



How to think about Process Types

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Abstract

Process Reliabilism, originally formulated by Goldman as a theory of justification, faces the generality problem. Any particular belief is a process token/instantiation of a large number of broader or narrower process types, each having a distinct level of reliability. The problem is to select the unique, repeatable type. This is now considered a major problem for process reliabilism. In this paper, I examine the structure of processes in general, apply the understanding obtained from that fresh perspective on process types to analyze the Generality problem, and conclude that, when properly interpreted, William Alston's solution proposed in 1995 is the right candidate for solving it.

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1. Introduction

Among the various versions of justificational reliabilism which are presently under active consideration of philosophers, one of the most discussed is process reliabilism, first formulated by Goldman in 'What is Justified Belief?'(1979). There, he argued that the psychological processes that cause a belief are critical to its justificatory status. The justificatory status of a belief is a function of the reliability of the process or processes that cause it, where reliability may be construed as truth-conduciveness over a wide range of situations of the sort we typically encounter. Each belief, then, is the output, token, or instance of the process type that causes it. This is where the Generality problem rears its head. A particular belief qualifies as a token of several process types, all of which may not have the same degree of reliability. For any given type, one could always cite a more (or less) fine-grained individuation of that type. For example, Conee and Feldman (1998) cite the example of one Smith who forms the belief that there is a maple tree nearby after seeing a maple tree from his window. But this belief is a token of the following process types (Beebe, 2004):

- 1) process of a retinal image of such-and-such specific characteristics leading to a belief that there is a maple tree nearby
- 2) process of relying on a leaf shape to form a tree-classifying judgment
- 3) the visual process
- 4) vision in bright sunlight
- 5) a perceptual process that occurs in middle-aged men on Wednesdays
- 6) a process that results in justified beliefs
- 7) the perceptual process of classifying by species, a tree behind a solid obstruction

Not only do the sets of tokens falling under each of these type descriptions vary, but their reliabilities also vary widely.

Thus, if Process Reliabilism is to succeed as a theory of justification, it must offer a principled way to single out the unique, relevant repeatable process type that instantiates the particular belief in question. For only then can the reliability of the process be 'fixed' and the justificatory status of the belief determined beyond ambiguity. Goldman himself drew attention to this difficulty. Subsequently, Feldman and Conee (1998) have systematically discussed the issue

and concluded that reliabilists have no principled way to determine what makes a particular process relevant. Thus, they conclude, process reliabilism is 'radically incomplete' as a theory of justification. This problem is now considered to be a main challenge for the theory by reliabilists and their critics alike.

Several epistemologists (e.g., Alston (1995); Beebe(2004)) have tried to provide a formula for identifying a unique relevant process type. Dutant and Olsson(2013) have raised objections to Beebe's proposal. More recently, Becker(2008) has proposed that a successful strategy for eliminating luck, combined with the identification of the narrowest, specific content-neutral process that is causally operative in belief formation as the relevant type, does the job. However, this strategy does not correctly identify the relevant type since the narrowest content-neutral type may not be the relevant one in all cases. Even after eliminating luck, the causal operation can be expressed in various ways, each of which represents types with varying reliability¹.

Others have approached the problem differently, rather than proposing any formula for selecting the uniquely correct process type. Epistemologists such as Comesana(2006) and Bishop (2010) have argued, on different grounds, that the generality problem is not a *special* problem for reliabilism, but one shared by all theories of doxastic justifiedness. Similarly, Kappel (2006) has claimed that there are no facts that determine relevant types. Once it is shown that there is indeed a formula, a principled way to solve the generality problem, which is also true to the spirit of process reliabilism, the force of this second approach gets diluted.

