



Sosa's AAA Model and Epistemic Double Effects

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Abstract

There are many important connections between epistemic justification and moral justification. A recent example of such connections is offered by Sosa's AAA model for the normative evaluation of epistemic performances. In order to count as knowledge, a belief has to be *Accurate* in attaining the truth, the subject has to be *Adroit* or competent for such task, and the belief has to be *Apt* in the sense that the accuracy of the belief has to manifest the adroitness of the subject. In addition, full knowledge would require full-aptness, which is obtained when the aim of aptness is achieved in an apt way. We have here a clear definition of the model. But the application of the model to particular performances is not so clear. Both the identification of a particular performance as a case of epistemic performance and the assessment of its aptness, or full-aptness, are strongly relative to intentional descriptions paying attention to contextual factors and personal aspects. Here is where we can find close proximity with ethics. An epistemic analog to the ethical problem of double effects appears. In our paper, we analyze that problem in detail, extracting some consequences.

Keywords Epistemology · Ethics · Virtue epistemology · Epistemic justification · Moral justification · Epistemic performances · Aptness · Full-aptness · Double effects · Intentional descriptions

With
Ulises.

The connections between Ernest Sosa's virtue epistemology and reliabilist approaches of a naturalistic kind have been emphasized many times.¹ We will argue

¹ The connections are explicit in many places of Sosa's works, from Sosa (1991, chapter 8), "Reliabilism and intellectual virtue", to Sosa (2007a, b, chapter 2), "A Virtue Epistemology", and Sosa (2009, chapter 7), "Human Knowledge, Animal and Reflective". See also John Greco (ed.) (2004, Introduction).

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that the connections with ethics are not less relevant. And the normative model that Sosa has recently proposed in order to evaluate epistemic states, a model based on the assumption that states such as beliefs are a peculiar sort of performance, will serve to explore some of those connections.

When we speak of epistemic virtues, we are already very close to moral virtues. Some authors have followed this line of development.² The common interest of ethics and epistemology in the notion of justification, and other similar evaluative and normative notions, has also been emphasized.³ In this work, however, we do not want to analyze those kinds of connections. Our problem will be to understand how a certain normative model for epistemological evaluations can be applied. We will argue that such an application could not be carried out without addressing certain questions about intentionality and about the great sensitivity of intentions to the descriptions they receive, questions that are of the same kind as those that are usually dealt with in ethics. In particular, we will pay attention to agentive situations in which, when carrying out an action that we consider highly valuable, such action produces some negative double effects —or secondary effects, or side effects, etc.

Our plan is as follows. First, we will focus on Sosa's AAA model for the normative evaluation of epistemic performances. Then, we will discuss some issues concerning the identification and normative evaluation of particular cases of epistemic performances. Some of these issues will lead to an epistemic version of the problem of double effects. We will analyze that problem in detail. And, finally, we will extract some consequences.

A first presentation of the epistemic version of the double-effects problems can be the following. Suppose that A is a belief that includes belief B as a double effect. The subject comes to believe B *while* believing A, perhaps she believes A by believing B. Belief B does not get the status required to count as knowledge. Could belief A achieve that status? In which conditions can belief A achieve that status? Now, suppose that another belief C includes belief A as a double effect. The subject comes to believe A *while* believing C, perhaps she believes C by believing A. Belief C does not get the status required to count as knowledge. Could belief A achieve that status? In which conditions can belief A achieve it?

In the context of his virtue epistemology, Sosa has developed in recent years approaches that allow treating beliefs as a peculiar type of *action* or *performance*. The AAA model occupies a central place in these approaches. Focusing on that model will serve to identify the source of double-effect epistemic problems.

² See Zagzebski (1996) and DePaul & Zagzebski (eds.) (2003). See also the comments and distinctions of Sosa (2003) and Sosa (2017: Chapter 9 "Two forms of virtue epistemology").

³ A classic reference is the debate between Chisholm and Firth over whether epistemological evaluations can be considered a variant of ethical evaluations —as Chisholm advocated— or cannot —as Firth argued. See Chisholm (1991) and Firth (1959, 1978). On the general analogy between ethics and epistemology, see Alston (1978).

1 The AAA Model

The claim that belief is a kind of performance is sharp and powerful. Knowledge can be defined as an apt achievement. The nature of knowledge would consist in achieving the aim of getting true beliefs not just by luck, or pure coincidence, but through the apt exercise of some relevant competencies. In turn, normative evaluations of knowledge would consist in the assessment of such an achievement. This is Sosa's recent approach.⁴ But, what is the nature of *aptness*? Is it a peculiar kind of intentional causation? If so, we inherit all the problems of intentional causation, mainly those related to attributions of conscious intentions and with the ways these intentions can be causally efficacious. And yet, what else can aptness be?

Sosa summarizes the structure of performances in the model AAA (Adroitness, Accuracy, and Aptness). The notion of *aptness* has a pivotal role in that model. In the case of belief, there is aptness when the accuracy of the belief in attaining the truth manifests the adroitness, a relevant competence, of the epistemic subject. Beliefs can be epistemically evaluated concerning the apt achievement of the truth, which is taken as the essential aim of belief. Furthermore, full knowledge can be defined as a belief that is not only apt but *fully apt*, where the full-aptness of a belief is the apt attainment of its aptness. The AAA model is illustrated with examples as those of *an archer in competition* and *Diana the Hunter*. The archer that hits the mark manifesting in so doing her skill is presented as a paradigmatic example of apt performance. Diana the Hunter, who also selects the targets adequately, is presented as a paradigmatic example of fully apt performance.

Sosa's analysis of performances is *metaphysical*. It is different from both linguistic analysis and conceptual analysis. This is a significant feature of his approach. The model AAA tries to describe *what is* the correction of performances. Each type of performance has an aim, or *telos*, essentially. And to attain that aim in an apt way, or in a fully apt way, is what constitutes the correction of the performance.⁵

So far, so good. However, Sosa's account is formulated in terms of *types* of performances. And this generates an important problem. If aptness is a sort of intentional causation, then the identification of particular *tokens* of performances as epistemic performances as well as the assessment of their peculiar aptness, and full-aptness, become something relative to our intentional descriptions, which in turn can be strongly sensitive to many contextual and personal factors. This is a disturbing source of *subjectivism*. The identifications could be as subjective as our ascriptions of intentions may be. And it might not be possible to establish any clear difference between adequate and inadequate ascriptions. We will address this issue.

Similarly to the way in which knowledge can be characterized as apt belief, perception can be seen as apt perceptual experience, and action can be seen as apt

⁴ Mainly, see Sosa (2007a, b: Chap 2), Sosa (2010), and Sosa (2015).

⁵ To attain "aptly" that aim is coextensive with to attain it "out of a relevant virtue". But, beyond that coextensiveness, the first explains the second. This connects the previous virtue epistemology of Sosa with the more recent *telic* approach. About the notion of metaphysical analysis, see Sosa (2015: Chapter 1, Introduction).

intention to act. According to the AAA model, in all these cases it is possible to identify (1) an *Adroitness* or competence that is activated in the performance, (2) an *Accuracy* or success in the attainment of some aim, and (3) the *Aptness* of the performance in the sense that the success manifests “in the right way” the involved competence. Sosa (2015, First part, section E, #19) says:

And it is no accident that aptness —success that manifests competence— is the key to ‘the right way.’ Again, all three human phenomena involve *aimings*, performances with an aim. Perception involves functional, teleological aimings, through the teleology of our perceptual systems. Intentional action involves aimings that are full-fledged intentions. Knowledge divides into two sides: a functional perception-like side, and a judgmental action-like side.

