetheless, due to the sheer excellence of the individual players. Now the winning of games surely has nothing to do with the manager, and so is not creditable to his ability; however, the team playing the games in the first place—be it winning or losing—are all products of his managerial work. Thus, the manager is 'virtuous' in the sense that, a. the team is winning (not to his credit), and b. it is his work/skills that constitute the playing of the games by the team. In other words, his work had produced a winning team (whether or not it is due to his efforts that the team is winning). Consider two other similar cases:



Coffee machine: The coffee machine in the office is not known to be producing particularly good coffee. Yet today it incredibly made an exceptional latte for John. One cannot deny that this good coffee (the success) is a product of the machine—regardless of the quality it is after all the machine that produced it; but we can insist that the goodness in the coffee is not creditable to the excellence of the machine—sometimes the ordinary can produce incredible things, creditable perhaps to luck.

Successful alumni: A mediocre school is known for providing sub-par education to its fellow students. Still, there are bound to be some brilliant graduates who achieve high accomplishments later in their lives. They are still rightfully called ‘products’ of that mediocre school, no matter what the school is their alma mater, where they came from; but their success, it would seem, wouldn’t be creditable to the sub-par education they received from the school, rather it would even be natural to credit their diligence in overcoming the educational disadvantage they began with.

So a belief is ‘virtuous’ insofar as it is the person’s cognitive competence which produced it, and that it turns out to be a success (i.e. a true belief). Call this the minimal ability condition for knowledge. Of course, it is not hard to recognise that the minimal condition does not predict the right verdict for even the most standard ‘intervening’ kind of Gettier cases. Earlier on I remarked that virtue epistemologists take ‘success being a product of cognitive agency’ in a specific sense, while generally speaking any belief formed by the agent, it would seem, would be a product of one’s agency—after all beliefs are all cognitive outcomes of the agent. The minimal ability condition precisely takes this more general reading of ‘success being a product of agency’ here. In FAKE SHEEP, we would say that Smith enjoys a true belief and it is Smith’s perceptual faculty which produced it (the belief, regardless of its truth value). So the ability condition is met for Smith’s belief, but this is fine—it is not the objective of the minimal ability condition to account for knowledge as a whole anyway. The virtuous belief, not taken as the resolution to the Gettier problem, might enjoy other epistemic goods.

One may further protest though that since generally speaking beliefs are products of cognitive agency this condition hardly amounts to any constraint on knowledge at all— all beliefs would be virtuous then, under such condition. And what particular goods do this condition bring anyway, if it is possessed by all of our beliefs? To address this let me refine my saying that generally beliefs are products of cognitive agency—that is, such is the case under normal epistemic circumstances. But the condition still excludes certain cases of abnormal belief formation. Particularly, beliefs that are not grounded by one’s cognitive agency but are nonetheless irrationally held; and beliefs that are products of some ability/mechanism which is not part of one’s cognitive agency. If Jack is an irresponsible epistemic agent who doesn’t care about abiding any epistemic rules, he might form the belief that ‘there’s a sheep’ when he sees nothing, or he might believe that ‘there’s a horse’ when he sees a sheep. In such cases the minimal ability condition is not met, since Jack does not form his beliefs in accordance with what his visual faculty instructs him<sup>21</sup>, his beliefs are not considered as products of his cognitive competence. Consider another the peculiar case where the beliefs one have are not really produced by one’s own cognitive faculties— suppose Thermo is an agent who forms various beliefs regarding the temperature around him. His beliefs are formed by a reliable process that yields to truths most of the time. The reason of this reliability is that unbeknownst to him a thermometer had been plugged into his brain, such that whenever he ponders about the temperature he is informed by the thermometer, instead of his own cognitive faculties. Again, we can rightfully say that Thermo’s belief in this case is not produced by his competence, at least when the thermometer doesn’t seem to be an ability that belongs to him (or considered part of his cognitive architecture).

It seems to me then that the minimal ability condition is substantively excluding something—at the least it requires one to form beliefs in accordance with one’s cognitive faculties, and also demands that the beliefs must be produced by mechanisms that belong to the subject. It is in this sense that satisfying the ability condition helps us to explain why my knowledge is mine—it is my cognitive agency that had produced it. Indeed, explaining epistemic ownership strikes me as the

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<sup>21</sup> Incidentally, the justification condition (if one holds that it is essential to knowledge) also falls short under the AP account. For such view on justification, see chapter 6.

irreplaceable role for virtue epistemology, and this is the primary motivation for endorsing the minimal ability condition as necessary for knowledge.

#### 4.4 Adequately informed and minimally virtuous process

##### 4.4.1 Adequate process must be one's own process

In this section, I shall consider how the minimal ability condition outlined above and the proposed AP view might complement each other. I maintain that the ability condition is not here to close any gaps in accounting for knowledge. The load of accounting for knowledge—offering appropriate readings for a wide range of epistemic evaluation cases, remains on adequate process's shoulders. However, being able to predict the correct reading across cases doesn't mean it could also explain why the knowledge belongs to that person.

Consider TEMP which we discussed in previous chapters. Temp has a safe modal profile of beliefs credited to the hidden agent who diligently adjust the thermostat according to the broken thermometer's readings Temp looks at. I argued that the essential reason Temp falls short of knowledge is the inadequate process in his belief formation, rather than the lack of competence manifestation—what matters most in the story seems to be that he needs to correctly identify the source of his information and put trust on it. Indeed, if he had been made aware about the whole story, he would have continued to look at the thermometer, depending on it to form reliable temperature beliefs, trusting not the thermometer's mechanics itself, but rather the hard work of the hidden agent. Although virtue theorists could still insist that the aptness condition works on the case (for mistaking the source of reliability, Temp's belief didn't manifest the competence of 'informant selection'), it strikes me that the core issue here does not have much to do with what ability of his that is involved, but how well he had a grasp on the entire situation as he forms the corresponding beliefs.

However, we can imagine a case where the minimal ability condition matters. If it doesn't matter whether it is the thermometer or the evil demon who feeds you with truths (as long as you had not mistaken the source), in principle we can devise a case such that your cognitive agency is massively misleading, you were told so, and you continue to 'know' the world in virtue of this epistemic transparency. Let me explain

such a case. Suppose Steve is a brain-in-a-vat whose experiences are manipulated by a scientist. But the 'benevolent' scientist told Steve the whole story at the beginning, assuring Steve that he would only feed Steve with 'veridical' experiences—experiences that would track truths in the external world, that is, he would be stimulated to have a hand-like visual experience only if there's a hand in the external world. Effectively Steve would be like being plugged into a virtual reality headset that plays exactly the visual information that he would have seen outside the device (a laboratory with advanced apparatus and working scientists). Knowing all that, does Steve know, say for example, that a scientist is drinking a cup of coffee?

Structurally the case does seem very much like Temp, and the adequate process is satisfied (I don't see why a rationally ideal person won't use 'virtual reality headset' of such kind to form corresponding beliefs, when one is assured that it tracks reality). Thus I'm inclined to think that Steve does know via trusting what his experiences indirectly show. However, I would also argue that this case does not take out Steve's competence significantly—his beliefs are still arguably products of his agency, I think. Granted, his perceptual faculties fail to function as they normally do, all the experiences he received had been artificially stimulated. The perceptual data can't be considered 'products' of Steve's cognitive competence. However, I think the case is much like that of testimony in a phenomenally different way—after all, the scientist do the best of his ability to 'report' the truths indirectly to Steve through the stimulation, and Steve trust on his report, albeit a representation of truths of a very different way than verbal testimony. We could think of Steve, in acquiring knowledge, not as having perceptual justifications stemming from his sensory faculties, but as successfully putting trust on the scientist's 'tellings' about the surroundings. In this way, the minimal ability condition is met in the way passive testimonies are.

Let's try our best to remove even the 'trusting' competence in the case. Suppose the scientist doesn't bother to stimulate corresponding experience, but rather directly induces all the true beliefs to Steve by brute force. I concede that such scenario might be hard for us to imagine—even in testimony where we don't have direct contact to the truths, it at least seems to our agency that it comes from somewhere, some comprehensible source of information (i.e. people's tellings). How are we supposed to understand what it's like to have all our beliefs induced? There wouldn't be mental

imagery of grounds of any kind for Steve's beliefs, rather he is fed with a variety of mere propositional contents (such as a scientist is drinking coffee, or Trump won the election as the US president). He can't help but to believe them as the beliefs are directly induced. In fact let's say he possesses more true beliefs than anyone—the scientist induces the entire database of truths to him. Suppose the case is designed to meet the adequate process requirement—Steve was completely informed about the situation, and holds the induced beliefs being aware that they are all true guaranteed by the scientist. Given all these there's again no reason why Steve wouldn't form beliefs in this way (alas, he has no choice, but if he had he would have conceded that this way effectively grants him truths and insofar as obtaining truths is still an epistemic good for him as a BIV he would have chosen to form his beliefs in this way)—there's no deception and the belief forming method even tracks the truths. It also seems that the minimal ability condition is not met—the induced beliefs don't seem to accord with any of Steve's cognitive faculties, nor produced by mechanism that belongs to Steve in any imaginable way. Notice that Steve couldn't even display trust in the scientist testimony—he doesn't decide with his cognition to form the corresponding beliefs, doesn't comprehend what the scientist tells (if it's merely propositional contents that is presented to him), so in that sense he doesn't even form the beliefs, not by himself (although beliefs are being formed in his mental states). Does Steve possess knowledge?

While the verdict is tricky to get for such bizarre case, I don't think he does, not in the way we normally take knowledge to be. What distinguishes knowledge and truths is, at least, the former is a particular state of an agent regarding his/her relation to the world, while the latter only pertains to the world independent from any agent. Knowledge is supposed to belong to someone—it would make little sense to ponder about a non-agential reading of knowledge (without taking it metaphorically, cf. 1.3.3.2). Specifically, knowledge are true beliefs that belong to the agent's cognitive life, without the agent's cognition taking part it is really hard to imagine how certain doxastic states (true as they may be) could really be epistemically evaluated at all. One can say they are truths, one can perhaps even grant they are mental states containing truthful propositional contents, but they being produced by a machine rather

than the cognitive agency of Steve make me speculate they aren't even epistemic states, let alone knowledge.<sup>22</sup>

#### 4.4.2 Holistic virtue epistemology

So the adequate process account needs the minimal ability condition to explain why our knowledge is ours. I suggested at the beginning that AP and VE complement each other well—what does adequate process do to improve on the VE view? Put shortly, adequate process naturally suggests a holistic approach to competence that is somewhat overlooked in virtue epistemology. Let me explain. Suppose we grant for the moment that RVE holds—that knowledge is apt belief. Consider the following case:

INTERROGATION John is a superintendent. An important interrogation for a case he's in charge is undergoing, and he is observing the suspect, Tom, in the next room (one that have those semi-transparent glasses where you could see the other room but not vice versa). But John's colleagues are tricking him—he's actually looking at a screen displaying holographic images (of Tom and the interrogator). The voice he hears was Tom's, but it was recorded earlier that day, plays in the room again just to trick John.

John certainly fails to know that Tom is being interrogated. This looks very much like a standard intervening case aptness is able to address—John fails to know because the true belief that Tom is in the other room has nothing to do with what John sees and hears. But what if his faculties contradict in verdict? Suppose John indeed sees Tom through the glass, but is still hearing the recordings? Or that John actually hears Tom's interrogation live, but is unknowingly looking at holographic images? Notice that independently any of the two sources (that display aptness) would suffice for knowledge, but when a belief is grounded by apt and inapt performances at the same time, what should the verdict be? Surely John seems epistemically worse off

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<sup>22</sup> Indeed, one can argue that mental contents of such kind fall short of even being beliefs, or any doxastic states that epistemologists take interests on. Additionally, insofar as the AP view encompass beliefs, it would not be met in cases of this sort. To this end, I do not insist that AP necessarily needs a separate minimal virtue condition—if anything, this reflects how such minimal condition is really essential in any epistemic evaluation, such that epistemic account of various sorts are implicitly committed to it one way or another (consider the problems Foley's account encounter in chapter 1 when he attempts to reduce cognitive agency to mere propositional attitudes in epistemic evaluations). After all, it is what make possible any epistemic states that we take interests in.

compared to when he only has one apt source, but do we go so far as to say that he does not know whenever another inapt source comes into play? Or do we think that John is in a better position to know when he sees Tom but hears the recordings, compare to when he hears the interrogation but sees the holograms? If so, how do we explain such favouritism of the aptness of certain faculties over the others?