The proposal being discussed here is one such formula for identifying the process type that is unique and relevant to the belief under consideration. Although Alston's proposal was published in 1995, it has yet to gain wide acceptance, as evidenced by the various alternative solutions proposed since then² and attempts of others to disprove it³. Lack of clarity with respect to certain terms (and ambiguity regarding their application) used in the proposal, such as 'process', 'type', 'function', and 'psychological activation', has led to dilution of its impact and doubts regarding its efficacy as a solution. But a clear understanding of these terms is crucial not just for assessing the merits/demerits of Alston's proposal but also for having a deeper

¹ This is more forcefully explained in Conee & Feldman (1998) and Feldman & Conee(2002)

² For an overview, see Goldman(2016)

³ See Conee & Feldman (1998) and Feldman & Conee(2002). Kappel(2006) also discusses Alston but his arguments against the proposal are essentially the same as those advanced by the former authors.

appreciation of process reliabilism as a theory of justification. Therefore, the next section begins with a discussion of the term 'process' and its application in our everyday affairs.

2. Understanding 'process' in non-doxastic situations

'Process' is a term that is native neither to psychology nor to epistemology-it is borrowed from folk psychology. Thus, in any discussion of the process of belief formation, features integral to everyday usages of the term are explanatory, preferable to features unique to doxastic attitudes and psychology of belief formation.

But what do we mean by a process? Goldman (p. 96) describes a process as a *functional operation* or procedure that generates a mapping from certain states-'inputs' into other states-'outputs'. This definition does match with our intuitive understanding, but more needs to be said here. When we take into consideration some common activities which involve the application of some process, such as brushing teeth, combing hair, or worshipping, we observe that they have this feature: these activities are performed by someone- a rational agent, in the *first person*. In these cases, the generality problem does not seem to affect the agent.

Otherwise, performing these daily tasks would have been difficult for us. However, the same cannot be said about some other cases, too, wherein we speak of processes. Take the example of a father explaining to his child about the 'process' by which a car works. In this case, whatever procedure the father comes up with in order to answer the child is not actually employed by *him* to realize the working of the car. His explanation to his child is merely a postulate, a hypothesis about the procedure, method, or algorithm of the process by which a car works. But if that hypothesis is 'true', can we not claim that the father is indeed describing the actual process?

To appreciate why we cannot say so, notice that our means of testing the father's hypothesis is to check whether the hypothesized process is instantiated every time the car works. But then, here we encounter a version of the Generality problem that has been highlighted by philosophers like Goldman, Feldman & Conee(henceforth F&C) and others- every such instance (process token/sequence) realizes a number of different process types. There is no objective fact of the matter as to which hypothesis is *the* process type by which a car works. Different hypotheses purporting to describe the same event can be considered *realized* (i.e., equally effective) in explaining the event.

Thus, while dealing with a particular event or instance (i.e., a process token)-actual or potential, we can meaningfully talk of a unique process type only from a 'first-person perspective'. The subject is disposed to use a specific procedure to realize the target event (the token) even though other options are available to her. Since other algorithms/procedures can also deliver the same output, a third-person description of *the* relevant process is merely a hypothesis about which procedure is actually used in realizing the output. The ambiguity disappears once the process type *actually intended* is made salient/explicit by, say, expressing that algorithm in linguistic terms/symbols. This happens, for example, in the activity of cooking, wherein we have a specific name for the relevant process -'recipe'. The explication of the recipe immediately fixes the relevant process type⁴. Therefore, a generality problem arises only when we attempt to determine the relevant unique process type of a token (event/belief) from a purely third-person perspective. From such a perspective, there is no reason why we should claim that the token realizes only one process type and not any other.

The same reasoning applies in the case of scientific understanding, too. Scientific theories, particularly laws, are attempts at explicit descriptions of process types underlying natural events. These laws, due to the very nature of natural events, are always described in the third person. Therefore, the Generality problem arises in science too. For example, in Physics, observable natural events can be explained either by Newton's laws, Einstein's theory of Relativity, or the Quantum theory. Either of the theories fits the available evidence⁵. However, this underdetermination has not stalled the progress of science. The choice of theories is a problem of the philosophy of science, and many philosophers, like Thomas Kuhn, have contributed to improving our understanding of these issues. However, in our quest for a solution to the generality problem, we are unlikely to benefit from work in philosophy of science for the following reasons.