The *sort* of causation essentially involved in all three phenomena is hence the causation of aptness. It is not enough that the success *derives causally* from competence, for it may so derive deviantly, by luck. Rather, success must be *apt*. It must *manifest* sufficient competence on the part of the performer.

There is apt causation when the success of a performance manifests a relevant competence. And the point of departure of Sosa’s metaphysical analysis of performances is the claim that *each type of performance* has a certain aim essentially.⁶ The *aim* of belief, considered as a performance, is to attain the truth aptly. This would convert the belief into knowledge. Furthermore, full knowledge aims to attain the truth with full-aptness, consisting of the full-aptness of a performance in its being guided to aptness through the apt assessment of the possibility to attain the aim of the performance aptly. When the performance is not only apt but fully apt, the causation of aptness appears *twice*. We face two cases of causation of aptness.

2 Particular Cases of Epistemic Performances

Sosa’s approach faces serious problems when we try to evaluate particular *tokens* of a *type* of performance. Let us consider a very simple example: an archer that *seems* to be hitting with aptness some target. This is what *seems* to be happening. However, we can *interpret* that supposed particular act of achievement in the following five possible ways:

1. *The intended act of achievement is aptly performed, and nothing else is relevant:* The archer is performing an act intending to hit the target. Call it “act A”. She is adroit, or skillful, or competent, in that sort of shots. Her shot has been also accurate. She hits the mark. And her hitting the mark has been apt because it has been attained through the exercise of her competence. This is a plausible scenario. But, it must be noted that to determine that this is what has happened, and that there

⁶ “[...] in our sense a “performance” is just any state or action or process that has a constitutive aim”, Sosa (2015: Chapter 3, section A). Not every action or process is a performance. However, as we are going to see, problems arise when we try to identify particular cases of performances.

are no other relevant factors, requires to have and apply *clear criteria* to identify competencies, accuracies, and the apt exercise of those competencies achieving such accuracies.⁷

2. *The intended act of achievement is included in other performances:* The archer is performing other act B with another different aim. She intends, for instance, to call the attention of a certain person in the audience. Act A is included in act B. Hitting the target is a *sub-act* of act B. The archer is doing act A *while* doing act B. Here, it is plausible to say that the normative assessment of act A would not be complete unless act A is evaluated in the context of performing act B. Maybe, to perform A will not be a general way to perform aptly act B, but *it may be an apt way to perform act B in that particular case*. To identify that this has been the case entails describing act A adequately as a sub-act of act B. The aptness of act A may be highly sensitive to that intentional description.
3. *The intended act of achievement includes other performances:* In performing act A, hitting the target, the archer is also performing another act B. For instance, she makes certain gestures that she always repeats when faced with difficult situations like this one. Here, act A includes act B as a *sub-act*. The archer is doing act B *while* doing act A. Now, it is plausible to say that the normative assessment of act A has to include the normative assessment of act B. Act A has to be evaluated in the context of performing also act B. Maybe, to perform B will not be a general way to perform aptly act A. However, *it may be an apt way to perform act A in that particular case*. To identify that this has been the case entails describing act B adequately as a sub-act of act A. Again, the evaluation of the aptness of act A may be highly sensitive to that intentional description.
4. *Another different act of achievement is performed:* The archer is performing other act C with a different aim. Let us suppose that the archer has a personality disorder and sometimes imagines that another person is about to shoot an arrow at her. When the archer is about to take her shot, she has this hallucination and shoots the person she sees located right where the target is. Now, acts A and C are disconnected in an important sense. Act C can be adroit, accurate, and apt.⁸ However, this does not entail anything concerning the adroitness, accuracy, and aptness of the supposed act A. Simply, the archer has not performed such act A. In spite of that, the adroitness, accuracy, and aptness of that supposed act A could occasionally be very similar to the adroitness, accuracy, and aptness we can find in act C. Moreover, in the last analysis, the difference between acts A and C may be only *intentional*. And to discover that difference may require a decision about how to interpret the particular performance of the archer in concrete circumstances.
5. *No act of achievement is performed:* The archer is not performing any action with an aim that can be described correctly as an achievement. Maybe, even in the context of a competition, she is not trying to achieve anything like "to hit the

⁷ More strictly, to determine that 1 is what has happened requires to have the competence to make those identifications aptly. In many cases, not always, this entails to have and apply criteria.

⁸ The accuracy and aptness of act C would refer to an *illusory* target. However, act C can be accurate and apt with respect to that target.

mark", but simply to accomplish a certain task, or to improve her skills in certain ways that do not entail necessarily hitting the mark. Moreover, maybe the archer is not performing at all. If that is the case, then the archer is not properly an agent in that supposedly particular case of archery. And what seems to be a particular performance is simply a certain process that, even though it can have a certain role in a more comprehensive plan of action of the subject, has not a direct intentional cause.

In possibility 5, the normative assessment of what has happened *would fall out of* the model AAA. Possibility 5 stresses the fact that, sometimes, what seems to be a performance directed to the achievement of a certain aim is only an "accomplishment". Moreover, sometimes, it is only a non-intentional accomplishment closer to a simple process than to a particular performance.

Possibility 5 suggests a very important distinction between "to suspend the judgment" about a certain proposition and "to suspend facing the question". There is a very relevant sense in which to suspend facing the question is *very different* from to suspend the judgment. To suspend facing the question is a much less engaged epistemic attitude than suspending the judgment. It is not to address the question. This option is simply hidden when possibility 5 is not taken into account.⁹

Let us examine more closely the possibilities we have introduced. We began with a "seeming": an archer that *seems* to be hitting with aptness some target. But, what is the particular performance that the archer is carrying out? It may be very difficult to determine that we are facing a particular case of archery in which an agent hits with aptness some target. The crucial problem is to identify *what* particular intentional action the archer is doing, even *whether* the archer is performing an intentional action or not.

It is important to note that none of the above possibilities 1–5 involves a *deviant* causal relation. In particular, possibility 4 is not an example of deviant intentional causation. The archer is not trying to perform an act A, which gets to be accurate in a deviant way. The archer is performing *a different* act C. Before being faced with the problem of excluding deviant causal relations, or in any case along with that problem, we have to face the problem of interpreting the supposed performance as a performance of a certain type, or even as being a performance. In possibility 4, there is no intention to perform an act A that, seeming to be aptly performed, is not performed in "the right way". Simply, there is *no intention* to perform A.¹⁰

In cases of deviant causation, some given intentions are satisfied only luckily or accidentally. Deviant causation arises when some intentions seeming to be aptly satisfied in fact are not satisfied aptly. The problem of deciding among

⁹ About suspension of judgment, see Sosa (2015). The need to take seriously the distinction between "to suspend the judgment" and "to suspend facing the question" poses additional problems for the application of the AAA model to particular epistemic performances. We will not pursue that point here.

¹⁰ Many cases of *implicit* or *functional* beliefs could be typified as cases of 4 or 5. And this suggests that perhaps truth is not the general aim of belief or the general norm of belief. Alternatively, we can say that it is unclear the sense in which implicit or functional beliefs can be said properly to be "beliefs," instead of being complex dispositions to cause explicit, not only functional, beliefs.

possibilities 1–5 is different. When we have to decide what particular performance has been carried out, or even if some performance has been carried out, we try to determine precisely the *intentions in action*. And it may happen that what seems to be an intention satisfied luckily or accidentally according to a certain intentional description ceases to be so from the perspective of a more appropriate description.¹¹

Possibility 1 is the most relevant one when performances take place in a *highly structured context*, through rules and conventions establishing clear criteria for the determination of competencies, accuracies, and the apt exercise of those competencies achieving such accuracies. Competition games, scientific methodologies, and legal regulations offer such contexts. Or at least, they try to *constitute* them. However, outside of these contexts, for any intended particular performance, possibilities 2, 3, 4, and 5 are so relevant as possibility 1.