Note that cases like INTERROGATION are not meant to undermine VE. Rather I would like to suggest a modification of the account that strikes me as more appealing—call this holistic virtue epistemology. The holistic approach takes our agent's cognitive agency as a whole in our epistemic evaluation, to determine whether one's competence is manifested overall. Talks in existing VE often focus on manifestations of particular cognitive faculties, but a more accurate depiction of our cognitive exercises should really be taking all our faculties together and determine whether an overall cognitive performance is apt. When a basketball player makes a shot you wouldn't just credit his shooting hand—the other hand is helpful with maintaining shooting stability, his sight takes the aim, his legs jump to add strength to his shooting, his entire body maintains a balance to keep the shooting rhythm etc.—and there are abilities he displayed in enabling the shot (moving to the appropriate position, collaborating with teammates etc.). Analogously, in our cognitive activities it is often hard to attribute success to a particular faculty—as seen in INTERROGATION at least we could appreciate that visual and auditory perception often go hand in hand. The cognitive performance for our cognitive agency as a whole is surely a complex mechanism to evaluate—and I don't claim that in INTERROGATION I am able to determine and explain favouritism towards, say, John's visual perception over his auditory one. Indeed, this may be why virtue theorists focus their discussion on just one competence—it is more manageable to keep it simple when illustrating their positions. They may very well hold such holistic view tacitly, and agree with my remarks here that in practice cognitive performances most often involve a complex synthesis of the agent's various competences. In this sense I do not consider the holistic approach an original and novel view of mine. I simply wish to explicitly consider this somewhat underdeveloped point.

After the disclaimers, let me consider how the adequate process account fits well with holistic virtue epistemology. Consider the AP view:

AP: S knows that P just in case S comes to believe P via process M in the actual world, and is ideally permitted to continue believing P via M had S obtained the information regarding the entire situation U.

In other words, it would still be (normatively) acceptable for S to employ the original process to arrive at his belief that P had the complete story been uncovered to him. I believe AP offers us a new perspective to help us consider our overall cognitive performance. To determine whether one apt competence trumps other inapt ones is to determine whether the agent would still form the target belief on the overall basis. Let's consider more concretely what verdicts AP would give here. While cases of solely apt competence (e.g. John forming his interrogation belief only from one veridical perceptual faculty, visual or auditory) surely satisfy AP—he would have no problem continuing to form such belief via the same faculty after the whole story is unveiled; cases involving an integration of apt and inapt competences *may* fall short in this regard—it is not as clear that John would still consider his process as a whole as acceptable if he realises that he is partly mistaken. However, this is not necessarily the case—it might be that despite the partially inapt process John still thinks that his process has done enough all things considered (perhaps because he thinks the veridical part of his competence is more significant than other faculties when it comes to his interrogation beliefs). Of course, given that some competence is inapt, it wouldn't be an ideal way of belief formation. What we ask here is whether it is an acceptable way<sup>23</sup>—would you still consider it acceptable to believe P via M (consisting an apt visual but inapt auditory competence, for example). If so, then our overall belief forming process (importantly, the cognitive competences involved<sup>24</sup>) as a whole is adequate, or good enough, in attaining the success. I don't claim that it would make the question easier to answer (they are after all tricky cases of epistemic evaluation)—but I think that's the right question to ask in the first place, given that we want to consider the performance of our overall cognitive competence. This particular epistemic assessment turns out to be the requirement articulated by AP.

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<sup>23</sup> See the full AP account in chapter 2, more on the notion of acceptable ideality in chapter 6.

<sup>24</sup> Assuming the minimal ability condition, our belief formation necessarily involves cognitive competence.



#### 4.5 Concluding remarks—holistic epistemic evaluations

I would like to end this chapter with a final remark on the broader perspective. As the discussion goes I had made numerous criticisms (or at least some reservations) towards epistemic evaluations that take an ‘atomistic’ approach—to begin with we have the targeted belief that is the candidate of knowledge. Following that epistemologists often look into individual cognitive faculties (VE), particular cognitive processes (reliabilism), missing information (Foley’s adequate information view), or particular defeaters (defeasibility accounts) that they take to determine one’s epistemic status. My positive claim is that as a cognitive activity that involves complex interactions between our mind (itself an intricate integrated system) and the world (which, as Foley puts it, is lush with facts that radiate out in all directions), epistemic evaluations are not something that could be broken down into particular characteristics of its constituents. Instead the proposed AP view is a holistic approach that aims to study epistemic phenomena by understanding how the constituents are integrated and what the overall epistemic outcome looks like. It evaluates how the agent’s overall belief forming process (with his/her integrated competence displayed) fares in the totality of states of affairs—the successful epistemic outcome is also a complex cognitive state of interconnected grasp regarding the subject matter (perhaps like understanding), it just turns out that we call some particular true propositions one holds knowledge.

As we proceed to part 3 of the thesis, I shall move on from the discussion of holism in knowledge. Instead, I shall explore another important theme in the AP view—that knowledge is in its nature ecumenical. By considering the proposed theoretical framework in application I shall argue that while there is only one epistemic standard outlined by the AP account, there may be many ways to achieve that standard, depending on one’s theoretical commitments. Chapter 5 is an example of how the AP as an ecumenical theory can be applied in various forms. In particular, I will discuss the anti-luck platitude of knowledge and how AP might accommodate this platitude by assuming certain epistemic norms. In chapter 6 I shall explore an application of the AP view on epistemic justification. I will argue that this would yield an ecumenical view on justification, which allows for a variety of interesting verdicts regarding a range of well-known puzzles.

## **Part III**

# **Ecumenicity and Theoretical Applications**



# Chapter 5

## Adequately Informed Process without Luck

### 5.1 Introductory remarks

This chapter concerns the relationship between anti-luck epistemology and the proposed adequately informed process view (AP). That knowledge is fundamentally incompatible with veritic epistemic luck is a widely held idea in epistemology.<sup>1</sup> The project of anti-luck epistemology, in particular, aims at constructing a set of conditions such that one could eliminate veritic epistemic luck from one's cognitive achievements, and in so doing put one in a good position for knowledge. In this chapter, I shall offer an evaluation of the anti-luck project from the perspective of the AP account. I argue that not only are the two compatible, they actually fit naturally together in some way, under a certain very plausible assumption.

The discussion of this chapter is threefold. In section 5.2 I highlight the merit of anti-luck epistemology, and argue that knowledge in its nature requires us to eliminate luck when forming our beliefs. Section 5.3 takes a closer look on specific modal accounts of knowledge and their anti-luck manoeuvres. Section 5.4 introduces the AP account of knowledge, and attempts to encompass the safety principle in the former. By doing so, I hope to establish that a. any account of knowledge needs to eliminate veritic luck; and b. the account of adequate process is able to address this issue. On a broader perspective, encompassing safety in AP demonstrates the latter's ecumenicity and capacity in displaying multiple epistemic features under various epistemic norms.

### 5.2 Anti-luck epistemology

#### 5.2.1 Veritic luck and the protection from errors

We certainly want our beliefs to be true rather than false. Indeed, one of the reasons why knowledge is so desirable is that it is factive—when we know some propositions,

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<sup>1</sup> Williamson (2000), Sosa (1999), Pritchard (2005, 2007, 2009, 2012, 2016b, Pritchard, Millar & Haddock 2010). The anti-luck platitude as Pritchard describes it, however, is becoming more controversial, as epistemologists begin to challenge it. For discussions regarding lucky knowledge, see Hetherington (2013) and Sosa (2007).

they must be true. In other words, when we think that we know, then unless something goes wrong and we had actually been mistaken in this regard (i.e. we actually fail to know), the known propositions would be true. But for what matters, knowledge seems to do more—most epistemologists agree that knowledge is not merely true belief. Not only does knowledge grant us truth, it does so with certain manner of stability. It would seem that random true beliefs alone do not entitle us to know—to go further from mere true beliefs, we would at least need some assurance that we do not otherwise make mistakes so easily by the way we come to the beliefs. This is a valuable asset because just as true beliefs are desirable, false ones are equally (if not more) undesirable—possessing them might be costly for us. If all we really care is to have as many true beliefs as possible without worrying about the costs of false ones, we might as well believe in everything. This, of course, sounds absurd. Thus, if we are to think that knowledge differs from mere true beliefs in that it offers protection from errors of some sort, it wouldn't be so difficult to appreciate how knowledge is incompatible with veritic luck.

Let's take a closer look into what 'veritic luck' amounts to. According to Pritchard, one is veritically lucky if one's belief is only true as a matter of luck. Now, if knowledge is compatible with this, then one's beliefs (despite being true) could have been easily false. In other words, cognitive errors are among the realm of easy possibilities, we are, so to speak, unprotected.

### 5.2.2 Luck in Gettier cases

Perhaps the most vivid way to illustrate how the anti-luck project is crucial to accounting for knowledge is by examples of luckily obtained true beliefs. Indeed, a reason for an anti-luck condition to be an essential feature of knowledge is that nearly all Gettier style cases introduce certain luckily obtained true beliefs (with obvious exceptions, of course, to counterexamples against anti-luck accounts themselves) to generate the intuitions of the subjects' lack of knowledge. Consider the following case:

FORD S sees Nogot, a colleague in his office, drives in a Ford every morning. S thus comes to believe that he owns a Ford. Further, S also infers that someone in the office owns a Ford (F). However, unbeknownst to him, Nogot does not own a

Ford, the Ford he had been driving is in fact owned by some other person, who kindly lend the car to Nogot. However, F is true nonetheless, as Havit, another colleague in the office, indeed owns a Ford.<sup>2</sup>

There is no doubt that S possesses a true belief—that someone in the office owns a Ford. However, it is very counterintuitive to consider such belief as knowledge. Why might that be so? The natural response is of course that S had misunderstood—he falsely believes that Nogot owns a Ford, but from it nevertheless arriving at the true belief that F; while it is actually Havit who owns a Ford that corresponds to F's truth. If Havit hasn't got a Ford, S's belief would have been false. As we consider deeper, however, it seems that whether Havit owns a Ford does not do much to S's belief formation per se, rather it only changes the truth value of F; if S's belief formation actually has any bearings on the truth of F, such that S seeing Nogot in a Ford indeed indicates that Nogot owns a Ford, then the Havit side of the story would become irrelevant. If this is the case, it seems that the more fundamental problem of the case lies beneath the inability of S's belief formation to protect S from making mistakes easily than the good luck that turns the unprotected belief into a true one. In FORD, S's belief formation (by seeing Nogot with the Ford) made no contribution at all to the truth of F, there is nothing in the belief formation that stops S from believing falsely, it is just lucky that in this case the belief turns out to be true when Havit's Ford comes into play.

The case of Nogot represents a scenario where S's method had nothing at all to do with the truth of F. However, this is not necessarily the case for all luckily true beliefs. In fact, the anti-luck intuition would become 'purer' in cases where one's belief forming method actually connects to the truth, but falls short purely in protecting against easy possible errors. Consider the following case that illustrates what Pritchard termed as environmental luck:

**BARN FAÇADE** George is driving through the country. As he looks through the window he sees a barn-shape building across the field, thus coming to believe that 'there's a barn in the field'. The building he spotted is indeed a genuine barn—

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<sup>2</sup> Adapted from Lehrer (1965).

however, unbeknownst to him, there are many fake barns in the vicinity, so cleverly disguised that, visitors who had not taken a closer look would most likely mistaken them as barns. It turns out that George is looking at one of the few genuine barns in the area.<sup>3</sup>

Again, it is undeniable that George's belief is true. What's more, in this example one could even make a strong case that George's belief forming method indeed has some bearing on the truth of P—after all, he is looking at the real barn and therefore has direct perceptual contact with what makes the proposition (that there is a barn) true. Unlike S in FORD, George is actually creditable to some extent for his cognitive achievement<sup>4</sup> when looking correctly (albeit luckily) at the real barn, his belief forming method connects appropriately, it seems, to the truth. We have to grant credit when credit is due—George at least acquires some level of cognitive achievement by luckily looking at the real barn and successfully identifying it as a barn.

