

ARTICLE

Dr Livingstone, I Presume?

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Abstract

Presumption is often discussed in law, less often in epistemology. Is it an attitude? If so where can we locate it within the taxonomy of epistemic attitudes? Is it a kind of belief, a judgment, an assumption or a supposition? Or is it a species of inference? There are two basic models of presumption: judgmental, as a kind of judgment, and legal, taken from the use of presumptions in law. The legal model suggests that presumption is a practical inference, whereas the judgmental model suggests that presumption is an epistemic attitude. I argue that presumption is neither a practical inference nor a merely epistemic attitude: it involves both, within the category of what we may call the inquiring attitudes.

Keywords: Presumption; assumption; abduction; doxastic attitudes; practical reasoning; inquiry; Edna Ullman-Margalit; Douglas Walton

1. Introduction

On November 10, 1871, after a long journey of 700 miles in the tropical forest in the Great Lakes region in Tanganyika, the journalist Harry Morton Stanley reached the village of Ujiji. He was in search of David Livingstone, who had not been seen since 1866. Stanley entered the market-place, and saw among the chiefs “the prominent figure of an elderly white man clad in a red flannel blouse, grey trousers, and a blue cloth, gold-banded cap”. He narrates the episode:

Up to this moment my mind had verged upon non-belief in his existence, and now a nagging doubt intruded itself into my mind that this white man could not be the object of my quest, or if he were, he would somehow contrive to disappear before my eyes would be satisfied with a view of him. Consequently, though the expedition was organized for this supreme moment, and every movement of it had been confidently ordered with the view of discovering him, yet when the moment of discovery came, and the man himself stood revealed before me, this constantly recurring doubt contributed not a little to make me unprepared for it. ‘It may not be Livingstone after all’, doubt suggested. If this is he, what shall I say to him? My imagination had not taken this question into consideration before. All around me was the immense crowd, hushed and expectant, and wondering how the scene would develop itself. Under all these circumstances I could do no more than exercise some restraint and reserve, so I walked up to him, and, doffing my helmet, bowed and said in an inquiring tone,

– ‘Dr Livingstone, I presume?’

Smiling cordially, he lifted his cap, and answered briefly, ‘Yes’. (Stanley 1909 [1872]: 264)

When Stanley says to Livingstone “I presume” what kind of state, episode or attitude is he reporting?¹ Did he *believe* that this man was Livingstone? He did, but also expressed some doubt, and was ready to disbelieve it. Did he *judge* that the man was Livingstone? He did, but he was also prepared to withdraw his judgment, hence had no firm conviction. Did he *guess* that the man was Livingstone? No, for he had solid reasons to believe this. Did he *suppose* that this man was Livingstone? He did, but presuming expresses a stronger attitude: Stanley did not only form the hypothesis that this was Livingstone: he jumped to this conclusion. Or did he *conjecture* this? In a sense he was, but his hesitancy suggests otherwise. In some sense, he was also *presupposing* that the man was Livingstone. But he also made it explicit. Was he *anticipating* or *foreseeing* that this was Livingstone? He was, but he took the further step of *assuming* that he was meeting Livingstone. Now did he *assert* that this was Livingstone? No, since he asked the *question*: “I presume?” Presumption stands in between these various attitudes without being clearly identical to any of them. But it is not only an attitude; it is also a certain kind of inference, expressed through a speech act. Maybe it has no precise definition. Is presumption a subspecies of other doxastic attitudes, and to what extent can we analyse it in terms of these or other attitudes? Let us call this the *taxinomical problem*. The aim of this article is to address this problem. I shall try to show that presumption is a *sui generis* attitude, which cannot be reduced to other doxastic attitudes and which has specific correctness conditions: although presumptions aim, like beliefs, at truth, there are circumstances in which presumptions are correct, others in which they are not, and kinds of reasons which are unique to this attitude. Stanley’s presuming about Livingstone was correct, but it might have been defeated. Presumption has a dual aspect: on the one hand the presumer anticipates that it is correct (otherwise there would be no point in presuming), but on the other hand he anticipates a possible rebuttal of the presumption. The conditions under which a presumption is justified are its conditions of success or failure. Let us call this the *epistemological problem*. It is hard to separate it from the taxinomical problem, since the conditions of correctness of attitudes have to be associated to the ways these attitudes are justified, or lead to knowledge.

There is another component in presumption than merely epistemic. When Stanley presumes that this man is Livingstone, he takes an active attitude towards this proposition. He decides in some sense that the man must be Livingstone, and takes it for granted or at least he tries this hypothesis. He accepts the risk of being presumptuous. In this sense, presumption is more like an act of *acceptance* of a proposition for practical reasons. This is predominantly the sense of the term in legal contexts. The standard example is the presumption of innocence in law: an accused is presumed not guilty independently of the evidence that one may have. Not all presumptions are legal ones, but these can serve as a model for a conception of presumption as a piece of practical reasoning, or as an *argument*, produced in the course of a deliberation with the aim of reaching effects in a dialogue. So the question arises whether presumption is predominantly a kind of epistemic, or a kind of practical attitude and inference.