In we consider not only aptness but full-aptness, possibilities 1–5 reappear. Full-aptness is a *variety* of aptness. The full-aptness of a performance is defined as the aptness of attaining the aim of the performance aptly. A performance fully apt is a performance that aptly aims to the aptness of the performance. So, even if we succeed in identifying a particular case of apt performance, possibilities 1–5 will reappear for the full-aptness of the performance. This makes the situation much more complicated. When aptness is understood as a sort of intentional causation strongly dependent on our descriptions, the determination of full-aptness becomes much more difficult than the determination of aptness. To determine that a subject attains aptly the aim of performing aptly requires a very sophisticated exercise of our *descriptive capacities*.¹²

The real situation of our *epistemic* performances reflects the five possibilities above introduced. Possibility 1 requires highly structured contexts of attribution of intentions. However, very often, there are no such contexts. Concerning epistemic performances, only scientific methodologies and legal regulations seem to be able to offer such contexts. Most of our particular beliefs and judgments can be interpreted according to the other possibilities.

In possibility 2, the intended epistemic performance *is included* in other performances, which can be or not epistemic performances, and as such they can be apt or not, and fully apt or not. Suppose that, from a certain perspective, action A is considered to be an epistemically apt performance. To *enlarge* the perspective taking into account that A is included in action B can change that assessment. Imagine that A is only an optional means to perform B and that B is epistemically non-apt. You can

¹¹ However, discussions on what is involved in the notion of aptness have usually focused on the problem of deviant causation. The problem is discussed in detail by Sosa (2015: Chapter 1, First part, section A).

¹² That intentional actions are *relative to descriptions* was a crucial claim of Anscombe (1957). Intentional actions are "aspects" of reality entangled with the "senses" of certain words and sentences of our languages. Following that line, the relativity to descriptions of intentional actions was also a very important thesis of Davidson. That relativity would have to be taken seriously into account in a "metaphysical analysis" of performances. About Anscombe's approach, see the highly suggestive analyzes of Wiseman (2016).

suspect that the relevant competencies for the epistemic aptness of A have not been active. And that if the only relevant competencies are the ones active in B, then A cannot be epistemically apt. On the other side, suppose that from a certain perspective, A is considered to be an epistemically non-apt performance. A does not achieve aptly its aim. Again, to *enlarge* the perspective taking into account that A is included in B can change that assessment. Imagine that B is an epistemically apt performance that requires B. Then, the epistemic non-aptness of A might be reconsidered. From a more comprehensive perspective, we might reinterpret A in that sense. And reinterpreted in that way, A could be reassessed as epistemically apt.

Possibility 3 is symmetrical to possibility 2. In this case, the intended epistemic performance *includes* other performances, which can be or not epistemic performances, and as such they can be apt or not, and fully apt or not. Suppose that, from a certain perspective, A is considered to be an epistemically apt performance. Some more *detailed* perspectives, taking into account that A includes B, can change that assessment. Imagine that B is only a means among others to perform A, and that action B is epistemically non-apt. This may affect our previous assessment. The epistemic non-aptness of B can entail the epistemic non-aptness of A. On the other side, suppose that from a certain perspective, A is considered to be an epistemically non-apt performance. As such belief or judgment, it does not achieve aptly its aim. Some more *detailed* perspectives, taking into account that A includes B, can also change that assessment. Imagine that B is epistemically apt as a guess, or conjecture, or provisional assumption, having a crucial role in the context of A. Then, A might be considered not a belief or judgment but also a guess, or a conjecture, or a provisional assumption. The relevant competencies that have been active in A might be other ones. From a more detailed perspective, we might reinterpret A in that way. And reinterpreted in that way, A could be reassessed as epistemically apt.

Possibilities 2 and 3 push us to evaluate aptness in cases when a subject performs a certain act “while performing” other action. The relevant epistemic performances can *be included* in other performances, as it happens in possibility 2. Or they can *include* other performances, as it happens in possibility 3. Evaluations of aptness in both cases can vary a lot from evaluations of aptness in the frame of possibility 1. And the same would happen with evaluations of full-aptness.

As we are seeing, there is an important difference between “doing A *by* doing B” and “doing A *while* doing B”. Doing A *by* doing B entails doing A *while* doing B, but not the other way around. Doing A *while* doing B shows an “indirect agency” that opens the door to the existence of actions that are double effects, or side effects, of other actions. And this crucially affects the ways of understanding the apt causation and fully-apt causation that we should be able to find in cases of knowledge and full knowledge in relation to beliefs —i.e., the peculiar sort of intentional causation involved in the accuracy of our beliefs when there is an adequate aptness, and the peculiar sort of intentional causation involved in the production of that aptness through an adequate full-aptness.

3 Epistemic Double Effects

Possibilities 1–5 push us to consider the intentional complexity of epistemic performances. More concretely, possibilities 2 and 3 invite us to discuss what in other contexts has been called “the doctrine —or theory— of double effect”.

The origin of the doctrine is the need to explain the moral permissibility of an action that brings about something with a negative value, perhaps even the death of some human beings, as a double effect —or secondary effect, or side effect— of achieving some good aim. The action has two effects: the main effect of achieving the intended good and the double effect of causing that negative result. And what the doctrine of double effect claims is that sometimes it is morally permissible to cause the negative result while we are trying to bring about the main effect, even though it would not be morally permissible to have such a negative result as the *direct aim* of our intentional actions. There are some paradigmatic cases of application of the doctrine: just war with civilian deaths, self-defense causing injury, palliative or terminal sedation, abortion when the mother’s life is in danger, etc. The doctrine of double effect says that the production of negative results is permissible given that some criteria are satisfied.

There are a series of criteria usually used in ethics to make compatible actions that pursue a certain end that can be positively evaluated with double effects that are negatively evaluated. These criteria usually include features such as the following:

- (1) *That the end really is positively evaluable*: in the case of a just war, for example, that the war is really motivated by a just cause.
- (2) *That the intention is correct*: trying to achieve what is evaluated positively cannot be a deception, or a mere excuse, in order to try to achieve the negative double effects.
- (3) *That there is a reasonable probability of success*: it does not make sense to produce the negatively evaluated double effects if there is not a reasonable probability of success in obtaining the positively evaluated aims.
- (4) *That there is proportionality in the benefits*: the benefits of obtaining the end evaluated positively cannot be less, or practically equal, to the benefits that would be obtained when avoiding the negative double effects.
- (5) *That the production of double effects is the only way to obtain the aims that are positively evaluated*: sometimes, this criterion is formulated by saying that producing the negative effects must be a kind of “last resort”.¹³

The double effects even can be something *predictable* with a certain degree of probability or plausibility. This is no obstacle for the application of the doctrine. The course of action can have permissibility if there are some adequate combinations of *circumstances* and *intentions*. These are the two main factors operating in the criteria. And there is a crucial tension between circumstances and intentions. There must

¹³ Perhaps the field in which discussions about these criteria have had a longer tradition, and have achieved greater precision, is that of “just war.” See Norman (1995) and Rengger (2010).

always be a correct intention in the sense required in 2. But the circumstances, as considered in the rest of the criteria, can make it very difficult for us to suppose that there is such a correct intention.¹⁴

Now, let us think of the aptness of epistemic performances as a peculiar sort of intentional causation. It would be a case of intentional causation in which the agent attains the truth in virtue of the activation of a relevant competence. When we consider cases 2 and 3 above introduced, the possible aptness of epistemic performances mixes with other sorts of intentional possibilities. More concretely, we have to assume that we can be facing two sorts of situations:

- S-1: There may be beliefs and judgments that are apt in the sense of attaining aptly the truth, even though they *have* as double effects other sorts of, let us say, *problematic* performances (for instance, epistemic performances not attaining aptly the truth)
- S-2: There may be beliefs and judgments that are apt in the sense of attaining aptly the truth even though they *are* double effects of other sorts of *problematic* performances (for instance, epistemic performances not attaining aptly the truth).