⁴ This claim is not strictly correct though. The relevant process type actually operative in preparing the dish is usually not the linguistically salient recipe (i.e. the recipe is not a maximally specific description of the relevant process). Otherwise, all amateurs following the same recipe found in books/ websites would be equally good/reliable chefs and that is obviously not true. The actual realized process type is the improvised recipe which every chef is disposed/intends to use, even while following the broad, general recipe. This improvised recipe is unique & personal to each chef. The chef does not have an option but to 'fill in the details' in the publicly salient recipe which is a broad but an incomplete description of the method for moving from some stage, say A (of the dish) to some other stage, say B. Without filling in the details, one cannot proceed from A to B. Also, every detail of the improvisation need not be accessible to the chef as some portions of the activity may be reflexive/at an unconscious level. That is, the chef does not have 'access' to his cognitive choice of the process type. I have ignored this strict interpretation here for the sake of brevity.

⁵ The under-determination of theories by evidence can be regarded as a version of the Generality problem in science if we treat the predictive and explanatory success of theories as a mark of their reliability.

The criteria of a good, reliable theory in science, particularly physics, are quite strong, unlike in ordinary discourses and epistemology. A theory is rejected⁶ if a single instance is found where the prediction of the theory differs from observation. On the other hand, in epistemology as well as in folk use, we are happy to label the process type as reliable if, in a majority of actual and possible instances, its use fulfils the specified aim/purpose. Further, in these non-scientific cases, there is always a 'user' of the process type (e.g., the subject in whom the belief forms or the agent who accomplishes the task). These differences suggest that how the scientific community solves, or rather deals with the generality problem, cannot serve as a clue to solving the problem in epistemology.

3. General Characteristic Features of Process Types

Let us then turn to a non-scientific application. Consider an example of a process, namely cooking, where the type involved appears to be so explicit and unambiguous that we have a name for it- 'recipe'. A recipe for cooking is simply an explicit description of the relevant process type, which leads to the preparation of particular dishes⁷. Here, even when all other things remain the same, the output (i.e., the dish) may vary on the basis of the nature of the inputs (i.e., ingredients). For example, if the fish happens to be stale, the corresponding dish will not taste good. Similarly, wine made from grapes produced in one region may differ markedly in quality from that produced in another place using the same technique/people/equipment. In all such cases, we do not claim that the recipe/chef is faulty/unreliable. Rather, we say that that particular token of the dish has gone awry. That is, in order to justly judge whether a recipe is 'hot' or not, no raw material used in the preparation of the dish should be stale or 'unusual'.⁸ Of course, no recipe stipulates specifically that the ingredients should not be stale or unusual. But this is the unwritten rule, the unstated assumption.

The same can be said about other activities, too, such as the output from a weight machine, which operates on the initial input of a coin of a particular denomination, or the operation of a

⁶ The theory may not be rejected outright always. Often, it is possible to retain the theory after some modification.

But a modified theory does not denote the same process. Also, at times what is modified in the face of recalcitrant

experience is not the 'proximate/immediate' theory but some other theory or assumption which went into the formulation of the theory under test. But this fact does not affect the arguments which follow.

⁷ But refer to footnote 3.

⁸ An ingredient may be considered unusual if, for example, its original taste is altered beyond its essence by chemical treatment, like in adulterated food.

vending machine. The reliability of the weight/ vending machine is to be judged not from the accuracy of its output when the input is defective (say, a fake coin or a coin of a different denomination) but only in instances when the initial input is a genuine coin of the relevant denomination. This is a basic logical requirement. To see whether an argument is valid or not, we only have to ensure that there is no case wherein the premises are true and the conclusion false. Instances where the premise is false do not contribute to determining the (in)validity of the corresponding reasoning. Thus, an instance of a dish prepared with stale ingredients should not be regarded as the process token(output) of the corresponding recipe (or any of its subjective variants psychologically realized in individual chefs) since it violates the above rule. To put it another way, the output in all actual and possible instances involving defective/unusual inputs should not be considered for the purpose of assessing the reliability of the corresponding process type. This observation about the reliability of relevant process types helps us in defending process reliabilism against arguments that attempt to deny that we can pick out or 'fix', in a principled manner, the reliability of any given process type.