In what follows, I shall try to evaluate these competing conceptions of presumption. After having first examined whether presumption is an attitude or an inference, I shall consider two main epistemic models of presumption, the traditional one according to which it is an *abductive* inference made on the basis of perception, and the *belief* model

¹The example is also used by Walton (1992), and by Rescher (2006).

of presumption according to which it is a judgment based on belief. I shall then evaluate the legal notion of presumption, which takes presumption as a practical inference and discuss whether it can serve as a general model for presumption. I shall argue that it cannot. The view of presumption that I put forward is that it is neither a purely epistemic nor a purely practical kind of attitude or inference, but a form of what we may call an *inquiring attitude*, which has both an epistemic and a practical import.

2. Presumption: attitude or inference?

The Stanley–Livingstone example is perhaps not typical. Let us consider a few others.

- (a) *Perception*. I see a man in the distance, but do not fully recognize him. He looks like my friend *Theaetetus*. I presume that it is he. But I was wrong. The man was *Theodorus*.
- (b) *Memory*. I seem to remember that I last met Paul at a conference in Venice. I presume it was in Venice. I check and it turns out that this was indeed in Venice.
- (c) *Testimony*. I am lost in Klagenfurt. I see a woman in Tyrolian dress, and, presuming that she knows, ask her my way around.
- (d) *Best explanation*. At the beginning of the nineteenth century, it was discovered that the orbit of Uranus departed from the trajectory predicted by Newton's theory of universal gravitation. Le Verrier presumed that there was an eighth, as yet undiscovered, planet in the solar system; that, they thought, provided the best explanation of Uranus' deviating orbit. Not much later, this planet, now known as "Neptune", was discovered.
- (e) *Legal*. This child was born during lawful wedlock, hence he is presumed to be legitimate. No one has heard of this person since seven years, hence she is presumed dead.

These cases are diverse, but all are usually called presumptions. Most of them involve inferences. They also all involve searching for a certain kind of information, where one has already some conception of what one is looking for. But there are important differences. The perceptual and the memory cases involve *seemings*: it *seems* to you that this is Theaetetus, and that you met Paul in Venice. But in both cases, it is not clear that an inference from propositions is made. The presumed fact is reached directly. By contrast, the testimony and the inference to the best explanation rest on inferences, as well as the legal case. In all these examples the propositions which are the outputs are only plausible, and defeasible. But can we say that these are suppositions or hypotheses? Only the scientific case is a form of hypothesizing: faced with an alternative hypothesis – the falsity of Newton's laws of motion – Le Verrier chooses the hypothesis that there is another planet. The other cases cannot be so described, and are not suppositions either. When I presume that I met Paul in Venice, I do not suppose that I met him there, I *take it to be the case* that it was Venice, although I do not fully affirm it. In the other cases there is a forward looking attitude: I *anticipate* that this is Theaetetus, that this woman is from Klagenfurt, and Le Verrier anticipates that there is another planet. In Rescher's (2006) terminology a presumption is a kind of "tentative cognition", which one puts forward as plausible in the absence of further information, and which one is prepared to withdraw in case one gets more information. But it is not a mere conjecture or supposition. Stanley is not saying: "Perhaps this is Livingstone". One *assumes* that such and such is the case. Let us call these two conditions those of *potential defeat* and of *assumption*. They seem to conflict: how can one assume something that one considers as

potentially defeasible? They do not conflict if presumption is a kind of decision whereby one takes oneself to be entitled to a proposition on the basis of uncertain evidence, or on the basis of no evidence at all, as in the legal case: the presumption of innocence holds whatever further information we have. But it would be incorrect to say that presumptions have no connection at all with evidence, for even when a potential defeat is envisaged, a further justification is expected. Let us call this, after Pryor (2013), a condition of *prospective justification*. It is a matter of degree, and it has a certain strength which allows one to produce the presumption. Let us call it the *presumptive link*.

All the uses of “presumption” considered so far are inferences: a proposition is put forward, as presumably true, on the basis of some doxastic state, belief or judgment. But what is the force of the adverb *presumably*? Does it apply to the inference itself under the form:

(i) Q, hence *presumably* P

or only to the attitude, leading to a judgment of the form:

(ii) *Presumably* P, or: I *presume* that P

The inference (i) is a relation between two propositions. This applies to the scientific and the legal cases, but it is not clear that it applies to the other cases, those of perception, memory and testimony. In the latter, if there is an inference, it is direct and immediate. When the inferential relation is between propositions, as in (i), it is not a deductive one: *hence presumably* does not have the force of *therefore*. The inference is an *ampliative* one, where the information reached in the conclusion is not already contained in the premise and expands it. Neither is (i) a conditional of the form