According to S-1, aiming aptly at the truth can have as double effects performances not attaining aptly at the truth, for instance, performances having only an instrumental value, or other sorts of non-epistemic value, or even no value at all. According to S-2, we can arrive at beliefs and judgments aptly true as a double effect of performances having only an instrumental value, or other sorts of non-epistemic value, or even no value at all. Not paying attention to possibilities 2 and 3 in the interpretation of particular epistemic performances makes us *blind* to these important phenomena.

Let us consider more closely S-1. To attain aptly the truth can *have*, as a side or double effect, epistemic performances not attaining aptly the truth. We can apply here the doctrine of double effect and say that the epistemic aptness of the more involving epistemic performance in attaining the truth is *compatible* with the epistemic non-aptness of some of its parts. As we have said, discussions of the double effect problem in ethics offer a set of criteria available to assess such compatibility. And one of the criteria has special relevance in our case. Such compatibility is very plausible when the epistemic performances that are epistemically non-apt are *the only available option* in the circumstances. The failure of epistemic aptness in

¹⁴ The doctrine of double effects is closely connected with theological developments on free will and the attribution of responsibility in problematic cases such as those raised by the paradigmatic examples above introduced. It was explicitly formulated and defended by Thomas Aquinas (see *Summa Theologica*, II-II, Q. 40, A.1, and Q. 64). More recent developments are due to Elizabeth Anscombe, Philippa Foot and Judith Jarvis Thomson, among others. Of course, it is a hard problem to determine when something with a negative value is intentionally admitted as an *unavoidably means*. Also, it is not clear how the doctrine should be applied when we are dealing with double effects that have an *intrinsic* negative value, or when we have to *compare* different intrinsic values. We do not need to discuss here these questions. We will only be interested in the non-consequentialist (that is, non simply *telic*) and non reductionist (that is, non-naturalistic) approach offered by the doctrine.

S-1 is tolerable to the extent that there are "no other available options" in the circumstances for the choices made in order to attain some epistemic aims which are considered valuable. If this happens, epistemic non-aptness can be an epistemically permissible double effect of epistemic aptness. We can also say that it is very plausible the existence of an adequate intentional causation able to generate causation by aptness. In other words, such epistemic non-aptness could be an *apt double effect* of epistemic aptness.

This is not an unusual phenomenon. In order to achieve the truth about a certain domain, we make a lot of instrumental decisions about how to obtain relevant data, how to improve our sources of information, how to select our hypotheses, etc. This happens in scientific and technological fields as well as in ordinary fields. Many times, to be epistemically non-apt in some particular performances, even in some epistemic performances, is *the only way* to be epistemically apt in other more involving epistemic performances.

Now, let us go to S-2. Let us think of cases in which some beliefs and judgments attaining the truth *are*, themselves, double effects of other performances that do not aim to attain aptly the truth. Perhaps, the last performances are epistemic states having only an instrumental value, or other sorts of non-epistemic value, or no value at all. Again, we can apply here the doctrine of double effect saying that epistemic aptness can be a permissible effect of performances trying to attain some aims different from the truth, and so of performances being epistemically non-apt. Here, the condition of being *the only available option* has the same relevance as before. If carrying out certain epistemically apt performances is the only option at hand in order to perform other actions, not necessarily epistemic, then that epistemic aptness cannot be ruined by the fact that those performances are double effects of other performances that are epistemically non-apt. Epistemic aptness can be a permissible double effect of epistemic non-aptness. To the extent that there are no other available options for the choices made in order to attain some non-epistemic aims that are considered valuable, it will be very plausible the existence of an adequate intentional causation able to generate causation by aptness. Such epistemic aptness could be an *apt double effect* of epistemic non-aptness.¹⁵

Why do we give in fact so much relevance to the "no-other-available-options-in-the-circumstances" criterion? There is a compelling reason. Previously we mentioned some paradigmatic cases of application in ethics of the doctrine of the double effect. And we also collected some of the criteria usually used to justify the performance of actions that seeking positively evaluated aims have double negative effects. Some of these criteria are more relevant in some cases than in others. And we are going to argue that in the case of epistemic double effects, the last of the criteria that we indicated, that producing the negative effects is something like "the last resort", has a maximum relevance.

¹⁵ By the way, because epistemic aptness can be a permissible double effect of epistemic non-aptness, there would not be *any inconsistency* in the appeal to beliefs and judgments aiming at the truth in the context of epistemologies claiming that the general aim of belief and judgment is not truth but something like utility, pragmatical value, human flourishing, etc.

In epistemic double effects, there is a general epistemic aim that can be positively evaluated, namely knowledge. From Sosa's AAA model, we can say that this aim consists of our beliefs being true in an apt and meta-apt way. But obtaining that aim very often has double effects consisting in beliefs that are epistemically non-apt. This is our S-1 case. And many other times, obtaining that aim is a double effect of performances that are epistemically non-apt. This is our S-2 case. The criterion of "no-other-available-options-in-the-circumstances", a version of criterion 5, seems to have a maximum relevance when we consider those double epistemic effects. Why is this so? Our answer is that in the case of epistemic double effects, all the other criteria are either subsumed in that one, or they lose relevance.

On the one hand, criteria 1, 3, and 4 lose relevance in the epistemic case. Those criteria would seem to be relevant in relation to S-1. But to achieve knowledge can be assumed as a, let us say, "just cause" in many of our epistemic performances so that criterion 1 is satisfied. Also, when the issue requires it, we have many tools and indicators to estimate our chances of success in our epistemic performances, which would allow satisfying criterion 3. And the same can be said of the proportionality of the benefit of obtaining the end evaluated positively compared to the benefit to avoid double effects with a negative value.¹⁶

On the other hand, we can plausibly derive the satisfaction of criterion 2 from the satisfaction of criterion 5. And this would apply both to situation S-1 and to situation S-2. It is plausible to think that when there are no other available options in the circumstances, the double effects that are obtained both in S-1 and S-2 have the "right intention". In S-1, the suspicion that trying to achieve an epistemic aptness that is evaluated positively is a sophisticated deception, or a mere excuse, will be dispelled. In S-2, it will also be dispelled the suspicion that the epistemic aptness that seems to be achieved in the context of performances that are epistemically non-apt is merely achieved in a casual way or by sheer luck.