Let us consider the example of Smith, who uses variation in leaf point quantity as the input variable for tree identification. F&C offer the following observations about this case (2002, p. 103),

Grouping together all beliefs that result from values of this variable will often group together beliefs with different levels of justification. Smith might well be more reasonable in taking one experience to be of a seven-pointed leaf than in taking another experience to be of a forty-four-pointed leaf. So if she carelessly takes herself to see various specific large numbers of leaf points, and makes corresponding classificatory judgments, then the processes that include these larger values of that single variable will tend not to produce accurate beliefs. The reliability of the whole type, including as it does all of the values in this domain, will be fairly low.

They seem to think that whatever process type is relevant here includes, as its tokens, not just instances where the leaf has been clearly seen, but also those experiences where he takes himself to see a forty-four-pointed leaf. However, the latter instance is a case where the input is defective and therefore should not be considered while assessing the reliability of the belief-forming process. Similarly, the perceptual experience in dreams should be excluded for the purpose of assessing the reliability of perception as a process type. But cases of illusory

experience should not be excluded, for the inputs/ sense-data here are not defective. The sense-data in illusion are genuine, externally-received inputs.

But what is the status of the justification of such excluded beliefs? Goldman, in 'What is Justified Belief', thinks (p. 96) that a belief that results from a faint memory impression is less reliable (and so less justified) than a belief that arises from a distinct memory impression. But we have just noted that no theory of justification justifies instances wherein the given input is defective⁹. By default, the output beliefs in such cases are unjustified. We can immediately reach this conclusion *without* even knowing the details of the relevant process type.

4. Alston's Solution to the Generality Problem

After having discussed several features and applications of the term 'process', we are now in a position to better appreciate Alston's solution to the generality problem regarding the formation of beliefs. According to Alston, every belief formation involves the activation/ operation of a certain psychologically realized function. The belief under consideration is a token of *this* function, which is instantiated in its formation, utilizing particular proximate inputs. Here, the operation of the function is to be understood as (Goldman 1979, p. 96),

Something that generates a mapping from certain states-'inputs'- into other states-'outputs'. The outputs in the present case are states of believing.

Alston further claims,

The function involved will determine both what features of the input have a bearing on the belief output and what bearing they have, i.e., how the content of the belief is determined by those features.

By psychological realization of this function, Alston means the habit or disposition of the subject to take into account certain features of the given inputs and apply that function/procedure/algorithm on those inputs to generate a belief. But this treatment of process types as psychological functions does not explain why there must be a single such function that should be preferred in explaining the proximate causal history in any case of belief formation. A crucial feature of functions is that it is mathematically possible for two different functions to

⁹ This is not to say that said inputs are universally 'defective'. It is quite plausible that the same inputs lead to justified beliefs, if a different process is used. For example, the same faint & unclear visual appearance of celestial bodies, when used in a process of belief formation which utilizes telescope, may result in a justified belief.

coincide over a limited portion of their domain. That is, within this subset of the domain, there need not be a unique function that is completely specified by a given set of inputs and their corresponding outputs. So, it is possible that more than one process type is instantiated in a given process token. According to Feldman & Connee (1998, p. 12), in any given instance of belief formation, several causal functional relations would be actually operative.

As an example, they cite the case of Smith, who forms a belief that there is a maple tree nearby by observing the shape of its leaves. For this output-input pair, they claim that there are many overlapping functions and corresponding psychological process types such as:

(1) There is a very narrow function that goes from just the leaf shape that Smith notices as input to just the output of Smith's particular belief that a maple tree is nearby.