(iii) If P, *presumably* Q

or

(iv) What if P? *presumably* Q

The antecedents in a conditional like (iii) or a supposition like (iv) may be part of the information leading to the presupposition, but the presumption itself is not the assertion of a conditional. Stanley is not saying “If this man is a white among the blacks, he is Livingstone”: he is asserting the consequent in the presumptive mode. Neither is he supposing, or suspecting, or conjecturing, that this man is Livingstone: he makes a speech act which has the force of a tentative assertion. He is actually *assuming* that this man is Livingstone. The difference between a supposition and a presumption is that the latter involves a mental act of positing or taking as true a given proposition.² Stanley neither simply believes nor suspends his judgment. He has the belief, but makes a mental move which goes beyond his belief. This move is inferential, but it is also the expression of an attitude. Someone who presumes that P, or who accepts P *presumably* is in a particular state of mind, which is an attitude. What kind of attitude? It belongs to the same family as suppositions, hypotheses, conjectures, imaginings and assumptions, but is not identical to any of these. All these attitudes are called by Meinong (1976 [1902]) under the generic name of “assumptions” (*Annahmen*), which he characterizes as “judgments without belief”. Calling it an attitude is not in opposition with its being a

²Suppositions can be conceived as kinds of believings, or as kinds of imaginings (see Arcangeli 2018). If supposition is a component of presumption it is more plausibly belief-like.

form of (ampliative) inference, because the inference is the expression of the attitude and presupposes it, either as its input or as its output. As we shall see, some views take it to be essentially as inferences, whereas others take it mostly as attitude.

Whether presumption is an inference or an attitude, it is a complex one, for the presumer not only makes an assumption which is the product of a tentative cognition, and which is also based on an antecedent cognition. Stanley has a previous description of Livingstone, in advance of being visually acquainted with a man fitting this description. He not only infers that this man must be Livingstone from his seeing a man with that appearance but also judges that he is entitled to infer this. So presuming involves an attitude about an attitude, a second-order attitude. It also involves a meta-inference, whereby the presumer evaluates the strength of the evidence which allows him to draw the inference and moreover is prepared to withdraw it:

- (i) There is evidence for me that P [first order attitude: belief].
- (ii) This evidence allows me to presume that P [second-order attitude].
- (iii) This presumption may be defeated [second-order attitude].

(ii) and (iii) are actually the same: my judging that I am allowed to infer that P comes with my judging that I might be wrong. These conditions are usually those of default reasoning, where a tentative conclusion is reached through premises which can be retracted: one presumes for a reason, which one weights as being sufficient in the circumstance, but which one may retract later.³ But two problems arise: if presumption involves this second-order inference, how can it have an immediate and direct character? And if the presumer both takes himself to have grounds to assert that P and to retract it, isn't he incoherent? Before answering these questions, we can try to give a preliminary definition:

A presumption is a kind of doxastic attitude, a species of assumption, associated with an inference, which a subject makes on the basis of evidence, which he evaluates as susceptible of a prospective justification and as potentially defeasible.

3. The perceptual-abductive model

The first model of presumption is perceptual. When Stanley meets the man whom he presumes to be Livingstone, when one identifies an approaching silhouette as that of Theaetetus, or when one seems to remember something, one forms judgments from perception. It *seems* to one that such and such is the case, and one presumes from perceptual appearances and looks. But that can mean two different things: either that the seeming itself is the presumption because it involves some recognitional judgment, or that the presumption is inferred from the seeming. On the latter view, although presumption is based on a perception or a memory, it is not an actual perception, but a judgment inferred from an experience with a given content.

This ambiguity is present from the very origins of the problem of the nature of presumption. The Epicureans and the Stoics called it *prolepsis*. The usual translation is *anticipations*, *prenotions* or *preconceptions*, and sometimes also *presumptions*.⁴ On the Epicurean view *prolepseis* are cognitions based on some preconceptions stored in the mind. They are images or concepts, empirically formed through habits, stored in

³See e.g. Pollock (1987), Horty (2012).

⁴See Diogenes Laertius, X, 33, in Long and Sedley (1987), and Morel (2008), Dyson (2009), Tsouna (2016).

memory with the type of object under which they fall, which give rise to beliefs. Epistemologically they are self-evident, as the beliefs arising from them. They come, according to the empiricist view defended by the Epicureans, from sensations, and are in this sense passive. But in various texts, Epicureans say that the mind also projects itself onto the object thus recognized and focuses on it. So they give rise to judgments.

The case (a) of my seeing the silhouette of Theaetetus, is a clear case of *prolepsis*. I have the image of Theaetetus stored in my mind, and when the figure appears, I recognize him at once. Stanley's judgment that this man must be Livingstone is close, except that he has never seen Livingstone. He has only a description or a prenotion of him, which matches the individual he becomes acquainted with visually.

The Epicurean view of presumption as *prolepsis* takes it as an anticipative perception, not as an actual perception giving rise to a categorical judgment of the form "I judge that p", but the seeming that one *can* believe or judge on the basis of an experience. On this view a presumption is not a seeming, but the *inclination* to judge on the basis of that experience. On the *prolepsis* view of presumption, one both anticipates a judgment and does not endorse it. But the usual concept of presumption differs from the Epicurean one, for *prolepsis* are supposed to be self-evident, whereas ordinary presumptions are essentially defeasible.