There is another problem making it even more complicated to solve cases like S-1 and S-2. We will refer to it very briefly. As we indicated, perhaps some of the supposed beliefs and judgments involved in S-1 and S-2 are not properly beliefs and judgments, but other sorts of propositional attitudes. It is not an easy task to attribute, and self-attribute, propositional attitudes such as beliefs and judgments. The attitudes towards propositional content can be of many sorts. Moreover, it is not completely clear that the truth defines the aim of propositional attitudes like beliefs and judgments. There are many kinds of propositional attitudes that we usually treat as beliefs and judgments in many contexts, both ordinary and scientific ones, whose aim is something like obtaining useful representations, or indisputable representations, or approximate truths, or relative truths. And the sense in which we can

¹⁶ Other criteria that are relevant in the literature with respect to some paradigmatic cases of double effects also lose relevance. For example, that the action producing the negative double effects is promoted by a "legitimate authority" is important when dealing with the case of a just war. But in the case of epistemic double effects, that criterion loses relevance to the extent that we recognize that every epistemic subject has legitimate authority over his own beliefs.

assume that useful representations, or indisputable representations, or approximate truths, or relative truths, are truths is highly controversial.¹⁷

We can insist that all these aims are *kinds of truths* and that the relevant propositional attitudes having those aims are epistemic attitudes aiming at truth. But, we can also argue that useful truth is a "kind of usefulness", that indisputable truth is a "kind of indisputability", that approximate truth is a "kind of approximation", and that relative truth is a "kind of relativity". In any case, the attaining of any of those aims has to involve a peculiar endeavor different from simply to attain truth. And this is an important part of what is stressed in possibilities 2 and 3 when the assumptions S-1 and S-2 are made explicit.

We can conclude that corresponding to S-1 and S-2 we can identify two important cases of epistemic double effects in which an epistemic aptness may be *compatible* with an epistemic non-aptness:

- S-1* Cases in which performances that are epistemically *non-apt* can be considered acceptable double effects of epistemically *apt* performances.
- S-2* Cases in which performances that are epistemically *apt* can be considered acceptable double effects of epistemically *non-apt* performances.

Both cases are frequent in our epistemic lives. While we are trying to achieve beliefs having plausibly the status of knowledge, many times we adopt beliefs with a merely instrumental value, or with any other non-epistemic value. And we can tolerate that. This would exemplify S-1*. And while we are trying to achieve beliefs with a merely instrumental value, or with any other non-epistemic value, many times we adopt beliefs having plausibly the status of knowledge. And we also can tolerate that. This would exemplify S-2*. We have argued that the epistemic aptness of our beliefs can be maintained when in the circumstances of performance there is *no other available option* than to adopt as double effects some beliefs that are epistemically non-apt. When relaxing our standards of epistemic justification is inevitable in our attempts to know, we can plausibly assume the epistemic non-aptness of the beliefs that can appear as double effects. And we have argued that it is plausible to accept that epistemically non-apt performances can involve as double effects epistemically apt beliefs when in the circumstances of performance there is *no other available option* than to adopt as double effects those beliefs. In both cases, we can consider that there is an adequate intentional causation capable of supporting the notion of aptness. And that would also apply to that other form of aptness that we have called full-aptness.¹⁸

¹⁷ Those aims contrast with something like "partial truth". Partial truths are truths. However, useful representations, or indisputable representations, or approximate truths, or relative truths, are *not* truths. They may be, but they are not necessarily.

¹⁸ We have not developed that extension of our approach, but it would follow in general lines what we have exposed. Full aptness would be that variety of aptness that consists in reaching the aim of an aptness with aptness.

Let us finish this section dealing with a very important issue about double effects in ethics that has important implications for the special case of epistemic double effects. Commenting Anscombe, we can find in Wiseman (2016: 39) the following fragment:

The doctrine [of double effect] says: if intentionally B-ing is prohibited, and B-ing is a foreseen consequence but not an intended consequence of A-ing, then A-ing is not necessarily prohibited. So, intentionally killing the innocent, say, is prohibited. But if killing the innocent is an unintended but foreseen consequence of my ordering a land invasion, doing so may nevertheless be permitted. The doctrine of double effect requires a distinction between intended and foreseen consequences. However, even if the distinction is secured, the doctrine can come in for ‘abuse’ (Anscombe, 1957, p. 58) – abuse which makes it look like as if the following reasoning might have been available to Truman [deciding to drop the atomic bombs over Japan]:

[A’] Giving the order with the intention to kill the innocents is prohibited.

[B’] But giving the order with the intention to destroy some buildings in Hiroshima is

not prohibited, even if I foresee the deaths of the innocent.

[C’] Therefore I will give the order with the intention to destroy some buildings.

Anscombe calls this kind of reasoning ‘double-think about double effect’ (Anscombe, 1957, p. 58).

Wiseman (2016: 39) notes that Anscombe was very aware of the depth of the problem posed by the possibility of *a double thinking about double effects*.

In *Intention* she [Anscombe] argues that the idea that ‘one can determine one’s intentions by making such a little speech to oneself if obvious bosh’ (§25, p. 42). The difficulty we have in recognising this ‘bosh’ when we see it is, Anscombe argues, connected with a particular dominant conception of intention.

Anscombe claims that such intentional “abuse” is consequence of a wrong conception of what intentions are. Here, Anscombe’s interest in the doctrine of double effect meets with Wittgenstein worries about any sort of Cartesian privacy.¹⁹ According to Anscombe (1957:§25, p. 45): “Roughly speaking, a man intends to do what he does”.²⁰

The implication of all of that in the field of epistemic double effects is clear and important. It would be an “abuse” to consider that a simple change in our “private intentions” is enough in order to be in the position of S-1* and S-2*. We cannot determine our intentions that way. A little speech to oneself is not enough. It is necessary that the relevant intentions are shown in the performances to a relevant auditory. The relevant intentions, those intentions able to *give sense* to the existence of

¹⁹ In Wittgenstein and Anscombe, very often such privacy is connected with conceptual confusion, intentional abuse, dishonesty, injustice, etc.

²⁰ This is noted in Wiseman (2016: 39).

an aptness, and full-aptness, as particular varieties of intentional causation, have to be "intentions in action" and "intentions in personal interaction". In other words, only through the identification of some relevant processes of action and interaction could we find justification for attributions of double effects such as those we have distinguished in S-1* and S-2*.²¹

The model AAA takes for granted that all the questions we have posed may have a clear objective answer. However, we do not have such answers. And without trying to give some answers in the particular cases, the model AAA cannot be applied.

4 Types and Tokens of Performances

One thing is the evaluation of *types* of performances and another different thing is the evaluation of *tokens* of performances. To think of possibility 1 as the only relevant possibility when we face performances that seem to be epistemic performances produces an insularization of epistemology. The achievement of the epistemic aim of attaining the truth becomes something constitutively separated from the achievement of any other aim. And epistemic performances with the aim to attain the truth become to be related with other performances only in highly contingent ways. Moreover, if each epistemic performance is exclusively evaluated in its own terms, then the competencies that are active through different performances, even through different tokens of the same type of performance, will be connected only in a very contingent way. In fact, this is a problem affecting the identity of any disposition through different manifestations. And what we always need is something that can give support to *plausible generalizations* about the identity of the relevant disposition involved.

To think of possibilities 2–5 makes a difference. When we pay attention to those possibilities, we can find reasons to reject that insularization of epistemology. And we can find strong reasons to maintain the existence of close connections among the different components of the epistemic life of a subject. Specially, possibilities 2 and 3 show that the connections between a particular epistemic performance and other particular performances, even non-epistemic ones, can be very narrow. And this point acquires a special relevance when we consider the epistemic version of the doctrine of double effect.

Let us consider the normative evaluation of crimes as consisting only, or mainly, of typifying different crimes assigning corresponding penalties, without paying too much attention to how particular actions can constitute a crime. It seems that this second type of evaluation should accompany the first one. In a very important sense, typifying crimes and penalties cannot be independent of the identification of particular actions as crimes. The intended autonomy of the first sort of evaluation must

²¹ Analyzing this point in more detail would lead us to consider the social aspects of the attributions of aptness and full-aptness, which would introduce us directly inside the territory of action theory and social epistemology. And here, the connections between epistemology and ethics would become closer and closer.

be *conditional* with respect to evaluations of the second sort. Moreover, in this second sort of evaluation, purely judicial issues are mixed with psychological, sociological, ethical and political considerations. They can even get mixed with personal and aesthetic issues.