(2) There is another function, one that maps a variety of fairly similar inputs, including the particular shape that Smith noticed, onto some belief or other to the effect that there is a maple tree nearby, including the belief Smith forms.

(3) There is a broader function, one that maps a variety of somewhat similar inputs, all involving visual shapes, onto either the belief that there is a maple tree nearby, or the belief that there is an oak tree nearby, or the belief that there is an elm tree nearby, etc.

(4) There are still broader types that include the original pair and add new inputs involving various other sensory cues.

This objection can be overcome if it is proved that only one of these possible psychological functions is actually activated in any given instance. Recall the 'third-person perspective' of events discussed previously in this article. The generality problem arises when we treat events/tokens from this perspective. In this case, too, types described from (1) to (4) are attempts to explain the event of belief-formation from a third-person perspective. Alston's proposal, on the other hand, is an appeal to focus only on the first-person perspective of the subject. That is, the cognitive faculties of the subject take into account certain features of the input and form the belief (output) by applying the function (out of several other possible types) which her cognitive structure chooses by habit or disposition.

But does this mean that the 'first person' always has some sort of privileged access to this 'unique process type'? In some sense, she certainly is in a unique position with respect to the process that is being implemented- it is *her* cognitive mechanism that executes the process. But that does not necessarily mean that she has privileged access to it that is available to her on

reflection. The first-person status does not even necessarily confer on the subject the power to choose a different process type, at will, in the next instance when similar inputs and circumstances appear. For example, in illusions, even when we are informed that whatever appears before us is an illusion, we cannot help perceiving the way we do.

The bases of our actions, including our beliefs, are often involuntary, reflexive, or instinctive. Even if the subject attempts to explicitly describe the process she adopted in forming the belief, the description itself may be inadequate, too narrow, or broad compared to the process/method she actually employed. Still, she is blameless because the mismatch between *salience* and *use* could be due to psychological factors beyond her control. Thus, Alston's proposal does not imply a commitment to access internalism. Moreover, it preserves our intuition about the epistemic primacy¹⁰ of the belief-forming agent.

Let us focus on the various descriptions of the Smith case cited by Feldman & Connee (numbered

Serially from (1) to (4) above to appreciate the epistemic primacy of the subject. Strictly speaking, (1) is not a function/type at all, since it is not repeatable in nearby possible worlds. It is rather a process token/a value of the function described in (2). Goldman (1979, p. 12) also says that we should individuate processes content-neutrally, i.e., specification of process types should not include specific content of particular beliefs. As for (2), (3), and (4), Adler & Levin (2002, p. 90) deny that these are different process types. Rather, these are really descriptions of the same function in increasing detail- the only function salient here is 'mapping point number to tree species'. According to them, Feldman & Connee have used arbitrary 'partitioning' to fabricate these different descriptions of the same function.

In view of what has been said above and in footnote 3, I think that both Feldman & Connee's and Adler & Levin's positions are conditionally true. The truth of Adler & Levin's claim that only the process- 'mapping point number to tree species' is salient in these cases- depends solely on whether the cognitive system of the subject (i.e., Smith) actually activates this particular function and not any other. If her cognitive faculties activate this particular function, then it is true that (2), (3) & (4) describe the same function in increasing detail.

¹⁰ This combination of 'epistemic primacy' & 'access neutrality' of the subject is a unique feature of belief formation. Ordinary, non-doxastic applications of processes are not access-neutral.

If, however, the function actually activated is just this-'mapping pentagonal shape of the leaf to existence of a maple tree nearby', then neither (3) nor (4) is an accurate description of the relevant psychologically realized process type (but process type 2 is).