What is the exact nature of this inclination, if it is not an actual belief? On one view it is not an attitude at all, but a feeling, similar to epistemic feelings, such as the feeling of knowing (such as having a word on the tip of the tongue) or the feeling of familiarity (such as having seen this face before), which are neither beliefs nor judgments, and whose phenomenology is closer to affective states. These record, most of the time on the basis of a previous experience stored in memory, the presence of a content which is felt to be retrievable but not easily accessible (Dokic 2012). On such a view, they are hardly perceptions at all, being mostly qualitative and associated to certain emotions. It is hard to understand how they can be inclinations to believe, given that their content is so indeterminate. But a presumption, even based on perception, is not a feeling.

On another view of presumptions as perceptions, these are unconscious inferences or hypotheses within the perceptual process. They are *abductions*, but in a special sense of this term. In the ordinary sense "abduction" is an "inference to the best explanation" whereby a fact is observed, and a hypothesis is formed which would explain it (Douven 2011):

(AI) A surprising fact, C, is observed.
 But if A were true, C would be a matter of course.
 Hence, there is reason to suspect that A is true.

This fits the ordinary concept of presumption as an inference between propositions or beliefs, as in the Leverrier case. However, the view that a presumption is an abductive perception is not that it is an explicit inference between propositions. It is the idea that perception is itself a judgment, whereby a hypothesis is implicitly or unconsciously formed. This was Peirce's view:

Abductive inference shades into perceptual judgments without any sharp line of demarcation between them, so that 'our first premises, the perceptual judgments are to be regarded as an extreme case of abductive inferences ... the abductive faculty, by which we divine the secrets of nature, is, as we may say, a shading of, a gradation of that which in its highest perfection we call perception. (Peirce 1998: 224; see Tiercelin 2005)

The ambiguity between presumption as an attitude and presumption as an inference, which is present on the Epicurean model, is here most explicit. On Peirce's view of abduction, perceptual beliefs or judgments *are* inferences. In the Stanley case, the inference is of the form (AI) above, but on Peirce's early view, this inference is not an actual inference, but the content of a perceptual judgment: it *seems* to Stanley that this man is Livingstone, but this seeming already involves an inference.

This double status is potentially incoherent. If, on the one hand, presuming is a seeming, in the sense of an experience, how can it present directly its content, with the kind of transparency characteristic of perception, and at the same time anticipate this content through some sort of hypothetical inference? On a plausible view of perception, perception is supposed to trade with non-inferential contents. Now if perception is in some sense inferential, it hard to avoid the idea that it has a propositional content which can be belief-like. If, on the other hand, it is not a belief, but only an inclination to believe, how can it be based on evidence? Moreover, how, on the perceptual view, can we account for the fact that presumptions have a second-order component? If there is a seeming and its potential defeat, there is not only a first-order attitude of perceiving, but also a second-order attitude of judging this first-order content defeasible. How can this first-order content be fully endorsed? Whatever can be the relationship between the first-order content and the second order content, both have to be in some sense *belief* contents, in order to be appraisable as worthy of judgment. This feature clashes with the idea that presumptions are perceptual seemings. It clashes even more with the view that they could be epistemic feelings.

4. The belief model

Whatever presumptive seemings can be, it is hard to understand how they cannot involve beliefs. And if presumptions are inferences, they have to involve beliefs and judgments. But here too there are two models. We can take presumptions to be beliefs, in the sense of full beliefs, or as dispositions to judge, associated with degrees of belief. Let us take each hypothesis in turn.

A presumption may be a belief, but is not a full belief or a judgment. A full or categorical belief is the holding true of a proposition, either consciously or not, whereas presumptions are assumptions, the contents of which are consciously *taken to be true*. The difference is that, in Rescher's phrase (2006: 37) presumptions are "candidates for truth", which might turn out false, whereas beliefs or judgments are held true, period. Indeed one may believe or judge presumptively that P, but when one believes one does not take one's belief as potentially defeasible. Nevertheless, it is odd to say: "I presume that P, but I do not believe it" because presuming in some sense presupposes believing. Presumption, however, is quite compatible with believing that P to a certain degree. A presumption has a certain strength, which is in part determined by the degree of evidence one has for its truth and the stronger the degree of belief the more successful the presumption. In this sense presumptions may be identified, or partly identified with degrees of beliefs, or credences. On the Lockean model (Foley 1993), a presumed belief would be one with a sufficiently high degree of evidential support. Stanley might be not fully certain that this man is Livingstone, but almost sure that it is him. On the alternative Bayesian model for degrees of belief, presuming that P would be to give a prior degree of belief or subjective probability to P, which on the observation of a given fact, would be updated by conditionalization upon the prior belief, to yield a new degree of belief. In the terms of our Stanley–Livingstone example, Stanley thinks that it is likely, on the basis of the fact that the villagers have brought with them a foreigner, that this foreigner is Livingstone. He might actually be prepared to bet on the

proposition that this man is Livingstone. Alternatively (although this is not the actual story that he tells) he might be surprised to find this man, given that he did not expect to meet him in this village, but could revise his initial low probability. This seems to be a straightforward case of expectation, in the Bayesian sense: given initial or prior probabilities a given proposition is unexpected, but the observation of the fact raises the probability, which leads to a higher degree of belief once revised. So we can conceive of presumption as a form of Bayesian inference, based on a conditional probability leading from an antecedent degree of belief to a posterior one. But neither the Lockean nor the Bayesian models of presumption are convincing, for at least two reasons.