The question that remains is whether we think such achievement suffices for knowledge. I take it that the case strikes us as falling short of knowledge, while admittedly such intuition is weaker than that of FORD. Indeed, whether George knows receives more controversy among epistemologists than Gettier cases that are not environmental in nature. Sosa (2007), for example, believes that this type of cases amount to a certain kind of knowledge—in virtue of the subject aptly obtaining the truth from his ability (perceptual in the case of BARN FAÇADE)—but he too conceded that intuition seems to suggest the contrary at first sight, after which he attempted to explain away this judgment and maintain that one really has some form of knowledge in BARN FAÇADE. However, along with Pritchard, I'm inclined to consider beliefs of this sort do not amount to knowledge of any kind.

Here is a diagnosis of why we had a difficult time in judging this case. According to Pritchard (2012), knowledge needs to entertain two necessary conditions—the anti-luck condition and the ability condition. In virtue of obtaining the true belief from looking at the real barn with his well-functioning eye sight, George satisfies the latter condition,

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<sup>3</sup> See 1.2, adapted from Goldman (1976).

<sup>4</sup> As discussed in chapter 4.

and thus contributing to our judging that he obtains cognitive achievement (and Sosa's thinking that he knows); however, Pritchard points out that knowledge is less tolerant to veritic luck than cognitive achievement is. While one's success (in attaining the true belief) could be creditable to one's ability, this does not necessarily protect one from making easy errors. In fact, BARN FAÇADE illustrates just that—George's perceptual competence, while significantly contributing to his obtaining the true belief, had done nothing in the context to prevent George from 'nearby' falsehoods. Such way of belief formation permits too much possibility of error than knowledge could allow—if we grant that the way we come to believe P could easily lead to falsehoods, how would we still insist that what we believe by this method are true anyway? This is what drives our intuitions against George's barn belief as a candidate of knowledge, and if one really wishes to bite the bullet and maintain that knowledge can be lucky, the idea of easy errors would at least be undeniably uncomfortable to swallow.

### 5.2.3 Luck vs risk

Before turning to accounts that aims to fulfil the anti-luck condition, it is worth noting that Pritchard (2016c) recently introduces a new approach to the condition. The new approach, termed as anti-risk epistemology, is motivated from the thought that what fundamentally undermines knowledge is epistemic risk—the easy possibility of errors—instead of veritic epistemic luck (that one's belief is true as a matter of luck). The ideas are incredibly similar, and I believe that being general in remarking that knowledge is not compatible with beliefs that are easily false, anti-luck theorists could really apply my previous discussion to either approach if they so please. In the coming discussion, I would mainly continue to adopt the more common terminology of anti-luck epistemology. However, when it comes to specific articulations of the account of safety in the following sections, I would differentiate the approaches in more detail. For the time being, I would just add that neither of the specific articulation would affect the way adequately informed process encompasses safety, as we will see in 5.4.

## 5.3 The sensitivity and safety principles in anti-luck epistemology

### 5.3.1 Accounting for luck

Knowledge is incompatible with easy possibility of falsehood. If this is so, then it would be helpful to specify exactly how we could avoid the latter. Let's consider in this section



specific theories of knowledge with their attempts to eliminate epistemic luck—the sensitivity and the safety principles. Dealing with the possibility and closeness of falsehoods of S's beliefs, sensitivity and safety are essentially modal accounts of knowledge—ones that make knowledge ascriptions by considering the modal profiles of the subject's belief formation. Therefore, to appreciate how sensitivity and safety work, let us first look at the modal nature of luck. According to Pritchard (2005):

If an event is lucky, then it is an event that occurs in the actual world but which does not occur in most of the nearest possible worlds to the actual world.<sup>5</sup>

It is important to understand what it means for a possible world to be 'nearby' or 'close to another'. In Lewisian terminology, possible worlds are ordered according to similarities with one another.<sup>6</sup> Suppose one takes the actual world as the centre of the ordering, worlds that mostly resemble the actual world would be the nearest/closest worlds; while possible worlds that are drastically different—in that a great deal had to be changed to the actual world in order for those worlds to hold—are considered as far-fetched possibilities. In light of this framework of world proximity and the notion of possibility construed under it, an event is lucky if it occurs in the actual world but does not hold in most of the worlds that are only slightly different from the actual. Take winning a lottery as a paradigm case for lucky events. Suppose your ticket was drawn out as the winner in the lottery, i.e. the event holds in the actual world. However, in most of the other similar scenarios the event does not hold—the configurations of some colour balls could have altered slightly, leading to different outcomes of lottery winners, and in those cases you would have lost the lottery.

On the other hand, the account of risk has a slightly different focus. For one thing, unlike luck, the notion of risk is not mainly backward-looking—risk essentially concerns what could easily occur without exclusively concerning the past (i.e. whether an actual event *could easily have been otherwise*)<sup>7</sup>. Secondly, when we talk about risk, we concern only events that are undesirable. It would be very odd to talk about the risk of

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<sup>5</sup> Pritchard (2005), pp. 128.

<sup>6</sup> Unlike the current AP model, which ranks possible worlds according to their alignments with relevant epistemic norms.

<sup>7</sup> Indeed, Pritchard further suggests that risk is in turn forward-looking—it really concerns what could easily occur *in the future*. See Pritchard (2016c) for more discussions.

the occurrence of certain favourable events. Putting the pieces together, risk amounts to potential undesirable outcomes with easy possibility of taking place. Consider a car accident as an example of risk. The risk of an accident is high when it could very easily occur (i.e. occurs in some very close possible worlds) given certain states of affairs, say when one has consumed too much alcohol; on the other hand, if one is reasonably sober for driving, car accidents would not occur so easily (at least compared to the first case), the risk therefore becomes relatively low.

Let us get back to luck for the moment. The general account described above could apply to any instances of a lucky event. However, since our concern pertains to its impact on knowledge, what we care about is specifically luck about our formation of true beliefs (or cognitive successes), i.e. epistemic luck. Even such specification is not enough—not all epistemic luck is knowledge undermining. As Pritchard put forth, epistemic luck could be benign or veritic, and it is only the latter that we seek to eliminate.

There are various kinds of benign epistemic luck that involves luck for the subject to obtain the target true belief—it could be luck that the subject is capable of the said belief formation; or the luck that certain evidence is available to him/her. However, just because the appropriate connection between the subject and the belief is luckily attained would not undermine S's epistemic status. After all, once the ability or evidence are (luckily) obtained, there is no luck/risk involved in S's way of belief formation, it offers the protection from errors just as well as ability and evidence that are gained not as a matter of luck.

Veritic epistemic luck, however, is the harmful species of the family. It is the kind of luck that one's way of forming beliefs leads to truths. In other words, when S is veritically lucky in obtaining a certain true belief, then his/her belief formation offers no protection from error whatsoever, such a method of forming beliefs could easily have led to falsehoods. This, as discussed in the previous section, is intolerable for knowledge. Thus, presumably any effective anti-luck manoeuvre should exclude all and only instances of veritic epistemic luck.

An analogue of this for the notion of risk would be epistemic risk. It is noteworthy that

unlike luck, there is no distinction between benign and veritic risk—all epistemic risks are, obviously, undesirable and thus incompatible with knowledge. Just as epistemic luck concerns the modal implausibility of actual cognitive success (such that it does not hold in many of the modally close scenarios), epistemic risk amounts to the modal proximity of potential cognitive failures (which is an undesirable epistemic event). In other words, it is the risk that one’s belief forming method would easily lead to falsehood. On this score, it seems that there is no essential difference between what risk and veritic luck are up to—but the account of risk seems to offer a more direct treatment to knowledge (for not requiring one to make a further theoretical distinction in ‘benign and veritic risks’).

### 5.3.2 The sensitivity principle

Let’s consider two of the better known modal accounts that attempt to block veritic epistemic luck. The sensitivity principle was introduced as a modal condition of Robert Nozick’s (1981) Tracking theory of knowledge. As the name suggests, Nozick’s account rules that S’s belief forming method must ‘track’ the truth. Nozick holds that knowledge is undermined in Gettier cases because the subjects’ beliefs, despite being true, are insensitive to falsehoods—the subjects would form such a belief via the same method even if it were not the case. Since the beliefs are formed regardless of their truths, Nozick suggested that the belief forming methods fail to track the truth. Let S be the subject and P be the target proposition, the sensitivity principle is stated as follows.

If it had not been the case that P, S would not have believed that P. (i.e.  
 $\neg P \Box \rightarrow \neg Bs(P)$ )<sup>8</sup>

Consider how the sensitivity principle blocks instances of veritic epistemic luck. Given the subject’s belief forming method M, the closest scenarios where P turn out to be false are scenarios in which S would not have believed in P. This resonates with our strategy of ensuring one’s own belief formation to offer protection from close error possibilities—when sensitivity is met, S could not have easily formed a false belief (that is, in modally close scenarios) with his/her existing method M. Consider FORD

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<sup>8</sup> Nozick (1981).

for example, S's belief that F falls short of knowledge because despite his belief being true in the actual world, his belief forming method fails to track the truth across a wide range of close possibilities—had it been the case that Havit owns no Ford, F would be false; while S, mistakenly thinking that Nogot owns a Ford, would continue to believe in F. In BARN FAÇADE, George's true belief is again insensitive. Had he been looking at another barn-like object in the vicinity (which could have easily happened), he would end up not looking at a barn while still thinking to himself that he is.

In 5.3.1 I argued that a potential anti-luck account should exclude all and only epistemic luck of the veritic sort. It had been suggested that the sensitivity principle, despite being effective in eliminating luck in belief formation, turns out to be too powerful on this score—such that some of the bona fide epistemic cases with luck that are tolerable to knowledge actually falls short in meeting sensitivity. Consider Sosa's trash chute case (1999):

TRASH CHUTE On my way to the elevator I release a trash bag down the chute from my high rise condo. Presumably I know my bag will soon be in the basement. But what if, having been released, it still (incredibly) were not to arrive there? That presumably would be because it had been snagged somehow in the chute on the way down (an incredibly rare occurrence), or some such happenstance. But none such could affect my predictive belief as I release it, so I would still predict that the bag would soon arrive in the basement. My belief seems not to be sensitive, therefore, but constitutes knowledge anyhow, and can correctly be said to do so.<sup>9</sup>

Following Sosa, I concede that knowledge should be ascribed to the subject in TRASH CHUTE. Given that S's belief (regarding the bag reaching the basement) is true, why would the extremely rare error possibility that it could have been snagged midway hinder our epistemic status? As stipulated in the case, such happenstance is rare and thus presumably far-fetched—it does not hold among the range of closer possible worlds. If this is so, it seems that no knowledge undermining veritic luck is in play in TRASH CHUTE, it is not a matter of luck that S's belief so formed is true. Indeed, S's belief formation does not seem to involve luck of any sorts—in a wide class of similar

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<sup>9</sup> Sosa (1999), p. 145-146.

scenarios, S would have acquired similar evidence, competently judged that the bag would reach the basement, and arrived at the true belief.

However, under the existing account, S's belief formation is insensitive. This is so because the scope of possible worlds that concerns the sensitivity principle is a dynamic matter depending of the truth values of P across the modal profile. Instead of looking only at scenarios that are closest to the actual world, sensitivity rules that we must consider the *closest worlds where P is false*. That is, even when the truth of P is so modally secure that it holds in all of the closest worlds, the sensitivity principle requires us to look at outer spheres (i.e. more far-fetched) of possibilities for a not-P world and assess our doxastic pattern. This results in potential theoretical overkills like TRASH CHUTE, where S's belief formation is insensitive to far-fetched error possibilities, even though it offers protection from errors in a wide range of reasonably close scenarios. If it is the latter that is essential for the anti-luck platitude of knowledge, then a weaker account is called for.

### 5.3.3 The safety principle

The safety principle is articulated in face of sensitivity's shortcomings<sup>10</sup>. Consider the formulation of the safety principle outlined by Pritchard (2009):

S's belief is safe if and only if in most nearby possible worlds in which S continues to form her belief about the target proposition in the same way as in the actual world, and in all very close nearby possible worlds in which S continues to form her belief about the target proposition in the same way as in the actual world, the belief continues to be true.<sup>11</sup>

As one might notice, the conditions specified in safety works basically as the rejection of knowledge undermining veritic luck. When the way one forms the belief in the actual world continues to lead to true beliefs in a wide class of nearby possible worlds, much in the world has to change (i.e. only in far-fetched scenarios) in order for that method to generate errors. Thus, if one's belief is safe, then such belief is protected from easy

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<sup>10</sup> See Sosa (1999) for more discussions. See Becker and Black (2012, Becker 2007) for a contemporary defence of sensitivity.