We can express this idea analogically in terms of graphs of mathematical functions. The coincidence of such functions over a part of their range(s) does not imply that the two functions are indistinguishable. In other words, the range of one function may be contained in/ a subset of the range of another function. But this does not imply that those two functions are identical. Similarly, the two process types represented by the input-output pairs <number of points of leaf, tree species> and <pentagonal shape of leaf, maple tree> may yield the same process token. But from this fact, we cannot conclude that both describe the same function. If, in an instance of perception, the appearance of the leaf shape was not pentagonal, the latter process would not be activated at all, but the former would be.

Suppose, for example, Smith psychologically activates the former type. Like Feldman & Connee, if we now claim that in formation of the maple tree belief, the later type is also psychologically realized/activated(may be because the later is 'contained' in the former), it implies the following: in situations where the later type(i.e. <pentagonal shape of leaf, maple tree>) is more reliable compared to the former(i.e. <number of points of leaf, tree species>), Smith should be credited with the same level of epistemic virtue/ justifiedness as any other individual who activates the later type. But this is counterintuitive. The other person is obviously more epistemically virtuous than Smith because she is cautious/aware of the limitations of the former process and refrains from using it in situations where the leaf shape does not appear pentagonal.

Why should Smith be credited with being justified in her maple tree belief any more than she is in her oak tree belief when she deploys the 'one size fits all' type in both situations? The fact that her maple tree beliefs turn out to be more reliable is merely an accident, a happy coincidence with tokens resulting from a different, genuinely justified belief-formation process type. Her luck runs out once she encounters oak leaves rather than maple leaves. Alston's proposal, as I interpret it, preserves our intuition in this case by asserting that the later process is not the relevant type for Smith even when she forms her maple tree belief by observing a five-pointed leaf. Feldman & Connee (1998, pp 12-13) attempt to reinforce their objection by drawing an analogy with natural events like the boiling of a pot of water at sea level. The token

process that is the sequence of natural events leading to the boiling of water instantiates a large number of

types, all of which are 'physically real', such as:

- (a) bringing water to a boil at sea-level atmospheric pressure (here, pressure is given)
- (b) bringing water to a boil (here, pressure is a variable input)
- (c) bringing liquids to a boil (here, pressure as well as the liquid are variable inputs)

Since all of these types are physically realized in any given event of boiling water, they claim that we face the generality problem here. We have observed elsewhere in this article that all explanations/hypotheses/theories of natural events fall prey to this problem. But the analogy does not hold good in instances of belief formation because the first-person privilege status of the subject precludes the possibility that more than one process type is the relevant type.

Feldman & Connee raise another issue with the functional conception of process types:

Suppose that the same visual input would lead Smith to believe that it is going to rain when she is feeling anxious and to believe that it will not rain when things are otherwise the same except that she is feeling calm. Anxiety level then is another variable in the relevant type of the process leading to these beliefs.... (but) Her anxiety level does not affect which one is justified. Reliabilists will want narrower relevant types (2002, pp.103-104).

I think, however, anxiety level should not be treated as another input variable. Rather, it should be construed as the state of Smith's mind that is not conducive to holding the belief that it is going to rain, irrespective of the process type activated by her cognitive system for the formation of that belief. Whether a belief is finally retained in the belief system of the subject does not always depend exclusively on the 'merit'(justificatory status) of that belief. It often depends on factors such as coherence with the set of beliefs that are already part of the cognitive system of the subject, the cost of revising the belief system consequent to acceptance of the new belief, etc. If the cognitive apparatus of the agent 'decides' to reject a belief (perhaps because retaining it will entail substantive revision in other parts of her belief-structure, which is costly), it will either ignore it or it will attempt to formulate another belief that is contrary to the one under consideration (i.e., *not-p*). Smith can hope to do that only by modifying the process type she usually deploys under such circumstances.

In the above case, she can formulate the contrary belief *not-p* by adopting different input variables in the 'anxious' and the 'not-anxious' situations. For example, in the 'anxious' case, she may include the additional input that –'it rained yesterday'. This move helps her in forming the belief that 'it is going to rain'. Thus, in this case, the process type relevant for the formation of the belief that *p* is different from the one that leads to the belief that *not-p*. Anxiety itself is not the differentiating input variable. It is merely the catalyst that prompts the psychological activation of a different process type.