First consider the defeater condition on presumptions. On the degree of belief or credence view, Stanley has a higher degree of belief in the proposition that this man is Livingstone than on the proposition that he is not Livingstone, but he is open to the potential discovery of evidence which would reverse his credence function, which would make him acquire a degree of belief in the proposition that this is not Livingstone. But if he has actually a high credence in the proposition that this man is Livingstone, he cannot reverse his credence function.⁵ The Bayesian model does not easily account for the defeater condition of presumptions, unless it postulates that presumptions cannot have defeaters. But it is part of the attitude of presuming that the proposition under consideration might well be false. In the usual taxonomy of defeater conditions (Pollock 1987) it might be defeated in a rebutting way – by discovering that this white man is not Livingstone – or in the undermining way – by discovering a fact which would imply that he is not Livingstone.

There is a second reason why the Bayesian reading does not fit the attitude of presuming. Presumption is not, in the intuitive sense, a graded notion: one either presumes that P or that not P. The judgment expressing the presumption might well be perfectly categorical, without any hint of certainty or strong degree of belief on the part of the presumer. In this sense, the presumer is ready to *assume*, without strong evidence, or without evidence at all, that p. This seems to fit the scientific case (d) and most cases of abduction. Le Verrier has no evidence for an eighth planet perturbing the orbits of Uranus, but he *assumes* that there is one, for the sake of explaining this anomaly. He is not simply having a high degree of belief in this hypothesis. He *takes it for granted* that it is the case, and on the basis of an abduction leading to his *accepting* that hypothesis, he proceeds to making observations which would confirm this fact. Whatever vocabulary we adopt – assumption, abduction or acceptance – the attitude at stake is a full one. It is not, as we saw above, full belief, but it is not a kind of credence either. It has to be a kind of judgment, although not an assertoric one. Whether one takes high credibility, or knowledge, as the norm of assertion, presuming is not asserting, but assuming. One cannot criticize someone who presumes that P by saying: “But you did not have the best reasons to presume that P”, even less “But you did not know that P”. In order to presume one needs to have *good enough* reasons, to which the agent gives proper weight. The agent could have a relatively low credence in P, and nevertheless be perfectly apt to presume that P.

So presumption is a doxastic attitude which is closer to what philosophers have called *acceptance* than to belief or judgment. If we understand acceptance along the lines of Cohen (1992),⁶ it differs from belief or judgment in being not necessarily

⁵See e.g. Pryor (2013: 98), and for reasons to doubt that the Bayesian framework works here. In particular it is interesting that Pryor actually uses the notion presumption in this case: “It is debatable what effect such evidence should have, but there is a presumptive case that it would put some kind of pressure on you to raise your credence” (Pryor 2013: 98).

⁶See also Bratman (1992), Engel (1998).

based on evidence, not necessarily integrated rationally with other beliefs, contextual, voluntary, and not necessarily aimed at truth. Acceptance is a practical attitude, governed by intentions, and used in the course of a practical reasoning directed towards a certain end. The end may be some good or practical goal, as when one accepts a given proposition as a means towards that end. It can be an epistemic end or goal, such as looking after truth in a domain and when one takes a proposition as true, say for the purposes of a demonstration. In both cases one need not believe the proposition, and one may even believe that it is false or based on no evidence at all. Acceptance is a kind of assumption that P, or premising that P, or taking it as true for the sake of a further end. At least some presumptions, the legal ones, are acceptances in this practical sense. Can they provide a general model for presumption?

5. The legal and dialogical models

The term “presumption” has long been used in law⁷: people are presumed innocent until proven guilty, presumed dead if not seen for more than seven years, children under a certain age are presumed to have no criminal intentions, a marriage regularly celebrated is presumed valid, etc. On the usual sense of the term in law,

A presumption means a rule of law that courts and judges shall draw a particular inference from a particular fact, or from particular evidence, unless and until the truth of such inference is disproved. (Stephen, quoted by Ullman Margalit 1983: 145)

This means that a presumption is a particular kind of inference. A standard example is the following:

- (1) There is a presumption that a child born in wedlock is legitimate.
- (2) Adam (a particular child) was born in wedlock.
- (3) Adam is legitimate.

The conclusion does not follow deductively from the premises, and it can hardly be categorical like (3). It is rather

- (4) There is a presumption that Adam is legitimate

which is concluded from (1) and (2) *modulo* the premise expressing the presumption. This is clearly not an inference based on evidence, apart from the fact reported in (2). The presumption (1) is itself based on a specific legal decision, so it cannot be an ampliative inference at all. On the classical conception of this legal inference, however, evidence can be adduced, but it has to be adduced by a distinct party from the one who puts forward the presumption. The burden of proof lies “on the side of him who would dispute it” (Whately 1963 [1846]).