We can read in Sosa (2015: Chapter 2, note 34):

[...] epistemology is not a department of ethics. Epistemic attainments, like good shots, are not quite generally and inherently valuable in any objective sense. In spite of that, the good ones are still “better” than alternatives even so. Knowledge is in that way a better attainment than belief that does not succeed or does so just by luck. But this *general* superiority is not a quasi-ethical matter of motivation. It is rather a matter of competence, which is often and importantly a matter of intentional agency, but can also be just a matter of functional, biological or psychological teleology.

However, one thing is to claim that there is such a “general superiority” of knowledge over mere belief, or over belief that is true just by luck or mere coincidence, and that this “general superiority” is not an ethical or political matter, but a matter of competence, and another very different thing is that, faced with particular performances, we can have reasons for considering them ethical or political performances, for instance, instead of epistemic performances. The “general superiority” of knowledge is not put in question by the second sorts of considerations. Furthermore, that “general superiority” of knowledge could be preserved even though in fact almost none of our performances were purely epistemic performances.

When the question is not “to evaluate a shot just as a shot”, but “to evaluate a particular performance just as a shot”, and not for instance as being included in a religious, aesthetic or purely expressive performance, or as including religious, aesthetic, ethical, political or purely expressive performances, all sorts of considerations may be relevant. And non-epistemic considerations may be crucial in order to assess the aptness, and full-aptness, of our beliefs. When the question is not to determine the aptness and full-aptness of *types* of performances, but the aptness and full-aptness of *particular tokens* of performances, non-epistemic considerations are crucial.

Let us go back to our analysis of S-2. When the “no-other-available-options-in-the-circumstances” criterion is satisfied, the evaluation of the epistemic aptness of the involved epistemic performances seems to acquire an important kind of autonomy. The question is: Is that autonomy *sufficient* to ensure that epistemology is not a department of ethics? Even here, the answer has to be negative. The autonomy that follows from satisfying that criterion is a highly *conditional* autonomy. It depends on whether the criterion is considered to be satisfied in the particular cases under examination. In many particular cases, such autonomy may exist. But this does not imply that epistemology is independent of ethics. It only implies that many of our epistemic evaluations are independent of our ethical evaluations. And so it is, indeed. But we will confuse the two sorts of implications if we do not consider that evaluating tokens of performances is something very different from evaluating types of performances.

Now, let us consider the following text of Sosa (2015: Chapter 2, section C, #1):

An extremely high epistemic status, certain knowledge, can be attained with a deplorable state that represent a sad waste of time, as when someone spends a morning determining with certitude how many beans are left in their coffe bag. Moreover, that is quite compatible with there being special instances of knowledge that *are* outstanding accomplishments, which require an admirable love of truth (on a certain matter) and willingness to pursue it with persistent toil and sacrifice. And it is also compatible with the fact that *possessing knowledge of a certain sort*, for various sorts, is an indispensable part of any flourishing life. [...]

Independently of all that, it remains that there is a distinctive dimension of epistemic assessment isolated from all such broadly ethical (or prudential) concerns.

Again, the existence of such isolated “distinctive dimension of epistemic assessment” for *types* of performances is one thing, but another different thing is that we do not need to be worried about such ethical or prudential concerns when we try to determine what *type* of performance a subject is performing through *this* or *that* doing.

Furthermore, to think of possibility 1 as the only relevant possibility also generates a difficult problem about how the different epistemic virtues of a subject are *unified* and how they are related with the exercise of all the *other virtues* of the subject. Possibility 1 entails that the epistemic performance can be adequately assessed in their own terms. In that case, we will have autonomy and methodological independence. But, to exclude all the other possibilities prevents explaining how the competencies, or virtues, or faculties, involved in the particular epistemic performance we are considering are connected with the competencies and virtues involved in other performances.

If epistemic assessment only evaluates epistemic performances of certain *types* under the supposition that they are epistemic performances of those *types*, if this is what the analogy with “to evaluate a shot just as a shot” means, then we will lose track of how the epistemic assessment of particular performances can shed light on the *constitution of the relevant types of performances*. However, it is not plausible to think that we can introduce those types independently of our epistemic assessments. And that is not the way in which they are in fact introduced. Moreover, if epistemic assessments do not pay attention to how particular performances are in fact identified as tokens of the same type of performance, for instance as epistemic performances interpretable according to possibility 1, then we could not have any *objective* basis to define types of performances. We would only be guided by our intuitions. And of course, these intuitions can be right. They can hit the mark of

truth. But our confidence that this is the case will increase considerably if we pay attention to how particular performances are identified and classified.²²

This problem has direct consequences with respect to how we identify the relevant competencies involved in any *sub-type* of epistemic performances defined in relation to the different virtues or faculties of a certain sort of subject. We could not have any *objective* basis to consider that in other particular performances of the same sub-type the same dispositions are involved. Moreover, there could not be either any *objective* sense in which we can consider that the epistemic life of a subject constitutes an *agentive unity*. And this problem reappears when we consider all the epistemic and non-epistemic capacities or virtues of a subject. There could not be any relevant sense in which we can consider that the life of a subject constitutes a *personal unity*.

Let us summarize our main results. In order to apply Sosa's AAA model for the normative assessment of epistemic performances, we need to pay attention to how tokens of particular performances are identified as epistemic performances of a certain type. And this is not an easy task. We have explored five possible interpretations, 1–5. The existence of these possibilities shows the strong dependence that those identifications have on our intentional descriptions. And possibilities 2 and 3 have led us to an epistemic version of the problem of double effect. The discussion of that problem has reinforced the idea that the normative assessment of epistemic performances needs to assume some relevant intentions in an irreducible and social way. All of that has important consequences for the autonomy of epistemology. The independence of epistemological assessments, which we have called "insularization", is called into question when we apply the AAA model to tokens of particular performances facing possibilities 1–5. Here, again, aptness and full-aptness have to be seen as cases of intentional causation strongly dependent on our intentions and descriptions. And those intentions and descriptions have to incorporate abundant assumptions about how both the epistemic and the non-epistemic aims of the subjects are connected. It is only through those connections that the epistemic competencies of a subject can constitute an agentive unity and the whole life of a subject can constitute a personal unity.

At that point, the knowledge of the underlying processes, both intentional and non-intentional, both individual and social, is crucial. Such knowledge, or certain suppositions about such knowledge, support our identifications of epistemic performances through possibilities 1–5. And that knowledge, or certain presuppositions about such knowledge, allow us to consider that some dispositions can constitute a competence or skill, and that some competencies or skills can constitute an epistemic virtue or an epistemic faculty. Surely, not all the dispositions, or competencies, or skills, that are put into play in a particular performance constitute virtues or faculties. But, only a knowledge of the underlying processes, or some presuppositions about them, would allow *plausible generalizations*. What is even more

²² About the role of intuitions in philosophy, see Sosa (2007a) and Sosa (2007b, Chapter 3). What we are saying does not contradict Sosa. It only complements his claim that intuitions can be understood as some peculiar sort of (*prima facie*) inclinations or dispositions to assume some beliefs.

important, only that knowledge, or presuppositions, would allow us to make those generalizations in an *objective* way.