<sup>11</sup> Pritchard (2009), p. 35.

falsehoods. Note that unlike sensitivity, safety only requires one to look at modally close scenarios (nearby possible worlds). Thus, in TRASH CHUTE, S's belief is safe—in a wide class of nearby worlds, the bag would have reached the basement (remember that it being incredibly snagged in the middle is considered a far-fetched possibility), such that had S continued to believe in P, P would still be true in those worlds.

To appreciate how it fares in addressing Gettier cases more generally, consider FORD and BARN FAÇADE. As the subject in FORD comes to believe that someone in the office owns a Ford (F) by supposing Nogot owns a Ford (note that Nogot does not own one actually), his belief would be easily false—in a wide variety of close scenarios where no other people in the office owns a Ford, the subject would be left with a false belief that F. Thus, safety rightly judges that S does not know. Similarly, in BARN FAÇADE, despite visually perceiving the real barn thus truly believing that there is a barn, in a wide class of nearby worlds George could have looked at another barn-like object in the vicinity and arrived at a false belief. Again, safety determines that George falls short of knowledge.

So far so good for safety. One aspect in the condition, however, needs to be cleared up—as we asked in the sensitivity principle, what is the scope of possible worlds around the actual world that safety needs us to investigate? How far should we go from the actual world in order to make sure that it is not easy enough for our belief to be false? As cited from Pritchard, one considers the 'very nearby' and the 'nearby' worlds. Carter and Peterson (2017), however, suggested that worlds that are just slightly far off than these two classes should be considered as well, if a considerable amount of them result in the subject's false beliefs. Yet this only adds a further complication—it would seem that the question of scope would become vulnerable to a sorites-style challenge. Carter and Paterson offered a calculus of safety such that all possible worlds (including far-off ones) could be considered, with weights proportional to their proximity to the actual world. In his more recent work Pritchard (2016c) also reckoned this challenge and remarked that knowledge should be completely intolerant to errors in very close worlds, completely tolerant in the most far-fetched worlds, and exhibit a continuum of increasing tolerance between these two extremes.

As for epistemic risk, one would need an account of safety such that in a wide class of nearby worlds the belief forming method S uses (or intends to use) would not lead to cognitive failures (i.e. false beliefs). As Pritchard suggested, it differs with the anti-luck approach in that the latter focuses on continuing in possessing the true belief across worlds, while the former specifically excludes the formation of false beliefs, but clearly allows the scenarios of forming no belief at all<sup>12</sup>. Pritchard maintains that the anti-risk project would be more precise in dealing with the issue at hand—after all, what we concern is essentially the protection from errors.

As with the anti-luck approach, the more comprehensive formulation of the account of epistemic risk in terms of world ordering would be that knowledge is completely intolerant to high risk (false beliefs in very close possible worlds), completely tolerant to low risk (false beliefs in the most far-fetched worlds), and exhibits a continuum of increasing tolerance between the two extremes<sup>13</sup>.

#### 5.3.4 Towards a modest anti-luck epistemology

While one can make a strong argument that knowledge at least requires protection from errors (i.e. safe beliefs), the more ambitious proposal that knowledge just is safe belief doesn't seem to stand. In particular, there are instances where knowledge is undermined even though one's belief is safe. Consider TEMP as discussed by Pritchard.

TEMP Temp forms his beliefs about the temperature in the room by consulting a thermometer. His beliefs, so formed, are highly reliable, in that any belief he forms on this basis will always be correct. Moreover, he has no reason for thinking that there is anything amiss with his thermometer. But the thermometer is in fact broken, and is fluctuating randomly within a given range. Unbeknownst to Temp, there is an agent hidden in the room who is in control of the thermostat whose job it is to ensure that every time Temp consults the thermometer the "reading" on the

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<sup>12</sup> It strikes me that the anti-luck approach, albeit in less straightforward manner, permits close worlds in which S forms no belief at all too. Though one needs to look more into the details of the condition's formulations. I grant however that the anti-risk formulation indeed offers a more straight forward picture regarding this.

<sup>13</sup> Pritchard (2016c), p. 563.

thermometer corresponds to the temperature in the room.<sup>14</sup>

Reading from the broken thermometer provides Temp with a robust protection from errors—given the diligence of the hidden agent unbeknownst to Temp, the temperature of the room corresponds perfectly to the random thermometer readings, such that whenever Temp acquires the temperature beliefs from consulting the thermometer in a wide class of close scenarios (that is, so long as the hidden agent keeps working), his beliefs so formed would be true. The idea however is that such safe beliefs fall short of knowledge. Temp, after all, is looking at a broken thermometer. His beliefs are only true because the room temperature itself has been tampered with to follow the thermometer's random readings. Pritchard, as a safety proponent himself, concedes that Temp seems to have displayed the wrong direction of fit in his cognitive successes—it is not our beliefs that correspond to changes in the world but instead the world that changes in accordance with what we believe. While anti-luck epistemology may be successful in protecting the subject from false beliefs by securing certain modal stability of the belief's truths across close scenarios, it evidently doesn't guarantee an appropriate connection between one's cognitive successes and one's belief forming method. This motivates a modest view of anti-luck epistemology. That is, the anti-luck platitude is an essential facet of knowledge that plays an irreplaceable role in any account of knowledge; that being said, anti-luck conditions such as safety would not suffice for knowledge—in particular, the appropriate connection between the acquisition of true beliefs and one's belief forming processes does not seem to be accountable in purely modal terms.

#### 5.4 Adequately informed process and anti-luck epistemology

##### 5.4.1 Revisiting the AP view

If we grant that the protection from errors is at least an important facet of knowledge, it is of theoretical advantage that one's account of knowledge could accommodate some form of anti-luck elements. This section investigates the relationship between adequately informed process and anti-luck epistemology. In earlier chapters, I articulated a new account of knowledge as adequately informed process (AP) inspired by Foley (2012) and Wright (1993, 1994), one that is constructed under the intuition

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<sup>14</sup> Pritchard (2012), p. 260. See also my discussion in 1.2.



that S knows as long as S's belief forming process remains intact upon unveiling the entire situation unbeknownst to S. Indeed, if luck is considered a common theme in a wide class of Gettier-style cases, I would like to think that unbeknownst information is even more central to the construction of knowledge stories in general. As far as I'm aware, every knowledge story in the literature highlights the informational discrepancy between the state of affairs apparent to the hero of the story and some happenstance unbeknownst to him/her. The account I formulated pertains to a certain positive condition that aims to eliminate the possibility of knowledge undermining unbeknownst information in any given knowledge story. More specifically, such a requirement supposedly blocks the possibility of any unbeknownst information which is harmful to the connection between the belief forming method and the truth. Let M be the process S relies on in forming the target belief, and U be the set of all propositions that hold in the case. The AP account is stated as follows:

AP: S knows that P just in case S comes to believe P via process M in the actual world, and is ideally permitted to continue believing P via M had S obtained the information regarding the entire situation U.<sup>15</sup>

Granted, it seems exceedingly difficult for us to identify every proposition that is contained in U, and many of the propositions do not seem to matter with regard to P. Indeed, as the scope of U includes every fact that holds in the world, a vast number of facts would be irrelevant. As Foley suggested, facts 'radiate out in all directions', and it is unclear whether there's a limit to the number of propositions that hold in a given situation. The focus of my account is not that knowing all of them is important epistemically to S's belief that P. Rather, U is considered to be the totality of states of affairs, and what matters to the epistemic evaluation of S's belief is *how S's original way of forming the belief performs under information about such states*.

If S's original way of forming the belief continues to lead S to believe P after unveiling the complete story, then no unbeknownst story detail had affected the connection between S and his true belief. That is, S's original epistemic status would remain intact in the case as a whole. Thus, whichever case that satisfies this condition would be a

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<sup>15</sup> See Ch 2 for more details of the articulated account.

case where S's original belief forming process is adequate enough to lead to true beliefs in the complete story. This is what makes one's epistemic status considered as knowledge, or so I argued.<sup>16</sup>

#### 5.4.2 AP and safety

In 5.2 I had suggested that knowledge is fundamentally incompatible with veritic epistemic luck. Therefore, it would be dialectically favourable for any account of knowledge to demonstrably eliminate such luck. In what follows I attempt to do so with the adequately informed process account. While the protection from errors is not the chief objective of AP, I believe that given certain assumptions it would be able to perform the anti-luck manoeuvres just as well. Suppose a case is such that AP holds but safety does not. It follows that S's belief forming process produces easily false beliefs (from failing safety), and upon reckoning so S would continue to form his belief via such process (from satisfying AP). This idea—that one would knowingly employ a belief forming method that could have easily led to false beliefs—strikes me as extremely counterintuitive. I believe that the uncomfortable feeling we find in this consequence trades on a very plausible norm of belief formation, call it subjective safety:

(SS) If one considers certain M as easily leading to false beliefs, then one should not form any belief that P by M.

As stated at the beginning, we as epistemic agents wish to avoid false beliefs as much as to obtain true ones. When a certain method easily leads to falsehoods, employing it would go against such an aim. As one might see, such a norm is not equivalent to safety, in that safety demands protection from errors regardless of whether one is aware, while SS only requires one not to form beliefs by ways one judges as error-prone. Therefore, the commitment to SS would not be hindered even if one rejects safety.

However, coupled with the AP view where the entire situation is considered in our epistemic evaluations, an objective protection from errors can be achieved. With the

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<sup>16</sup> For further motivations and arguments for the proposed view, see Chapters 2.

aid of SS, let's get back to our initial suppositions:

*Reductio* argument for  $AP \rightarrow S$

- (1) There are cases which AP holds and safety does not ( $\neg(AP \rightarrow S)$ );
- (2) S in these cases would knowingly form the belief that P by methods that would easily lead to false beliefs; (from 1)
- (3) No epistemic agent should form any belief that P by methods he/she considers as easily leading to false beliefs (SS)

Insofar as we assume that SS holds, since (1) and SS jointly lead to a contradiction, by reductio (1) is false. Therefore, we have  $\neg(AP \wedge \neg S)$ , which is equivalent to  $AP \rightarrow S$ .

In summary, if one commits to SS, then meeting the conditions of AP entails meeting that of safety. As the argument is initiated from the principle of protection from errors on safety's part rather than specific safety conditions, the entailment follows regardless of whether one employs the anti-luck or anti-risk approach. Similar entailment results can be devised for sensitivity theorists, if one commits to a subjective sensitivity norm ruling that one should not believe P if one considers one's method is insensitive. Consider, for example:

(S SENSITIVE) If one considers that certain M would lead to one's belief that P regardless of whether P is true, then one should not form any belief that P by M.<sup>17</sup>

### 5.5 Concluding remarks—epistemic norms and the elimination of luck in AP

Knowledge demands a certain degree of protection from errors, and the safety principle is the most direct way of addressing this issue. In this chapter, I propose that given a very plausible epistemic norm in subjective safety, the adequate process condition would entail safety, and thereby offers the protection from errors knowledge requires.

Moving forward, in chapter 6 I shall continue to explore on the role of epistemic norms

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<sup>17</sup> To my ears, this norm seems less intuitive than its safety counterpart. As argued in 5.3.2, there are reasons not to follow such a norm. The point here however is that the AP view is versatile in accommodating various principles depending on one's theoretical commitments.

in AP. In particular, I will extend the theoretical framework of AP to epistemic justification, and examine whether knowledge and justification fit well with each other under the AP view. I shall also argue that justification thus construed is ecumenical in nature, and consider several interesting implications of such an account for puzzling cases like the lottery and the preface paradoxes.



## Chapter 6

### Adequately Informed Process and Justification

#### 6.1 Holistic approach in Knowledge and Justification

Roughly, one knows just in case one's belief forming process remains intact when the entire situation is unveiled. In the previous chapters I explored the possibility of this view of knowledge and distinguished it from other prominent views as being a holistic approach to epistemic evaluations. In particular, I considered how examining the epistemic significance of individual epistemic components from the holistic perspective would give us new ways of responding to challenging cases. It seems to me that this holistic take on knowledge is really a general approach and can be applied to other epistemic notions. This chapter is thus a speculative attempt to extend holistic epistemology beyond the concept of knowledge—I shall explore what a holistic take on epistemic justification<sup>1</sup> would look like (in a nutshell).<sup>2</sup>

Traditionally, the tie between knowledge and justification is close—it is commonly thought that if one knows that P then one is justified in believing that P. In the post-Gettier era of epistemology, many epistemologists continued to consider justification as an essential component of the notion of knowledge; others however began to question whether knowledge requires justification (particularly by internalist lights). Even for epistemologists who consider knowledge as a basic epistemic concept, its relation to justification remains intimate<sup>3</sup>.