Ullman Margalit (1983), in her important work on presumption, proposes the following form for a presumptive inference:

Pres (P,Q) there is a presumption of Q from P.

The presumption itself is made according to a presumptive rule which says

(R) Given that P is the case, you (= the rule subject) shall proceed as if Q were true, unless or until you have (sufficient) reason to believe that Q is not the case.

⁷On the history of the notion, see Hansen *et al.* (2019).

The rule (R) allows to conclude:

Presumably (or presumptively) P.

Two features are important on this model. The first is that presumptive rules are practical rather than theoretical, and are “concerned not so much with ascertaining the facts as with proceeding on them” (Ulmann-Margalit 1983: 147). Thus, the conclusion of a presumptive inference is “to the effect that a certain fact is presumed ... [rather than] to the presumed fact” (Ulmann-Margalit 1983: 147). The second is that the force of the presumption operator is to shift the burden of proof to anyone who would reject the claim being presumed as fact. On this model presumptions serve as guides for practical deliberation in cases where an absence of information, or conflicting information, impedes the formation of a rational judgement, and where nevertheless some determination of a matter of fact must be found in order that matters proceed (Ulmann-Margalit 1983: 152). Other reasoners, not faced with the practical need of reaching a judgment, have the option of reserving their judgment, and thereby may not be bound by the presumptive rule. In this respect, presumptions are quite different from other sorts of defeasible reasoning, such as making a *prima facie* case for a claim. Because presumption rules apply in cases where there is practical need to proceed, it might seem that they can be grounded in purely prudential considerations.

The main characteristic of the legal model of presumption is that presumptions are purely stipulative. The presumption of innocence is laid down by judicial fiat in Anglo-American law, and other systems of jurisprudence may allocate the presumption differently. One may object that a number of legal presumptions are in agreement with the normal balance of probability and such that the chance of error is small. These epistemic considerations are indeed present, and they play a central role when a presumption is rebutted. If a defendant is to be proved guilty when he was presumed innocent, it is for evidential reasons. For instance it is highly probable that a man who has not been seen for seven years is dead. But on Ulmann Margalit’s view, these considerations “are neither necessary nor sufficient to justify the presumption rules relating to them” (1983: 158). They are not sufficient when there are equal grounds for a claim, for instance that the accused is innocent or guilty. They are not necessary because the presumption of innocence is granted whatever evidence one has. Ullmann Margalit also argues the second-order element that is present in presumption is a second-order *decision* (Sunstein and Ulmann-Margalit 1999). But her view that legal presumptions cannot be justified in any epistemic way is too strong if this means that no epistemic consideration is in place. Moreover the role of legal reasoning is not practical, but epistemic: legal proof is supposed to lead to knowledge.⁸ If presumption is to be the mark of acceptability and if acceptability is normative, presumption must not be a matter of fiat. We cannot simply stipulate what premises are to be acceptable. Are there other senses of “presumption”, which can be applied in situations outside formal legal proceedings, where “natural” or “rational”, as opposed to arbitrary or stipulative, presumptions may be identified? There are indeed. There is a presumption of equality which enjoins that individuals be treated equally in the absence of discriminating information, in order to satisfy some practical goal, such as justice or fairness (Rabinowicz 2011). But if we try to apply this model to other examples apart from the legal one, there is indeed no practical presumption at hand. Stanley *wants to know* whether this man is Livingstone.

⁸This was pointed to me by Alex Guererro and by Giovanni Tuzet. Tuzet (2015) argues that even the absence of evidence is not legally inert in a juridical deliberation.

Other writers following this practical reasoning model have proposed dialogical rules which are supposed to allow the epistemic evaluation of presumptions. Thus according to the dialectical theory of presumption presented by Walton (1992: 56–61), presumption is a kind of speech act in a dialogue. When a proponent in a dialogue asserts a proposition, if the respondent asks for justification, the proponent must either give an argument to justify the proposition, or she must retract the proposition. The requirement of the burden of proof here means that if you assert something, you are committed to the truth or acceptability of what you asserted. You are obliged to back it up if you are challenged. This requirement is a kind of rationality assumption that defines the nature of assertion as a speech act in dialogue. Assumption may be contrasted with assertion. You are free to assume any proposition you like in a dialogue. There is no burden of proof attached. You can assume that the moon is made of green cheese, for purposes of a discussion. Presumption, on the dialogic view, is a dialectical notion that fits in between assertion and assumption. If you presume that something is true, you don't have to prove that it is true, or offer evidence to prove it. But you do have to give it up if the other party can prove it is false. The dialectical function of a presumption is to reverse a burden of proof. This reversal is indeed epistemic in nature.