The constitution of the *types* of epistemic performances cannot be independent of our epistemic assessments of *tokens* of epistemic performances. We will only be sensitive to this dependence if we take into account possibilities 1–5. In particular, we have to take into account how both epistemic aptness and epistemic full-aptness can be preserved in cases of epistemic double effects. Only a wide processual conception of aptness and full-aptness will allow giving an objective sense to our decisions in those cases. And only such a processual conception will allow giving an objective sense to the constitution of the relevant types of competencies, virtues, faculties, etc., and to the constitution of the epistemic subjects and of the personal subjects. If the result is a contingent sort of unity—for the competencies, virtues, and faculties involved, for the epistemic agency of the subjects, for the subjects in a more integral and personal sense—, at least it will not be a contingent unity based on merely presupposed attributions of intentionality.

5 Epistemic Agency

Epistemology is not a department of ethics. However, epistemology and ethics are closely related. Both deal with intentional phenomena for which a notion of aptness can be defined, being full-aptness a sophisticated kind of aptness. The identification and normative assessment of particular performances needs to make decisions about how such intentionality works in both areas. This includes decisions about how intentional causation allows the relevant sorts of aptness and full-aptness. And there are many cases in which an open discussion of possible double effects is required.

As we have seen, we need to consider two sort of cases. Cases when an epistemic non-aptness can be what we have called an *apt double effect* of an epistemic aptness (i.e., S-1*), and cases where an epistemic aptness can be an *apt double effect* of an epistemic non-aptness (i.e., S-2*). Both phenomena are very frequent in our epistemic lives. To achieve beliefs with the status of knowledge, sometimes we adopt beliefs with a mere instrumental value, or with any other non-epistemic value. And when we try to achieve beliefs with a mere instrumental value, or with any other non-epistemic value, sometimes we adopt beliefs having the status of knowledge. We have argued for the centrality of the "no-other-available-options-in-the-circumstances" criterion in order to assume the compatibility of an epistemic aptness with an epistemic non-aptness in cases of epistemic double effects. And such compatibility means that there is the adequate intentional causation. Of course, "available" is also an intentional term. But we have argued that it can have objective content, that it can be more than mere attribution if we rely on a knowledge of the intentional and non-intentional, individual and social, underlying processes.

We started noting that in the identification and normative assessment of epistemic performances, we have always to decide among possibilities 1, 2, 3, 4 and 5. This led us to see any intended epistemic performance as a case of intentional causation strongly dependent on our descriptions. We argued that the identification of the processes underlying aptness and full-aptness is crucial here, as well as in the application

of the model AAA to particular performances. In consequence, those processes must have an important role in the support that a reflective perspective can offer about our epistemic activity.

If we take into account all those results, the image we obtain of epistemic subjects and their peculiar agency is quite different from the one offered by the examples of the *archer in a competition* of archery and *Diana the Hunter*.

The performances of the archer in a competition are placed in a *highly structured context*. Something is the target. It is clear what the archer is supposed to do, and how she would have to do it. There are very specific criteria of accuracy and adroitness. Many rules and conventions are configuring that structure. We tend to think of the performances of the archer according to possibility 1. Certainly, *some* epistemic contexts are like that. There are rules and conventions structuring the contexts of the performances. Scientific methodologies, legal regulations, rules of competition sports try to create that sort of contexts. Without reasons to think otherwise, i.e., by default, our descriptions and attributions are made following possibility 1. However, many ordinary, technological, and medical contexts of knowledge are *not* like that. In those contexts, epistemic performances are entangled with other sorts of performances in many ways. Moreover, many epistemic performances are not achievements but accomplishments, or they are simply dispositional states very far from our epistemic control. And we are forced to make decisions about possibilities 2, 3, 4 and 5.

Now, let us pay attention to the other paradigmatic example proposed by Sosa, Diana the Hunter. She is presented as a model of full-aptness. There are reasons to think that she is *also* a very problematic example. We can assume that Diana the Hunter selects aptly the targets of her apt shots. And we can assume that the processes underlying her apt and fully apt performances would give complete objective support to the attributions of aptness and full-aptness. However, that aptness and full-aptness are *too different* from what can be the aptness and full-aptness of our epistemic performances. Diana the Hunter is a Goddess. Her capacities and skills are very different from our capacities and skills. And this has important consequences concerning why the performances of Diana the Hunter cannot be considered a good example of the ways we can obtain aptness and full-aptness. In particular, our selection of the epistemic targets involves many more ingredients than the ingredients we can find "in the mind" of Diana the Hunter. With independence of whether the degree of aptness of Diana the Hunter in her shots can or cannot be similar to the degree of aptness of an archer involved in a competition of archery, or to our own degrees aptness in other contexts, the processes underlying the full-aptness of Diana the Hunter would have to be very different from the processes underlying our full-aptness.

Our epistemic agency is much more unstructured than the agency of an archer in a competition of archery. Also, it is much more rich and varied than the epistemic agency of Diana the Hunter. There is one crucial difference between our epistemic agency and the epistemic agency of Diana the Hunter. If A is a model for B, then A has to be a *plausible idealization* of what we can find in B. A certain car only can be a model for the construction of other cars if the first car can do better what the other cars *can* do. The first car has to do better something of what the other cars can do,

not other different things. If the other cars could not ever do, in any circumstance and condition, what the first car does, then the first car could not be a model for the other cars. In that sense, we can say that models have to be *plausible idealizations*.

A more precise formulation of that idea is the following:

X is a plausible idealization of Y only if

- (1) there are circumstances and conditions such that Y could become X, and
- (2) there are circumstances and conditions such that X could become Y.

Both conditions, 1 and 2, are important. Idealizations are only plausible if there are *back and forth paths* between idealized entities and non-idealized entities. Idealizations cease to be plausible when the idealization prevents going back and forth. If this happens, too much distance is generated for idealizations to be more than vague analogies.²³

In any case, implausible idealization can be helpful, even very helpful. We are not denying this. The geocentric system offered by Ptolemy continues to be useful in marine navigation, for example. However, we know that it is *not* a plausible idealization. Neither can our Universe become a Ptolemaic universe with an Earth laying immobile at the center and everything else rotating around, nor can a Ptolemaic universe become like our Universe.²⁴

One way or another, the case with Diana the Hunter *fails* to be a case of plausible idealization. The main reason is that in all our performances there are very complex mixtures of both epistemic and non-epistemic components, and of both individual and social components, that could not be incorporated into the model of

²³ Above, we have referred to certain "plausible generalizations" when identifying dispositions — in particular epistemic powers, virtues, and faculties. The result must be a plausible idealization. Plausible *generalizations* are one of the main paths that lead to plausible *idealizations*. But there may be other more theoretical or speculative paths. Of course, none of this implies that it is easy to identify a particular token as a token of a certain type, rather than as a token of other types. What is more, we have argued that it is always very difficult and risky. Any entity can be typified in many different ways, sometimes incompatible.

²⁴ In an interesting paper, Weisberg (2007) links the idea of "plausible idealizations" to the generation of certain inferences. The paper distinguishes three kinds of idealizations: (1) Galilean idealizations, (2) minimalist idealizations, and (3) multiple-models idealizations. The first ones try to simplify a problem, they have a pragmatical justification, and they are associated with inferences that, adding some details, try to obtain more complete representations. Idealizations of the second kind only include the core causal factors making a difference, they have a theoretic justification, and they are associated with reductive explanations. Idealizations of the third kind use families of models making distinct, even incompatible, claims, they also have a pragmatical justification, but they are associated with predictive inferences and strategies of control. *Diana the Hunter* cannot be a model of full-aptness in any of those senses. We cannot add relevant details to the model, the model says nothing relevant about the causal structure of our epistemic performances, and the model lacks any value for predictions and control. The case of the *archer in a competition* is different. As a model of aptness, the model offers an idealization that sometimes can be close to our epistemic situation. And we could add details to the model. However, as we have seen through cases 2–5, adding more details will destroy the causal structure present in the model and its value in prediction and control. The model of the archer in competition only focuses on case 1 of our analysis of how we could apply Sosa's AAA normative model.