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<sup>1</sup> There's a common distinction between *pro tanto* and all things considered justification. Following the holistic approach and from my previous discussion of the AP account of knowledge one can naturally expect that it is the latter (*being epistemically justified taking everything into account*) that I am up to here.

<sup>2</sup> I cannot stress enough that such a view is tentative and is meant only to explore on the possibility of extending the applications of the holistic approach. I'm not naïve enough to believe that a new theory of justification can be motivated in one chapter. Indeed, as we shall see the proposed view on justification share many affinities with existing accounts (perhaps revamped with a holistic lens).

<sup>3</sup> Littlejohn (2012) for example examined the epistemic norm that one ought not be justified that P unless one knows that P.

By viewing epistemic justification from the holistic perspective I do not intend to develop a substantial account that I consider to be better than other candidates on the market—in fact my tentative account would end up being similar to some of the existing views. Instead, the proposed account is meant to compliment the AP view on knowledge ( $AP_K$ ), as one might expect. Call such an account the *Adequately Informed Process Account of Justification* ( $AP_J$ ). In the following sections I shall articulate the account, examine some of its characteristics, and investigate the relation between  $AP_K$  and  $AP_J$  to see what they predict regarding knowledge and justification.

## 6.2 The Adequately informed process view on justification

### 6.2.1 Outlining the account

Let's start with the AP view on knowledge articulated in chapter 2.

$AP_K$ : S knows that P just in case S comes to believe P via process M in the actual world, and is ideally permitted to continue believing P via M had S obtained the information regarding the entire situation U.

How would an AP view on justification be different from  $AP_K$ ? A common view in epistemology is that while knowledge is factive, justification is not<sup>4</sup>. Consequently, knowledge imposes a more stringent requirement on the external states of affairs—not only should the agent display good grounds for the belief(s), the world has to cooperate as well such that what the agent believes accord with the actual situation. This is reflected in many of the accounts of knowledge where a specified connection between agent and the world is essential—look no further than the current proposed view, where one's process is scrutinised against the whole epistemic situation. Epistemic justification, on the other hand, intuitively is not constrained by the world in this manner—in particular, it seems that there can be justified false beliefs. Instead, justification mainly imposes requirements on the agent's part—of being a capable or responsible belief former. Note that this is not to say that epistemic justification does not care about whether the belief so formed is true—aiming at truths, as we shall soon see, indeed seems to be an important goal as one seeks to justify a belief. The point

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<sup>4</sup> Having said that, factive views on justification are given a more serious consideration in recent years (see Littlejohn, 2012).

is that, unlike knowledge, a subject S can be justified in believing that P while failing to secure the truth of P—that is, despite S's reasonable efforts in doing so (with what is available to him/her). Suppose this is what characteristically distinguishes knowledge and justification, one might expect respective accounts of the two notions to reflect such a distinction—while knowledge assessments take into account the entire epistemic situation, justification assessments take into account the entire epistemic situation *available to S*. That is, instead of putting S's process on trial against the totality of states of affairs U, AP<sub>J</sub> limits the relevant information for assessments to S's total evidence (E).<sup>5</sup> Consider below the adequately informed process account for justification.

AP<sub>J</sub>: S is justified in believing that P just in case S comes to believe P via process M in the actual world, and is ideally permitted to believe P via M under S's total evidence E.

Like that of AP<sub>K</sub>, S's process M is good enough if it is *acceptable* in the ideal epistemic situation regarding P. Unlike AP<sub>K</sub>, such ideality is restricted to what the agent has as evidence—that is to say, if AP<sub>J</sub> is satisfied, an ideally rational agent with S's total evidence would deem it acceptable to believe P via M. Since an epistemic agent is always in possession of his/her own total evidence at the time (unlike AP<sub>K</sub> with U), what characterises the idealised epistemic situation for AP<sub>J</sub> is just the agent's epistemic practice—while S and the ideal agent are stipulated to be informationally on par, the latter forms beliefs in accordance with all normative ideals regarding the epistemic. Similar to AP<sub>K</sub>, note that this is not to say that another agent would be required in the epistemic evaluation of AP<sub>J</sub> (nor that S is required to be on par with such an agent's ideal epistemic standard), rather this only outlines the standard to which S is being evaluated against—being justified is a matter of meeting the normative standards (deemed acceptable, not perfectly ideal) as an epistemic agent with his/her belief formation in lights of the information available to him/her. I shall elaborate of the notion of acceptable ideality in the coming section (6.2.3).

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<sup>5</sup> Similar with U, I assume here that evidence is propositional. A body of evidence consists in a set of propositions. Staying with the ecumenical spirit, the AP<sub>J</sub> view is open to any account of what is considered an evidence.



### 6.2.2 Epistemic norms and justification

With the unbeknownst information out of the picture of epistemic evaluation for  $AP_J$ , the major factor affecting justification consists in the holistic performance of  $M$  given what  $S$  has as evidence. Importantly, such performance is evaluated against  $M$ 's accordance with all epistemic normative ideals. A full account of  $AP_J$  thus requires more elaborations on the relationship between  $S$ 's process, his/her total evidence and various epistemic norms.

Norms are rules that instruct us what we ought to do—since our major concern in  $AP_J$  is how an agent forms his/her beliefs, let's focus our discussion on relevant norms that guide our belief formation, instead of assertions or other actions. Suppose an ideal agent would form his/her beliefs exactly as he/she should do, given his/her evidence. Since the account involves an ideal epistemic agent, it can be suggested that I follow a 'virtue approach' to epistemic norms. Consider such approach outlined by Sarah Wright (2014).

One ought to believe  $p$  only if the intellectually virtuous person would believe  $p$  in similar circumstances.<sup>6</sup>

It is noteworthy that Zagzebski (1996) actually proposed something very close to this as an account of justified beliefs, which reflects the plausible intimate relation between such a norm of belief and the notion of justification. On this score,  $AP_J$  is in turn very close to Zagzebski's view. On the other hand, like  $AP_K$ , I take  $AP_J$  to be an ecumenical approach—an intellectually virtuous person would have various aspects of 'ought' to consider when deciding whether to form certain belief(s). Certain epistemic norms would be in play in some epistemic situation and less significant in others. An intellectually virtuous person is one who always 'does the right thing' all things (epistemically) considered, when it comes to belief formation.

With regards to what one ought to believe, Wright discusses a helpful distinction from the ancient Greek tradition that illustrates two goals an inquirer might pursue—between *telos* (final end) and *skopos* (local target). As Wright explained, a doctor's

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<sup>6</sup> Wright (2014), p. 240.

target (or *skopos*) when practicing medicine skills is to save the life of the patient—however, inevitably people might still die despite the doctor’s making all the right decisions in the practice. It seems that whether the patient is saved and whether the doctor has practiced medicine well are separate matters—and it is the latter, argued the Stoics, that determines whether one is a good doctor and is the overall final aim (*telos*) of being a doctor. Analogously, when it comes to epistemic evaluations, there are two aims an inquirer strives for—obtaining true beliefs, and demonstrating good belief forming practices. Thus, Wright introduced what she called the ‘dual-aspect norms of belief’.

One ought to believe *p* only if one can believe it

(1) in accordance with the intellectual virtues

(2) with the aim of believing the truth<sup>78</sup>

Just as in the practice of medicine, these two goals can come apart. Consider the following epistemic case by Wright.

Koko is given the choice between what is in envelope A and what is in envelope B. Koko knows that a die was cast, and if it turned up 1 then \$100 was put into envelope A. She also knows that another die was cast for envelope B, and if it turned up 1, 2, 3, or 4 a \$100 bill was placed in that envelope. Both envelopes are sealed in front of her. Which should Koko take? Given this information it seems rational for her to take envelope B since it is four times more likely to give her the same payoff. But there are general probabilities and there is what happened this time. As it happens there is \$100 in envelope A and nothing in envelope B. So there is some reason to choose envelope A—it will make Koko richer. Of course, she doesn’t know this. Which envelope ought Koko to choose?

It can be argued that norm (1) requires Koko to take envelope B, in that she ought to follow probability as a guide to her decision—choosing an envelope that has a higher chance for her to gain \$100 (and more relevantly, to be correct with regards to

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<sup>7</sup> Or ‘any appropriate epistemic aim’, in Wright’s modified account. Note that I would stick with the truth aim in my discussion to simplify the matter.

<sup>8</sup> Wright (2014), p. 246.

determining which envelope contains \$100) is the rational move, *given what she knows*; on the other hand, there is another sense in which she ought to choose envelope A. She would have been \$100 richer doing so—but not only that, as norm (2) instructs, this would be the right move as she would be actually choosing correctly with regards to determining which envelope contains \$100.

Following Zagzebski, when it comes to justification, it seems that (1) is the norm to be prioritised. Again, this is not to say that justified beliefs do not aim at obtaining truths—that remains the target for a good belief forming practice. However, when things happen out of the agent's control (situation unknown to the agent) and his/her beliefs are false, the fact that he/she adopts a good belief forming practice should remain intact. Insofar as  $AP_J$  concerns the ideality of S's belief forming process with regards to what S has as evidence, it is the norm of following intellectual virtues that is in play for epistemic justification.

Intriguingly, such dual-aspect norms of belief would converge in  $AP_K$ —in that when it comes to the notion of knowledge, one cannot successfully follow norm (1) without also successfully following norm (2)<sup>9</sup>. As all propositions (including ones unavailable to S) are taken into account in knowledge evaluations, the truth of the target proposition is included in U. If we assume that an ideal epistemic agent follows the truth norm of belief, whatever  $S_i$  believes given the whole story U would always be true.

S is justified in believing P just in case an ideal epistemic agent would deem it acceptable to form the belief via the same process given S's evidence. Similar to  $AP_K$ , the relation between S's belief formation and normative ideals can be expressed in formal terms. Suppose all accessible possible worlds are ranked by a set of epistemic normative ideals  $N^{10}$ —such that the ideality of a possible world W is determined by

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<sup>9</sup> Another interesting note is that the other way around doesn't seem to stand—say in case of TEMP discussed in previous chapters, Temp's process successfully tracks true temperature beliefs across wide class of similar scenarios, but it would not be adopted by an ideal epistemic agent *with perfect information*.

<sup>10</sup> Following Kratzer (1981, 1991) and Beddor (2017), who also rank worlds by some normative standard N—Beddor (2017) in particular adopts such modal framework in articulating his view on justification as a specific type of deontological modal. Another approach to justification by Smith (2016) also involves world ordering in terms of what he called 'normalcy' of worlds, presumably involving a metaphysical rendering of normality for possible worlds.  $AP_J$  here is different from these

the degree to which it accords with  $N$ . Since we are concerned with the epistemic justification of our beliefs, suppose further that  $N$  consists specifically of epistemic norms of belief. Call the set of worlds that aligns perfectly with  $N$  ideal epistemic worlds  $W_i$ . A process  $M$  for believing  $P$  is ideal just in case  $S$  forms the belief via  $M$  in at least one  $W_i$ .

### 6.2.3 Ranking ideality, and degrees of justification

Requiring one's process to be ideal in this sense seems to be too strong for the notion of epistemic justification—it would be too much to expect our everyday belief formation to be in perfect accord with all relevant norms of belief. Thus, similar to  $AP_K$ , we need a more tolerant account where suboptimal (but good enough)  $M$  would still constitute justified beliefs (cf. acceptable ideality in 2.3.1). Suppose  $S$  believes that there's a sheep in the field. Normally speaking we would think that  $S$ 's visual recognition of it being a sheep would suffice in justifying the belief. But such a process is arguably short of optimal—an ideal agent can surely improve on  $M$  by also taking into account information from other sensory modalities, the sounds of the sheep bleating, the smell of the sheep, the softness of the wool on it—if  $S$  is determined to make it right, he could even do a genetic test on the sheep. On the one hand,  $S$  in this case is providing more evidence to support his sheep belief; on the other, given that all the evidence is available to  $S$  all along,  $S$  with the improved process  $M'$  forms his belief in a more ideal fashion compared to  $M$ —giving oneself the best shot in securing true beliefs is presumably a normative ideal with regards to belief formation, and  $M'$  definitely fares better than  $M$  on this score.