Before concluding this section, let us clarify the term 'psychological', as in psychologically realized types, to pre-empt objections based on its ambiguous interpretation. Suppose Smith, a scientist, forms certain beliefs using her naked-eye observations and her scientific knowledge. Usually, these beliefs are true, and so whatever process type she uses is reliable. But she desires more accuracy in her scientific beliefs. So, she now uses a magnifying glass during her scientific observations. This increases the proportion of her true beliefs to false ones. But is she still using the same process for belief formation?

In this context, Goldman (p. 97) asserts that we should restrict the 'extent' of belief-forming processes to events within the organism's nervous system. If the causal ancestry of beliefs includes events outside the organism, such events should not be included among the inputs to the processes. Alston (p. 12) agrees with Goldman and adds that the belief should be formed on the basis of the 'conscious presentation in a truth-conducive way'. Therefore, according to both Goldman & Alston, we should exclude Smith's using a magnifying glass from being a part of her belief-forming process since this part of the causal ancestry of belief formation lies outside the organism. Thus, Smith uses the same process type for belief formation in both situations. However, she is certainly more justified in her beliefs when she uses a magnifying glass or other equipment that assists her vision than when she forms beliefs without such aids. This seems to raise the generality problem all over again-the same unique psychologically realized type seems to have different reliability in different situations! Thus, this standard view of *psychology* does not serve our purpose.

My own view is that Smith's use of a magnifying glass is as much a part of her cognitive activity as it is a part of her physical activity/behavior. However, it is not an input variable of the relevant process type. Rather, it is constitutive of the functional structure itself. The nature of the input variable remains the same as in naked vision, which is simply the sense-data. The psychological equivalent of the physical use of the magnifying glass (i.e., her intention to use

it to form beliefs) is an event that lies within Smith's cognitive system. Thus, the process types her cognitive faculties invoke are different in the two situations. So, the generality problem does not arise here.

On a similar note, one may ask whether Smith's level of justification remains the same if a lens having exactly the same optical feature as the magnifying glass were planted medically in her eye without her knowledge. This twisted possibility shows once again why Alston's solution is effective. In this case, we can credit Smith with a degree of justification no higher than that in the naked-observation situations. This is because, although the use of a lens here is part of the causal activity that takes place during belief formation, it is not a part of the psychological type activated in Smith's cognitive system. Since the use of a lens here is neither a part of the input variable nor that of the functional structure utilized in belief formation, the relevant process type in this case is the same as that activated in unaided observations.

The same can be said in other, non-doxastic applications, too. For example, the winemaker whose process manual specifies merely the mechanical aspects of production is surely less reliable than someone who ensures that his grapes come from vineyards located in a particular country and are of a particular quality. It may so happen that the former winemaker presently uses the same better-quality grapes as used by the latter. Then, the quality of the wine produced presently is the same for both firms. Still, we would count the latter winemaker as more reliable because if the grapes were of inferior quality or bought from some other region, the former would have applied his process, but the latter would not have. The present similarity in quality is accidental.

5. Conclusion

Even though Alston proposed a solution to the generality problem way back in 1995, philosophers continue to regard it as a major problem for process reliabilism. Confusions remain due to lack of a detailed analysis of the term 'process' itself, its applications and limitations. Unresolved objections to Alston's proposal also led subsequent philosophers to ignore its efficacy in solving the generality problem. In this article, I have analyzed both these issues from a fresh perspective. I have discussed various features of processes, its components and applications. We have seen that we need to revise our understanding on what constitutes process types. Using this understanding, I have discussed Alston's proposal and criticisms, both

actual and possible, to it. Alston's solution, thus interpreted and elaborated, solves the generality problem for process reliabilism as a theory of justification.

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