Diana the Hunter. The intentionality of Diana the Hunter is *too different* from our intentionality.

What we are saying can be interpreted as an application, and extension, of the idea that obligation implies possibility. B can only have A as a normative standard if there are circumstances and conditions in which it is possible for A to become B, and it is possible for B to become A. The crucial point in relation to Diana the Hunter is that we cannot be like her—in any case, it is not clear how we could become like her—, nor can she be like us—in any case, it is not clear how she could become like us. Moreover, to the point that Diana the Hunter is a Goddess, she could not have any problem of double effects, neither in ethics nor in epistemology.

We will close our exploration by returning to the topic that started it: the connections between epistemology and ethics. Our aim was to analyze these connections beyond the fact that epistemology and ethics share some evaluative and normative notions, and also beyond the fact that in both cases there can be sets of dispositions characterized as virtues—and also vices. We focused our attention on Sosa's AAA normative model for evaluating epistemic performances. And we encountered certain problems of application that, in turn, have led us to take seriously a phenomenon that we have called "epistemic double effects." A similar phenomenon has been studied in ethics, giving rise to an immense and complex literature. But there seems to be an important *difference*. Whereas in ethics, double-effect problems have generally been posed in connection with a set of moral dilemmas that are extremely difficult to face—just war with civilian deaths, self-defense causing injury, palliative or terminal sedation, abortion when the mother's life is in danger, etc.—, the problems generated by the existence of epistemic double effects seem to be much more numerous and not associated with any set of paradigmatic cases. How can we understand this difference?

Sometimes it has been argued that ethics and epistemology differ in the *type of agency* they involve. Ethical evaluations appear to be highly dependent on the context and also on the descriptions of the intentions involved. Furthermore, they seem to require a fully spontaneous agent and free and voluntary decisions. In contrast, epistemological evaluations appear to be, or it seems desirable for them to be, highly independent of context as well as independent of intentional descriptions. And they do not seem to require, or it does not seem desirable that they require, fully spontaneous agents or free and voluntary decisions.²⁵ This situation can be interpreted by assuming we must make an important distinction between *moral* agents and *epistemic* agents. However, our analyzes of the problem of applying a normative epistemological model such as Sosa's and the inevitability of the phenomenon of epistemic double effects suggest another interpretation.

²⁵ Let us compare:

= —Subject *x* is *epistemically* justified in believing that *p* if some conditions *C1* are satisfied.
 = —Subject *x* is *morally* justified in doing action *a* if some conditions *C2* are satisfied.

Many times it is assumed that there is, and that there has to be, much more room for contextual dependences, for dependences on intentional descriptions, and for considerations about spontaneity and free will in *C2* than in *C1*. We want to question this assumption.

On the one hand, perhaps problems of double effect are really as *abundant* in ethics as they are in epistemology. And perhaps the consolidation of certain paradigmatic cases in ethics is only the result of highly contingent historical and cultural factors. On the other hand, perhaps an excessive *intellectualism* in epistemology has been responsible for avoiding any contextual and descriptive dependence. And perhaps that same intellectualism has made invisible the role that spontaneity and free and voluntary decisions also have in our epistemic performances. In the past, such intellectualism used to consist in assuming that the correction of epistemic processes had to consist exclusively in following certain deductive and inductive rules. But there is also a strong intellectualism in the assumption that such correction is obtained simply by adopting true beliefs manifesting certain relevant competencies. Of course, it has to be so. But this second approach once again hides the volitional ingredients, the crucial decisions, and the irreducible and contextualized interpretations of intentions, which intervene crucially in our *personal* efforts to know.²⁶

Those aspects are precisely the kinds of aspects that we can find when we ask ourselves how to apply a normative epistemological approach such as the one offered in Sosa's AAA model. The best vaccine against all intellectualism is to ask oneself about the application to particular cases of the normative models that are proposed. It is in this application that the connections between ethics and epistemology that we have wanted to explore arise.

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References

- Alston W (1978) Meta-Ethics and Meta-Epistemology. In: Goldman A, Kim J (eds) Values and Morals. Reidel, Dordrecht
- Anscombe E (1957) Intention. Blackwell, Oxford
- Chisholm R (1991) Firth and the ethics of belief. *Philos Phenomenol Res* 51(1):119–128

²⁶ One of the philosophical traditions that best allow all these aspects to be made visible, without reaching relativistic positions, is *perspectivism*. See Hales & Welshon's (2000) perspectivist interpretation of Nietzsche, especially their treatment of the relationships between epistemology and ethics. Also, see the general perspectivist approach recently developed by Hautamäki (2020). For an introduction to perspectivism and the notion of perspective, or point of view, see also the first two chapters of Vázquez & Liz (eds.) (2015) and Cretu & Massimi (eds.) (2020).

- Cretu A-M, Massimi M (eds) (2020) Knowledge from a human point of view. Springer, Synthese Library, vol. p 416
- DePaul M, Zagzebski L (eds) (2003) Intellectual virtue. Perspectives from ethics and epistemology. Oxford Univ. Press, Oxford
- Ernest S (2003). "The place of truth in epistemology". In DePaul M and Zagzebski L (eds.) (2003): 155-180.
- Firth R (1959) Chisholm and the ethics of belief. *Philos Rev* 68(4):493–506
- Firth R (1978) Are epistemic concepts reducible to ethical concepts. In: Goldman A, Kim J (eds) *Values and Morals*. Reidel, Dordrecht, p 1978
- Greco J (ed) (2004) Ernest Sosa and his critics. Blackwell, Oxford
- Hales S, Welshon R (2000) Nietzsche's perspectivism. Univ. of Illinois Press, Illinois
- Hautamäki A (2020) Viewpoint relativism. A new approach to epistemological relativism based on the concept of points of view. Springer, Heidelberg
- Norman R (1995) Ethics, killing and war. Cambridge Univ. Press, Cambridge
- Nicholas R (2010) "The ethics of war: the just war tradition". In: Duncan Bell, *Ethics and World Politics*, Oxford, Oxford Univ. Press. pp 296-298.
- Sosa E (1991) Knowledge in perspective. Selected essays in epistemology. Cambridge Univ. Press, Cambridge
- Sosa E (2003) The place of truth in epistemology. In DePaul and Zagzebski, L. (eds) pp 155-180
- Sosa E (2007a) Intuitions: their nature and epistemic efficacy. *Grazer Philosophische Studien* 74(1):51–67
- Sosa E (2007b) A virtue epistemology: apt belief and reflective knowledge, vol I. Oxford Univ. Press, Oxford
- Sosa E (2009) Reflective knowledge: apt belief and reflective knowledge, vol II. Oxford Univ. Press, Oxford
- Sosa E (2010) Knowing full well. Princeton Univ. Press, Princeton
- Sosa E (2015) Judgment and agency. Oxford Univ. Press, Oxford
- Sosa (2017) Epistemology. Princeton Univ. Press, Princeton
- Vázquez M, Liz M (eds) (2015) Temporal points of view, subjective and objective aspects. Dordrecht, Springer
- Weisberg M (2007) Three Kinds of Idealizations. *Journal of Philosophy* 104(12):639–659
- Wiseman R (2016) Anscombe's Intention. Routledge, Nueva York
- Zagzebski L (1996) Virtues of the mind: an inquiry into the nature of virtue and the ethical foundations of knowledge. Cambridge University Press, Cambridge

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