Insofar as we grant that visual recognition alone in  $S$ 's sheep belief constitutes justification, epistemic justification does not seem to require one's process to be perfectly ideal with respect to norms of belief; instead,  $M$  only needs to be 'adequately ideal', in the sense that  $N$  would characterise  $M$  as an acceptable process (i.e. ideally permitted) with regards to forming the target belief  $P$ , given what  $S$  has as evidence. As a holistic approach, such an epistemic evaluation would involve the entire process  $M$  (see chapter 4 for the epistemic significance of assessing one's process 'as a whole')

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existing frameworks in that what ranks the worlds for  $AP_J$  are epistemic normative ideals pertaining to our belief formation.

being scrutinised by S's total evidence (see chapter 3 for holistic assessments of epistemic situation) for its overall performance *vis-à-vis* a variety of epistemic norms. This makes AP<sub>J</sub> a hybrid account on justification—there is in principle no one predominant norm which constitutes justification by itself, some process would score better on certain norms and some on others. Say, a process may enjoy excellent support from statistical evidence but falls short when it comes to the modal risk of errors; another process may be praised for being epistemically cautious in belief formation but subject to criticism for being too dogmatic once a judgment is formed. According to the AP<sub>J</sub> view, S's belief is justified if the process' 'overall score' of ideality given E is acceptable—when there is at least one acceptable world  $W_{acc}$  (that is, worlds that align with N to a significant degree, albeit not perfectly) such that S forms the belief via M. This is what 'ideally permitted' amounts to in AP<sub>J</sub>.

It is a common view that justification comes in degrees. A natural way for the proposed AP<sub>J</sub> view to account for such a phenomenon is to dissect further among  $W_{acc}$  and rank them by the extent to which they accord with N. Worlds ranked beyond the acceptable sphere contains processes that constitute unjustified beliefs. On the other hand, worlds in  $W_i$  contain ideal processes that amount to the maximum degree of justification, in that the way S forms the target belief follows all relevant epistemic norms to perfection<sup>11</sup>. In between the two extremes lie instances of justified beliefs we commonly encounter everyday as epistemic agents—a spectrum of justified beliefs within  $W_{acc}$  such that their justifiedness can be further ranked by their degrees of alignment with N.  $M_1$  constitutes more justification to P than  $M_2$  just in case the world  $W_1$  where S believes P via the former aligns better with N compared to the world  $W_2$  where S believes P via the latter.

### 6.3 Exploring further characteristics of justification under AP<sub>J</sub>

#### 6.3.1 Minimal ability condition

In chapter 4, I argued that knowledge at least requires one's cognitive success to be a product of one's cognitive competence. With certain modifications, I suggest that some form of minimal ability condition likewise applies for AP<sub>J</sub>. While cognitive

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<sup>11</sup> Presumably, this is what an ideal epistemic agent would do whenever he/she forms a belief. I list it out here merely as a theoretical possibility but it is unclear to me whether it is humanly achievable after all.

success is not necessary (as far as  $AP_J$  is concerned justified beliefs needn't be true), one's belief forming process  $M$  that constitutes justification should still be a product of one's own competence—so that one can claim epistemic ownership of one's justified beliefs (see chapter 4 for similar remarks on knowledge).

Since cognitive success is not required, one would naturally expect that the creditable relation between success and competence would not apply either. It is true that in case of justified belief what the epistemic agent aims (*skopos*) is also to obtain true beliefs, however, only norm (1) outlined by Wright concerning intellectual virtues is necessary in  $AP_J$ —so long as  $S$ 's belief is formed as an intellectually virtuous agent does,  $AP_J$  allows  $M$  to simply aim at truths but play no significant role in securing them in the actual world.

### 6.3.2 $AP_K$ and $AP_J$

One of the main questions this chapter seeks to explore is the picture of the knowledge-justification relation under the proposed account of adequately informed process. In particular, consider a common supposition regarding the relation between the two notions—does knowing that  $P$  entail being justified in believing that  $P$ ? Knowledge and justification under the  $AP$  view clearly have a close tie to one another—both involve a holistic epistemic evaluation of the agent's belief forming process, impose a suboptimal but 'good enough' requirement to the process, where the epistemic goodness of  $M$  is measured with respect to its overall alignment with epistemic norms of belief. The defining feature that distinguishes  $AP_K$  and  $AP_J$  rests in the scope of information relevant to their respective epistemic evaluations—while  $AP_K$  looks into the entire epistemic situation  $U$  for relevant information regarding  $P$ ,  $AP_J$  only considers the total evidence  $E$  that is available to the agent.

Intuitively, conditions laid down in  $AP_K$  seem to be more stringent than that of  $AP_J$  as the former demands a process to survive scrutiny of a bigger picture ( $S$ 's evidence and the rest of information  $S$  is not aware of) compared to the latter (which concerns only  $S$ 's evidence). Indeed, as  $U$  consists of all propositions in the situation,  $E$  is a subset of  $U$ . As a result, any  $M$  that is good enough for the entire state of affairs would

seemingly be good enough for the state of affairs that S grasps (for it is just part of the entire states of affairs). If this is so, then satisfying  $AP_K$  entails satisfying  $AP_J$ .

Can there be cases of  $AP_K$  without  $AP_J$ ? Can it be that the information S is unaware of actually undermines some of the evidence S has in E which speaks against P—such that S's process, despite not adequate from S's perspective, is all in all adequate from the holistic point of view? Recall the case of misleading defeat in TOM GRABIT—suppose now the misleading defeater  $D_M$  (that Mrs Grabit testifies that the person in the library was not Tom) is available to S in his total evidence, considering only what is available to S (i.e. E), wouldn't an ideal epistemic agent judge that S's process is unacceptable (that is, to continue in believing what he saw and disregard Mrs Grabit testimony)? I grant that in this case  $AP_J$  is not met, but it is also clear to me that knowledge is undermined as well. Surely, that Mrs Grabit is a pathological liar would amount to a defeat against  $D_M$ . However, this is no reason for the original process to disregard Mrs Grabit testimony—for all S initially know Mrs Grabit's (being the mother of Tom) testimony should be considered legitimate.  $AP_K$  concerns how one's original process fares in the entire situation, if the original process involves disregarding seemingly legitimate defeaters, it strikes me that an ideal epistemic agent would not regard it as an acceptable way of forming beliefs—even though the defeater turns out to be misleading when one is perfectly informed. Indeed, this affords an explanation to why all psychological defeaters (misleading or genuine) are knowledge undermining—it violates our norms of belief that legitimate evidence ought to be respected.

More generally, consider what a situation would look like if  $AP_K$  is met and  $AP_J$  falls short—an ideal epistemic agent would form the target belief via M given the whole story but would not do so given the available evidence. This seems to be a deeply puzzling epistemic position to hold.

Another interesting note on the relation between knowledge and justification pertains to the degrees of justification. It appears that how justified one's belief is and whether it constitutes knowledge do not display a robust correlation—in that more justified beliefs do not secure knowledge any better than less justified ones. As stated above, knowledge requires the external world to cooperate with our best cognitive efforts.

Going back to the sheep case in 6.2, when everything went well S's visual recognition of the sheep would suffice for knowledge, while his gathering all sorts of justification (such as the genetic test results) can be in vain if he's actually been radically deceived. The AP account is able to explain this phenomenon. In 6.2.3, the degree of justification is determined by the extent to which S's belief formation aligns with relevant epistemic norms under S's evidence. It strikes me that this sets the ceiling of epistemic status to M (a process devised under S's evidence)—the ideality of S's belief forming process is at best the extent it aligns with N given E, any further scrutiny of M from the situation unbeknownst to S would either make no impact or hinder the original alignment—it would be odd to think that some information S is unaware of would improve on S's unenlightened process (with regards to following norm (1) anyway—M could turn out to be a better process than S expects with regards to aiming at truth due to some epistemically friendly circumstances unbeknownst to S). Now, a possible scenario where less justified beliefs (with process M) amount to knowledge while more justified ones (with process M') fall short would be one where the entire situation U makes no impact to the ideality of M (an ideal agent would still consider forming the target belief via M acceptable all things considered), whereas the alignment of M' to N is substantively undermined considering U (to the extent that an ideal agent would no longer form the target belief via M' considering the entire situation)—despite the fact that initially M' aligns more with N than M does given E.

On a related note, a natural concern that follows is whether knowledge comes in degree just as justification does, given the close tie between  $AP_K$  and  $AP_J$ . According to  $AP_K$ , one knows just in case one's process is ideally acceptable with regards to relevant epistemic norms *vis-à-vis* the entire situation—doesn't the satisfaction of norms N come in degree (just as in  $AP_J$ ), such that some process M aligns more with N than others given U? Is  $AP_K$  committed to the idea that some M constitutes 'more knowledge' than others for epistemic agents? While a few epistemologists may consider this as a theoretical advantage if a certain view predicts that knowledge is gradable<sup>12</sup>, many others would not receive such a consequence so well. As I view it, the AP view does not champion the gradability of knowledge any more than other accounts (who consider justification as a component of knowledge) do. What  $AP_K$

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<sup>12</sup> Most notoriously, see Hetherington (2001).



amounts to is the idea that one knows when one is justified given the entire epistemic situation as evidence. If one is legitimate to issue concerns regarding gradability for knowledge thus construed, it shouldn't be a problem *particular to AP*—rather it should be a challenge for any theorists who encompass justification (one way or another) into their knowledge views, that is, insofar as they are also committed to the standard view that justification is gradable.<sup>13</sup>

#### 6.4 AP<sub>J</sub> in application

In the following section I shall apply AP<sub>J</sub> to a range of epistemological problems pertaining to justification. While I do not claim that AP<sub>J</sub> is able to offer the best resolutions to all of the problems presented, I do find it intriguing in how versatile the ecumenical account can be in the attempts of addressing them. I shall first examine AP<sub>J</sub>'s take on the new evil demon problem, and then proceed to discuss problems with multiple premise closure in the lottery and the preface paradoxes.

##### 6.4.1 Ideal epistemic agent vs new evil demon

Suppose Smith and his epistemic counterpart Smitty are epistemically on par in terms of their intellectual capacities and information possessed. While Smith is a normal agent in an usually epistemically friendly environment, his counterpart Smitty is unfortunately victimised by an evil demon, who feeds Smitty with the same (but non-veridical) experiences as Smith's. Both Smith and Smitty are responsible epistemic agents (again, they are on par in this regard) who follow relevant epistemic norms in their belief formation. However, while Smith's belief forming processes are generally reliable, all of Smitty's processes are unreliable.

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<sup>13</sup> I shall attempt to give a *prima facie* response to this worry in general. While there are ways within one's theoretical arsenal to account for a certain phenomenon (such as the gradability of K), it does not follow that our target notion must display such a phenomenon (and importantly, nor does it follow that one's theory suggests so either). I consider AP advantageous in being *able to* account for gradable justification within its theoretical framework, but that doesn't mean that one must commit to gradability of knowledge or justification as well. Consider when one is taking a test and 50 is the passing score. While there is a spectrum of passing scores which consists of various degrees of performance (50-100), the availability of such further performance assessments wouldn't undermine the fact that 'passing' remains an absolute notion. Similar things could be said about knowledge. Take AP<sub>K</sub> for example, while the passing line is drawn by acceptable ideality, one's belief-forming process can surely perform better in terms of its alignment with N. However, it strikes me that such better performances needn't be related to the notion of knowledge in any ways familiar to our understanding of the latter—not any more than the relation between the evaluations of passing and achieving high marks in a test.

The new evil demon is a common problem raised by epistemic internalists in their critique of justification theories that demand certain level of truth conduciveness in S's belief forming processes. As epistemic counterparts Smith and Smitty are equally responsible epistemic agents who possess the same amount of evidence, it is argued that they should not differ in epistemic justification. This is at odds with process reliabilism, and possibly other externalist theories of justification, which would typically consider Smitty's systematically unreliable beliefs as unjustified.