On Freeman's (2005) model, the epistemic standards are set up by a dialectical exchange, where the epistemic point of view is that of a rational adjudicator presenting a challenge. There is a presumption if the proponent has answered all the dialectical exchanges. But from a dialogical point of view, are there objective standards independent of the point of view of proponents and challengers? When is a presumption acceptable rationally? The dialogical model as such is silent. If we try to apply this to our examples, it is not clear that there is any such dialogical situation. Indeed Stanley addresses Livingstone, and he is entitled to expect the answer that he actually receives: "Yes". Indeed no one has better authority than Livingstone to assert that Stanley's presumption is correct. There could have been a dialogical situation: for instance Livingstone might have become amnesic and forgotten his name, or under the influence of a drug. Then Stanley's presumption would have had to be checked against other participants in the dialogue. But this is not the normal situation.

The notion of burden of proof used by these legal and dialogical models seems to introduce an evidential element in the justification of presumptions. But this is merely apparent. For the burden of proof is intimately tied to the notion of a measure or standard of proof that needs to be met by the proponent of a claim. In law, this standard tends to be set by legal areas, with one standard for private and one for criminal law. In the context of argumentation, it has sometimes been set to the conviction of the opponent. But as Hahn and Oaksford (2007) remark, this standard is too restrictive and too lenient: the mere conviction of the opponent fails to set an objective and reasonable standard to the burden of proof.

One might think that the legal and dialogical models of presumption conveniently make it a public speech act within a social context, and that the kind of epistemic episode that presumption involves is itself social. If this is so, presumptions resemble rules more than facts, even though the reasons one can give for presumptions in particular circumstances are factual (Petroski 2008: 398). The problem is not only that this model makes the justification of presumptions rest upon rules which are social in nature, but also which have no epistemic basis. The epistemic base of presumptions is dependent upon the rules. This may fit for legal contexts, but it cannot account for the other contexts, in particular the scientific and the perceptual ones. A presumption, even if it is not an inference or an attitude based on facts or justified by some epistemic ground, must at least have certain epistemic correctness conditions. The legal and dialogical models conflate the *correctness* of a presumption with the correctness

of the *activity* of presuming. Not only does it put all the explanatory weight on the activity of inferring, but it also conflates the justification of presumptions with their agreement to social rules.

6. Presumption as an inquiring attitude

Let us take stock. None of the models examined so far is satisfactory. Presumptions, on the most intuitive sense of the term, have certain conditions of correctness, and they at least must be susceptible of being said to be epistemically justified or not. The legal model or the dialogue model of presumption trivialize this feature, in making presuppositions depend upon rules and on agreement in dialogue. Moreover these models classify presumptions as practical attitudes and inferences. But whether or not one accepts that there can be genuine epistemic *agency* in general and in this particular case, it is certainly a defect of these models that they are not able to account for the *epistemic* nature of the activity of presuming and for the fact that presumptions can be normatively and objectively correct.

So we have to turn back to the initial intuition from which we started. Presuming, as in Stanley's example and in our other examples, is an attitude of asking a question – “Dr Livingstone I presume? – Theaetetus I presume? – Where did I last met Paul? – Is there another planet in the solar system?” It belongs to a specific class of what we might call question-raising attitudes, or, to use Friedman's (2019) apt term, of “question-directed” and “inquiring” attitudes, attitudes which one is disposed to have in the course of inquiry. Among these attitudes are doxastic ones such as: asking, wondering whether, being curious, doubting, suspending judgment, conjecturing and assuming. To doubt whether P is to raise a question about whether one ought to believe that P or disbelieve it; to suspend judgment about P is to neither believe nor disbelieve P. To conjecture that P, to suppose that p, to deliberate about P and to assume that P, to wonder that P are inquiring attitudes which raise, and tentatively answer whether P. I propose to say that presumption belongs to this family of attitudes, and is distinctive.

Although presuming is one of these inquiring attitudes, it is not reducible to any one of these. I have argued that it is not a certain kind of belief, or degree of belief. Neither is it a kind of supposition. One may suppose what is false, and also presume something false, but supposing is free in a sense in which presuming is not. One may suppose, in the imaginative sense, whatever one wants to – say that the moon is made of green cheese. But one cannot presume whatever passes through one's mind. Presumption has to be at least regulated by some connection to evidence. Presuming, however, has this in common with supposing that it puts forward a hypothesis, in the counterfactual mode:

If P were true, it would explain the observed fact Q

as an answer to the question: “Why is there the surprising fact Q?” This is what we may call, with Ullman Margalit, the *presumption raising fact*. It raises a question, to which the presumptive judgment is an attempted answer. This is actually exactly the formula of abduction. So we come back, in this sense, to the very notion which was present in the perceptual model and in the notion of abductive inference. There is, however, no reason to limit this model to the perceptual case. A presumption is any kind of assumption which can play an explanatory role. It has to rest on some evidence, but it is not an inference from evidence only. As most writers on inference to the best explanation insist, abduction and inference to the best explanation have to move *beyond* evidence.