Of course, one way to tackle the new evil demon challenge is to reject that Smith and Smitty possess the same amount of evidence. A considerable number of epistemologists<sup>14</sup> think that while Smith has as evidence the proposition that 'I have two hands', Smitty does not possess such evidence—for his apparent hand-experiences are non-veridical. As mentioned in fn. 5, AP<sub>J</sub> is open to any account of evidence—if one subscribes to views like E=K, Smitty is at least less justified in many of his beliefs compared to Smith. Considering what he has as evidence (note that all his non-veridical experiences wouldn't count) his beliefs are clearly not as well supported as Smith's.<sup>15</sup>

However, not everyone is willing to bite the bullet and suggest that Smitty is really less justified. For the sake of argument I would grant that Smitty and Smith are evidentially on par, and explore how AP<sub>J</sub> might address the new evil demon in a more internalist friendly fashion. In this regard, it is not difficult to see how AP fits naturally with the responsibilist intuition in the new evil demon. Insofar as Smith and Smitty have the equal amount of evidence (as we granted) and their belief formations align with the epistemic ideals N just as well (for they are epistemic duplicates), AP<sub>J</sub> would have no problem in assenting that they are on par in their justification statuses.

#### 6.4.2 Lottery, preface, and the hybrid nature of AP<sub>J</sub>

Before getting into various paradoxes, it is important to note that there would be instances where justification ascriptions are less intuitive. The difficulty of making judgements is often inherited from the paradoxical nature of the cases. Thus, it is not

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<sup>14</sup> Most notably, Williamson (2000), see also Unger (1975), Littlejohn (2012).

<sup>15</sup> Note that for Littlejohn (2012), Smitty in this case would even be outright unjustified in many of his beliefs because they are non-veridical.

the aim of AP<sub>J</sub> to offer definitive verdicts to every troubling scenario. Instead, it would be helpful enough for the proposed account to offer an explanation in its terms as to why the difficult cases are difficult. With this in mind, consider the lottery paradox.

Tommy enters a lottery. There are 1000 balls in the lottery, each corresponds to a ticket and exactly one winner would be drawn out. Tommy holds ticket number 1. The drawing had just taken place. While Tommy had not checked the results, he judges that winning the lottery would be a highly unlikely event (the chance of him winning is 0.001). Reasoning from this statistical unlikelihood Tommy forms the belief that ticket number 1 is a loser ( $L_1$ ).

While there's undoubtedly some good reasons for Tommy to believe  $L_1$ , it seems puzzling in that Tommy is reluctant to claim that his ticket is a loser merely from his statistical grounds—as he had not checked the lottery result, ticket 1 could very well be the winner due to incredible luck. What is more puzzling is that, if Tommy follows the same reasoning in believing  $L_1$ , he would have equally good grounds in believing that other tickets are losers too ( $L_2, L_3, L_4, \dots, L_{1000}$ ). But this cannot be true, as Tommy also knows that there is exactly one winner.

The question at hand, first and foremost, is whether Tommy's belief that  $L_1$  is justified. Different theorists disagree in verdicts in this regard. Process reliabilism is usually unpacked in probabilistic terms—a belief is reliably formed (and therefore justified) if its corresponding process has a high enough level of truth conduciveness, yielding more true beliefs than false ones. According to this account, Tommy's lottery belief is justified—basing on the statistical evidence his  $L_1$  belief is highly likely to be true ( $P(L_1|E)=0.999$ ). On the other hand, there can be alternative views which reject the probabilistic take on justification. For example, Smith (2016) argued that despite being highly likely, the falsehood of  $L_1$  is in some sense a modally close scenario—nothing abnormal needs to happen for ticket 1 to be the winner. Smith thus developed a theory of justification in terms of what he called 'normalcy'. Since it is not out of normality or one's expectation for any given ticket to win, the sheer probabilistic evidence that ticket 1 is highly likely to lose does not constitute enough support to justify the belief that  $L_1$ .

AP<sub>J</sub> is a hybrid view where both probabilistic and modal facets of one's process can be taken into consideration. While Tommy's process aligns with certain normative ideals in that it yields mostly true beliefs; it departs from other ideals such as 'forming your belief in such a way to avoid close error possibilities'. For this reason, it is fair to say that any belief formed purely on the basis of probabilistic evidence is at best suboptimal. The question remains, however, whether such a less than ideal process is adequate enough for justification—whether M aligns with N to a sufficient extent, under the AP<sub>J</sub> framework. This is a hard judgement to call, and would vary depending on how one weighs the roles of probabilistic and modal likelihood respectively in N. Personally, I'm inclined to think that the extremely high degree of (purely) probabilistic evidence would suffice in justifying beliefs—given Tommy's information, an ideal epistemic agent would consider Tommy's probabilistic reasoning as an acceptable way to form his belief that L<sub>1</sub>. This is by no means the orthodox verdict of AP<sub>J</sub>—people who renounce probabilistic evidence as acceptable grounds may well deny justification in Tommy's case while endorsing AP<sub>J</sub>, they would just suggest that an ideal agent wouldn't consider Tommy's process as acceptable.

As noted above, another puzzling thing about the lottery case is that, while Tommy's belief that his ticket is a loser seems to be justified from his probabilistic grounds, he is reluctant to declaring its truth (L<sub>1</sub>). If one is committed to the knowledge norm of assertion, however, a potential explanation might be available—one can maintain that Tommy's justified belief that L<sub>1</sub> falls short of knowledge, and since one ought not assert a proposition unless one knows it, Tommy's reluctance to assert L<sub>1</sub> is epistemically appropriate. In other words, if AP<sub>K</sub> falls short in Tommy's case, the AP view would be well positioned to explain Tommy's reluctance to claim L<sub>1</sub>. The question that remains is this: would AP<sub>K</sub> be satisfied purely on the basis of probabilistic evidence? Let's explore on two potential reasons why AP<sub>K</sub> arguably falls short.

In the story, it is specified that the lottery had taken place. Thus, the totality of situation U includes the truth of whether L<sub>1</sub> (let's suppose that ticket 1 indeed loses in that case). One strategy of arguing that sheer statistical evidence does not amount to knowledge is to point out that Tommy's probabilistic reasoning ceases to be an acceptable way of belief formation after he is perfectly informed about the situation (in particular, the lottery result). When everything is uncovered and the result is available to enlightened

Tommy, there would be numerous ways to obtain the truth that  $L_1$ —for example, by reading the newspaper/TV broadcast announcements, by witnessing the draw in person etc. However, that the ticket is highly likely to lose isn't one of the viable ways, it would seem—why would Tommy settle for sheer chance (/consider it good enough) if confirmation of the truth is readily available? Suppose Tommy's friend Ellie wonders about the lottery result. Learning that Tommy has been perfectly informed on this matter, she asked him whether  $L_1$ . Imagine now if Tommy told Ellie ticket 1 is a loser because its chance of winning is incredibly slim, Ellie would hardly consider this an informative response. 'Yes, we all knew the chance was slim. But is  $L_1$  actually the case for this instance? I thought you told me you were informed about the result!' If we concede that Ellie's criticism to Tommy's response is legitimate, it would seem that sheer probabilistic grounds wouldn't be acceptable when the agent has other means to confirm what actually obtained (which is always the case if the agent is perfectly informed).<sup>16</sup>

Let's consider an alternative strategy. Another way to show how Tommy's process fall short of knowledge is to suggest that it is unsafe (Pritchard 2005)—as there is a close possibility that ticket 1 is the winner (all it has to happen is that a different ball in the vicinity is drawn). Insofar as an ideal epistemic agent is unwilling to adopt a process that would have easily led to false beliefs (see the subjective safety (SS) principle discussed in chapter 5) Tommy's statistical evidence would not be sufficient for knowledge. A potential objection to this approach is to suggest that similar things can be said about justification as well, it would seem. Unlike Gettier cases, the case of lottery does not involve any significant epistemic difference between E and U—probabilistic evidence seems to offer the same evidential support for P regardless of

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<sup>16</sup> While this line of argument (together with its interesting verdict) seems plausible, I must admit that I have some reservations in fully embracing it. In particular, the  $AP_K$  view is developed from Foley's observations on 'knowledge stories' (cases where knowledge is undermined due to some important details of the story the agent had missed) and is intended to address them first and foremost. We should be cautious in applying  $AP_K$  to explain other epistemic phenomena, especially when it is clear that lottery cases like Tommy's aren't quite the same in structure compared to knowledge stories—Tommy's probabilistic support for P itself isn't undermined by any fact unbeknownst to him in the situation, he knew it all along that sheer chance doesn't confirm what actually obtains. Even if we concede with the above argument that Tommy's original probabilistic support is not acceptable after he has been perfectly informed, it might well be a result of some very different epistemic reasons (than why a process doesn't survive in knowledge stories we previously discussed). My hunch is that this has to do with the relation between probabilistic evidence and full belief, as well as how knowledge and justification viewed them respectively. This however is beyond the scope of our present discussion.

whether E and U is under consideration. Why consider  $AP_J$  satisfied, when given E Tommy's process would have easily led to false beliefs? One way of addressing the challenge is to suggest that knowledge and justification impose different requirements with regards to the processes' alignments with N—while the former demands safety (more precisely, the SS norm) as a minimal requirement for acceptable ideality, the latter doesn't. Indeed, bearing in mind how probabilistic evidence is a controversial kind of evidence in its own right, it wouldn't be so surprising that two epistemic notions (knowledge and epistemic justification) place different weights on its significance.

If one accepts one of the two arguments above, Tommy's belief that  $L_1$  amounts to justification (plausibly) but not knowledge under the AP view—he has good reason to think that  $L_1$  is true given his evidence, but such reason has not done enough in securing  $L_1$ 's truth for knowledge (perhaps due to its modal fragility). Going back to the puzzle we started with, this explains why Tommy is hesitant to announce that his ticket has lost—if assertions requires a higher standard of certainty, such that one ought not assert P unless one knows that P, then it makes sense that Tommy, not knowing that his ticket has lost, is not prepared to make such a claim.

Another puzzling thought outlined above concerns whether justification is closed under multiple premise entailment—if S is justified in believing P and justified in believing Q, while  $P \wedge Q$  jointly entail R, would S then be justified in believing R? While the principle enjoys certain intuitive appeal, it often runs into dilemmas in concrete cases. In the lottery paradox, Tommy seems to have good probabilistic reasons to believe that each ticket is losing ( $L_1, L_2, L_3, \dots, L_{1000}$ ), but  $L_1, L_2, L_3, \dots, L_{1000}$  jointly entail that all tickets are losers. Following multiple premise closure of justification ( $MPC_J$ ), Tommy would be justified in believing that all tickets are losers ( $L_{1-1000}$ ). But  $L_{1-1000}$  is clearly false—for Tommy also reckons that one of the tickets must win. To  $AP_J$  that allows for probabilistic evidence to be the sole grounds for justified beliefs, it follows that  $MPC_J$  does not hold—the probability would be steadily lowered as more propositions are added to the conjunction ( $L_1 \wedge L_2 \wedge L_3 \dots$ ), when probabilistic reasoning is the only grounds for one's beliefs, then at some point the conjunction would cease to be justified as the likelihood of its truth is no longer high enough. Another way for  $AP_J$  to deny justification of  $L_{1-1000}$  in the lottery paradox is to suggest that an ideal agent would

not believe  $L_{1-1000}$  as there is a genuine psychological defeater to such belief—that one ticket is a winner.

As I expressed earlier, this is not the only way  $AP_J$  can go. Suppose one is committed to Smith's (2016) view of justification and rejects that Tommy is justified in believing even a single lottery proposition in the first place,  $MPC_J$  can be preserved for even  $L_1$  would be considered unjustified. Nevertheless, arguments against  $MPC_J$  would likewise arise in other cases such as the preface paradox—and I suspect that  $AP_J$  would offer a different treatment according to the theorists' commitments. To see this, consider the preface paradox<sup>17</sup>.

Imagine someone had just completed a long and masterful book on certain topic. In the preface of the book, however, the author concedes that she is sure that there will be some mistakes she made here and there in the book. This doesn't negate that she is a rigorous and intellectually virtuous researcher (if anything conceding possible mistakes and owning responsibilities even display intellectual humility on her part)—she seeks to justify every claim she made in the book with relevant evidence to the best of her ability. Again, we come to a dilemma of justifying a conjunctive proposition, this time with *non-probabilistic* evidential support—it seems that each of the claims the author made in the book is independently well justified, but due to the overwhelming number of claims made in the book, it is highly unlikely (thus hard for her to justifiably believe) that no false claims were made ( $P_{1-N}$ ).

Smith's theory of justification maintains that the author is indeed justified in believing the conjunctive proposition that all claims in the book are true. Just as in the lottery case, the reason supporting  $P_{1-N}$  is purely probabilistic—the author has no particular reason of doubting any of the claims she made, other than the fact that the chance of it to all be true considering the size of the book is extremely low. But probabilistic likelihood is not what constitutes justification according to Smith's account—the author should have no problem believing  $P_{1-N}$  because it being true is among the most normal scenarios that could happen (there needs to be no explanation for it to hold given the

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<sup>17</sup> Introduced by David Makinson (1965).

author's evidence, in this sense,  $P_{1-N}$  is expected to hold despite the low chance); instead, for there to be any claims in the book to turn out be false ( $\neg P_{1-N}$ ), there needs to be certain explanation to account for the mishaps (after all, the author had been extremely diligent in offering evidence for each of the claim in the book). When it comes to believing in accordance to normality in Smith's terms,  $P_{1-N}$  indeed has the edge over  $\neg P_{1-N}$ . If this is so,  $MPC_J$  remains intact under Smith's account—the author is justified in each individual claim she made in the book, and she is justified in believing that all claims in the book are true as well.<sup>18</sup>

Let's consider the versatility of  $AP_J$  as a hybrid account here. Epistemologists who hold the normic view on justification can still embrace  $AP_J$  by holding that following the 'normic' norm of belief (that one ought to calibrate one's beliefs according to what would normally be the case) is a minimal requirement for acceptable ideality—processes with purely probabilistic grounds would therefore be unjustified.  $MPC_J$  under  $AP_J$  thus construed *can be* preserved—should the theorist also think that the perfect alignment of the author's process with the normic norm outweighs its violation of the probabilistic norm (that one ought to form one's beliefs in accordance with the probabilistic likelihood of their truths). The flexibility comes in, however, when one considers an  $AP_J$  view where the two norms are both considerably respected in various degrees. Here's a proposed view of weighing the two norms where both the lottery and the preface paradoxes can be accommodated (alas, to my liking at least). Suppose as we do above in the lottery case that the mere alignment with the probabilistic norm (to a high degree) is a suboptimal but acceptable way of belief formation. This is at odds with the idea that the normic norm constitutes a minimal requirement for acceptable ideality, but compatible with the supposition that the alignment with the normic norm is to be prioritised over that of the probabilistic norm when it comes to ranking ideality. If we allow for all that in our  $AP_J$  view, our justification verdicts can accommodate difficult cases of various sorts—in the lottery Tommy would be justified (but not know) in believing that  $L_1$  but not justified in believing that  $L_{1-1000}$ ;

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<sup>18</sup> Smith (2016), Ch. 4. Indeed, preserving  $MPC_J$  is one of the theoretical advantages Smith considers the normic account possesses over the probabilistic view.



while in the preface the author would be justified in believing both  $P_1$  and  $P_{1-N}$ .<sup>19</sup> More importantly, they would be justified in virtue of following different norms.

Admittedly, in virtue of considering mere probabilistic grounds as an acceptable process in the lottery case,  $MPC_J$  would not hold in  $AP_J$  thus construed. However, I think this is to be expected from a hybrid account of justification which weighs various norms of belief in a holistic epistemic assessment. If there is a variety of ways a belief can obtain justification, why suppose that they all fall under one particular epistemic principle? In Foley's words, 'Knowledge is a mutt. Proper pedigree is not required.'<sup>20</sup> It strikes me that the similarly inspired AP view on justification may display such feature as well. Furthermore, as a holistic epistemology, it is assumed that the epistemic significance of individual justification relations would change in the grand scheme of things, and the justification evaluation of the entire epistemic status of conjunctive propositions like  $L_{1-1000}$  or  $P_{1-N}$  might not be fully appreciated while we fix our gazes at individual justified beliefs that constitute them (this is evident as we observe how the alignments with N is a dynamic matter that changes as more conjuncts are added). As a general remark, keeping in mind that epistemic phenomena inevitably involve our cognitive characters, one must consider formal epistemic principles like  $MPC_J$  with particular caution—the complexity and totality of our cognitive lives might not 'add up' as we expected they do in the realm of logic.

#### 6.4.3 Postscript: Moral justification

Just as we have epistemic reasons to believe such and such, we have moral reasons to act in the ways we do. As a general holistic approach evaluating cognitive phenomena against various norms, it seems that the adequately informed process view naturally extends to the overall moral evaluations of our actions. Since the AP account, evaluating belief formations by the ideal epistemic standard, can itself be viewed as an epistemic analogue of Aristotelian virtue ethics (as seen in the

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<sup>19</sup> Not all epistemologists would agree that the author is justified in  $P_{1-N}$ , especially for people who do not think  $MPC_J$  holds in the first place. But this further shows the adaptability of  $AP_J$ , which can postulate that the probabilistic norm is in turn a minimal requirement for acceptable ideality. If this is so,  $P_{1-N}$  would no longer be justified for the author ought not believe something with such low chance of being true. Note that such a view is different from the simple probabilistic view as mere probabilistic grounds do not necessarily constitute justification, the probabilistic norm is just a minimal requirement and one can fall short of the overall acceptable ideality by violating multiple other norms.

<sup>20</sup> Foley (2012).

elaboration of AP<sub>J</sub> in 6.2)<sup>21</sup>, I again do not intend for the articulated AP account on moral reasons (AP<sub>M</sub>) to be substantially different from the existing virtue theoretic approach. Instead, I only lay out the holistic account here to display how it fits well with its epistemic counterparts in AP<sub>J</sub> and AP<sub>K</sub>.

AP<sub>ME</sub>: S is justified<sub>E</sub> in an action  $\Phi$  just in case S comes to the decision to  $\Phi$  via decision-making process M in the actual world, and is ideally permitted to  $\Phi$  via M under S's total evidence E.

AP<sub>MU</sub>: S is justified<sub>U</sub> in an action  $\Phi$  just in case S comes to the decision to  $\Phi$  via decision-making process M in the actual world, and is ideally permitted to  $\Phi$  via M given the entire situation U.

AP<sub>ME</sub> and AP<sub>MU</sub> are the moral counterparts of AP<sub>J</sub> and AP<sub>K</sub> respectively. As in the epistemic AP view, moral evaluations under AP<sub>ME</sub> and AP<sub>MU</sub> are measured against the holistic consideration of the set of all relevant moral normative ideals N<sub>M</sub>.<sup>22</sup> S is morally justified just in case M is acceptably ideal with regards to N<sub>M</sub>—when there is at least one acceptable world W<sub>acc</sub> (that is, worlds that align with N<sub>M</sub> to a significant degree, albeit not perfectly) such that S decides to  $\Phi$  via M, given E or U.

Another interesting note is that AP<sub>ME</sub> and AP<sub>MU</sub> resonate with a common distinction between subjective and objective oughts in moral philosophy.<sup>23</sup> The difference between AP<sub>ME</sub> and AP<sub>MU</sub> lies in whether telos is the exclusive goal one concerns for moral justification. Recall that a doctor can practice medicine well given what he knows despite making the decision that fails to save the patient (the local target of practising medicine, it is argued) due to conditions the doctor is (rightfully<sup>24</sup>) unaware. In such a case the doctor is justified<sub>E</sub> but not justified<sub>U</sub> in his decision to  $\Phi$ . On the other hand, when it comes to AP<sub>MU</sub>, the goals of telos and skopos converge—if AP<sub>MU</sub> is satisfied, one cannot successfully fulfil telos without also successfully achieving skopos (that is,

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<sup>21</sup> I'm grateful to Kristoffer Ahlstrom-Vij for this methodological remark in a personal discussion.

<sup>22</sup> Which ones are relevant, and to what extent, is again a matter open for debate among moral philosophers.

<sup>23</sup> Thanks to Martin Smith for making me aware of this conceptual affinity.

<sup>24</sup> Cf. Stanford Goldberg's work (2017) on practice-generated entitlement. As a practising professional there may be certain information that the doctor *should have known*—such that not knowing them is itself a violation to epistemic norms.

if saving the patient whenever possible is a moral mandate for acceptable ideality when it comes to practising medicine<sup>25</sup>). Consider the trolley problem more familiar to moral philosophers. Suppose one person is tied to the current track and Jones needs to decide whether to pull the lever to redirect the train saving the person. Unbeknownst to Jones, five people are tied to the idle track such that if Jones pulls the lever, they instead will die. Now, Jones opts to save the one person (unknowingly at the cost of five other lives). His decision is justified<sub>E</sub> but not justified<sub>U</sub>—he is justified to pull the lever in the sense that it is the right thing to do given what he knows (given his evidence, he thinks he is saving a life for no substantial moral cost); however, he shouldn't have done it in the sense that the decision actually makes things worse (not to his awareness).<sup>26</sup> Had Jones been adequately informed about the entire situation, the two justification verdicts would converge—both the right thing to do given what he knows and the right action that would actually make things better would be to not pull the lever (of course, given that Jones is committed to some form of consequentialism, see fn. 26).

### 6.5 Concluding remarks—justification as an ecumenical evaluation of epistemic norms

In this chapter, I present an adequately informed process account on epistemic justification. It is suggested that one's belief is justified when it is acceptably ideal (with regards to relevant epistemic norms) given one's total evidence. Not only do knowledge and justification fit well intuitively with each other under the AP view, they also resonate with the more familiar distinction of objective and subjective oughts in moral philosophy. In its applications, I argue that such an ecumenical account of justification demonstrates versatility, allowing for a variety of hybrid renderings that result in interesting verdicts regarding the lottery and the preface paradoxes. Thus, on a broader perspective, this chapter also demonstrates the potential benefits of embracing ecumenicity in epistemic evaluations. Particularly, in difficult cases where epistemic judgments are hard to call, keeping an ecumenical spirit may be

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<sup>25</sup> Just as believing the truth whenever possible is an epistemic mandate for acceptable ideality when it comes to belief formation.

<sup>26</sup> For the sake of illustrating telos and skopos here I'm simplifying the matter and assuming that some consequentialist norm of decision making serves as the predominant norm for moral evaluations. I leave it open for moral philosophers to debate whether this is really the case. Moral philosophers who differentiate between killing and letting die are welcome to devise their own scenarios to elucidate the distinction I made here.

explanatorily advantageous in understanding why our judgments could swing either way (or could be formed in virtue of a variety of reasons).



## Conclusion

### An overall report card for AP

If I have to summarise the current research project on epistemic evaluation, it would be holism and ecumenicity.

It is when we evaluate our epistemic status holistically can we appreciate the full epistemic significance of our cognitive processes in the epistemic situation. This is argued negatively throughout the previous chapters. From the failure to always identify individual relevant important information in Foley's account (chapter 1); from the accusation from gestalt psychology that psychological experiences cannot be accounted for merely by the individual psychological components composing them (chapter 2); and from the difficulties to determine the overall epistemic significance by evaluating individual process (chapter 4) and propositions in the epistemic situation (chapter 3). When we start to evaluate holistically, to see how our integrated cognitive process performs overall in the entire epistemic situation, we find out that it doesn't matter whether particular propositions are knowledge undermining misleading defeaters—we just need to make sure that we are not overall misled in the epistemic situation; and it doesn't matter that part of our individual cognitive process is vicious—it suffices if our holistic process is virtuous enough.

It is when we start to look for commonalities in epistemic cases of allegedly the same kind by IGA (instead of characterising them top-down with epistemological features by TIA) do we realise that these instances of epistemic status are characterised as the same kind (knowledge or justification) for different reasons (chapter 6). The commonality in them is really that they are all acceptably ideal in the entire epistemic situation. No knower can claim herself to be epistemically ideal in every instance. Just as our ideal school teacher would accept our diversity of epistemic goodness as a cognitive character (by the same token, tolerate our epistemic shortcomings) and consider us her good enough students, there are many ways in which a belief forming process can be adequately ideal in their accordance with epistemic norms (for

instance, see chapter 5). Adopting this more lenient attitude to our epistemic evaluations would help us explain why we have particular (and diverging) judgements when it comes to difficult epistemic cases—and why it seems so hard to find one epistemic theory to ‘rule them all’.

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