In classifying presumption under the kind of inquiring attitudes, I consider it as a form of active cognition: asking questions, making assumptions, and putting forward presumptions are kinds of mental actions, and not epistemically passive states, such as perceivings or rememberings. They are distinctively cognitive. But perhaps the most distinctive feature of presumptions is that they are not only first-order attitudes, but that they involve a second-order stance. When one presumes that P, one makes an assumption, which one tentatively accepts as true and as potentially explaining a given fact, but which one is also ready to withdraw. Indeed the legal and dialogical models make room for this defeasibility feature, but they take it to be involved in the dialogical situation, where an opponent may rebut one's presumption. But there is no reason to consider that this feature is present only in dialogical contexts, for it can occur in personal doxastic deliberation, when one asks oneself whether one ought to believe that P. Typically in this kind of deliberation one asks a second-order question: Am I entitled to believe that P?⁹ Presuming is also a second-order attitude in this sense: one has evidence that P, and on that basis one assumes that P. But one does so only if one has a second-order evidence that one first-order evidence justifies, prospectively, this assertion. And one does not rule out that one can have higher-order evidence to the effect that one's first-order evidence is undermined. Does this make the attitude of presuming while at the same time accepting a potential defeat incoherent? The threat of incoherence is actually only apparent. It would arise if presuming were a belief or a judgment, as in the Preface paradox, where one judges that one has written a book in which figure only true beliefs, but also judges that one belief at least must be false. But presumption does not imply that one is at the same time in the attitude of judging and in the attitude of withdrawing this judgment. Nor is it a kind of suspension of judgment, where one hesitates between believing that P and disbelieving it. The presumer does not hesitate. He is in the attitude of inquiring whether P might be true for good epistemic reasons, and on the basis of this attitude he makes the assumption that P, while having also the second-order judgment that his evidence might not be sufficient to assert that P. There is no incoherence here because the discovery that one might be wrong will by definition come later. One nevertheless goes ahead and asserts "P, I presume?" This is what is involved in *prospective* cognition.¹⁰

7. Conclusion: correctness conditions

We may now try to refine the definition proposed above. I hope to have made a case for singling out presumption as a *sui generis* doxastic attitude. It is doxastic because it involves beliefs. In order to presume that P one must have a belief about some presumption raising fact, which prompts a question, as well as a second-order belief about the strength of what I have called the presumptive link and the prospect of issuing a presumption. But the presumption does not consist in these beliefs and is not a special kind of belief. It is a further mental move, which involves an assumption and an inference. A presumption is made on the basis of the evidence that one has, but it may be made irrespective of it, for the sake of a practical or of an epistemic end. So presumption turns out to be a rather complex attitude, which differs from suppositions and from acceptances. It involves a kind of cognitive action, directed at an epistemic goal: discovering and coming to know.

⁹This differs from wondering *whether P* which is answered in the first-order mode: *P*. In this sense deliberating and inquiring attitudes like presuming are not "transparent" in the sense of doxastic deliberation about whether P (Shah and Velleman 2005).

¹⁰Pryor (2018) discusses this incoherence threat, although he does not consider presumptions.

Although I cannot argue for this here, doxastic attitudes have specific correctness conditions, which are normative and which determine the status of the epistemic reasons. These conditions are themselves those which make an attitude “fitting” or appropriate.¹¹ This view, which was defended by Brentano and his followers, can be applied to presumption as a species of assumption. As I noted above, the class of assumptions for Meinong is wider than the attitude of assuming itself (Russell 1904). It includes conjectures, suppositions, imaginings, fictions, thought experiments. Presumptions could be included in the class, as assumptions in the sense of positing or taking for granted certain propositions for some further end.

The correctness condition of belief is truth (or knowledge according to some views), the correctness condition of conjectures is that it be probable that P, the correctness condition of questions is that it be questionable whether P. What is the correctness condition of a presumption? Its independence from belief makes it close to supposing and forming hypotheses, which need not be conformed to the evidence that one has. Its assumptive character makes it different from a judgment. But its correctness condition is the same: a presumption is correct or fitting if it is true or knowledge conducive. But that does not mean that there are not many ways of presuming, some of which are bold and risky, indeed *presumptuous*, others more reasonable, some successful, others not. A presumption is essentially defeasible. This defeasibility is not a condition of correctness, since a presumption is withdrawn when it is false or unsupported, but it is often a condition of success of a presumption that one can be aware of its defeasibility. Otherwise one would merely affirm a conviction. So there are, in addition to correctness, conditions of success of presumptions, which are the conditions under which one is *prima facie* entitled to assuming that they are true and ready to revise them. But these conditions are not only backward looking, so to say; they are also forward looking, and directed towards further inquiry. Specifying the conditions under which it is reasonable to presume is a matter of epistemological argument, and one can adopt various kinds of epistemologies on the basis of presumptions.¹² My concern here was not to formulate these epistemological consequences. It was just to argue that it is a distinctive epistemic attitude.¹³

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¹¹See Engel (2018), Textor (2019).

¹²Thus one may, like Levi (1996) and Rescher (2006) put presumption at the center of a pragmatist and fallibilist epistemology, or, very differently, use this notion to formulate at view of *prima facie* justification, like Pryor (2013, 2018).

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