Ladyman, Lipton, and Teller on *The Empirical Stance*

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These three commentaries challenge me to confront some new issues as well as to clarify some main points. I want to thank James Ladyman, Peter Lipton, and Paul Teller especially for leavening their critique with so much constructive exploration of how one might go about

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meeting those challenges.

Before replying directly I want to touch on something that has also come up elsewhere. Several reviewers linked *The Empirical Stance* to *The Scientific Image* and to the issue of scientific realism in general, while noting with some surprise that this hardly comes up at all in the new book. But scientific realism is not a metaphysical theory. The answer it gives to "What is science?" is a claim which does not invoke any item in the metaphysicians' cornucopia. The realist claim that science aims to produce literally true theories has as relevant contrary the constructive empiricist claim that the aim is empirical adequacy. Neither is a metaphysical

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theory.

Statements about unobservable entities, implied by our scientific theories, are not ipso facto pieces of metaphysics. "Atoms are real" has a metaphysical past, but need not have today the

status of a metaphysical statement. Acceptance of a scientific theory is compatible with agnosticism about the reality of such entities and processes, but agnosticism is by no means an extreme form of rejection.

The empiricist critique of metaphysics is nevertheless relevant there simply because scientific realism tends to be embedded in and/or supported by a good deal of metaphysics. *The Scientific Image*'s last chapter parodies the parallels with largely discredited forms of natural theology, but since then I have seen the need for more direct arguments.

I. What is a stance?

We must try to prevent spread in the meaning of "stance" of the sort that bedeviled Kuhn's "paradigm". Since I introduced "stance" in an argument (in Chapter II, to typify the sort of philosophical position that an empiricist can take now) I'll begin with the responses to that argument.

1. The argument

Both Teller and Lipton propose in effect that this argument should end with the conclusion that the empiricists' rejection of metaphysics is to be just like their rejection of scientific realism. Empiricists should express agnosticism with respect to what is postulated in metaphysical theories but acknowledge the belief in such postulates as an alternative rational choice. While appreciating the strength of their critical points, I still strongly disagree with that proffered conclusion.

The contested argument that leads us to the view that an empiricist position must be a stance and not a doctrine: I gave both a long version and a shorter one, and the two are not equivalent. The longer, initial version was meant to establish more than that 'doctrine empiricists' (to use Lipton's term) cannot rule out the metaphysics they criticize:

> If the empiricists' position consists ... in the assertion or belief of a factual thesis, then they have no way to demur from the very sort of metaphysics they typically attack .... There cannot be ... [a] factual thesis itself invulnerable to empiricist critique and simultaneously the basis for the empiricist critique of metaphysics. So either empiricism reduces to

absurdity or ... a philosophical position need not consist in holding a dogma or doctrine. (*The Empirical Stance,* p. 46)

That argument did not pertain to any specific statement that has been or could be offered as the doctrine of empiricism. Rather it specified certain roles that such a statement would have to play, and deduced from this that a doctrine empiricist would be in an untenable position.

Doctrine empiricists have, by definition, no basis for their philosophical assertions and arguments other than the belief in this doctrine. Accordingly this doctrine must imply the falsity, untenability, or meaninglessness of the sorts of metaphysical theories that empiricists reject. The difficulty is not how to formulating a doctrine that does this much, but to do so in such a way that the doctrine itself does not fall within the scope of what it thus rules out. For example, if M is a metaphysical thesis that an empiricist wishes to attack, the doctrine can be chosen in such a way as to imply not-M. Unfortunately, that makes the doctrine merely a rival metaphysical claim -- as in "There are no abstract entities". The naive empiricist is then just another metaphysician! No factual belief about the world, held in that admirably undogmatic way, will provide the basis for a radical critique of the very enterprise in which the metaphysician is engaged. The doctrine,

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whatever it be, cannot play the role that it was cast for.

So that is not satisfactory; what else is possible here? The answer is precisely that a philosophical position can be a *stance* rather than a doctrine.

Such a slogan or putative doctrine as "Experience is our sole source of information" may still

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have some significance for the empiricist, as Teller and Ladyman suggest. In my view, however, it comes along as a belief with one's commitment to empirical inquiry, but in the way of the Preface Paradox or the Reflection Principle. That is, the commitment is not based on that belief; instead there is a certain kind of pragmatic incoherence in having such a commitment

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while denying or expressing disbelief or doubt with respect to that statement.

What we will have to discuss further below is the challenge, raised by both Lipton and Teller, to the effect that stance empiricism ends up equally unable to reject the metaphysical enterprise as based entirely on a mistake, for parallel reasons.

2 What is a stance, in general?

The term "stance" with its specific use for the purpose at hand was introduced very briefly as follows in *The Empirical Stance,* p. 47:

> A philosophical position can consist in a *stance* (attitude, commitment, approach, a cluster of such -- possibly including some propositional attitudes such as beliefs as well). Such a stance can of course be expressed, and may involve or presuppose some beliefs as well, but cannot be simply equated with having beliefs or making assertions about what there is.

Examples include Arthur Fine's NOA, Sharon Crasnow's discussion of philosophical attitudes, and Arnold Burms' distinction between utilitarianism as a moral position and as a philosophical position in ethics. Examples of relevant attitudes are found in empiricist-metaphysics controversies: rejection of certain theoretical demands, satisfaction or dissatisfaction with responses to such demands.

While perhaps so brief as to be cryptic, this initial statement indicates firstly that having a stance cannot be equated with holding particular beliefs, but secondly that it can certainly involve having certain beliefs, in addition to characteristics of a different but certainly not unrelated sorts,

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such as commitment, rejection, satisfaction.

Teller explores the idea that a stance may be more or less the same as a policy, and Lipton too takes this up. This provides valuable insight into the concept; I would like to emphasize one aspect of the analogy. Two people could adopt the same policy but still differ in some of their decisions, since a policy is not usually as tight as an algorithm. This suggests, correctly as I see it, that sharing the same stance -- whether ideological, political, moral, or philosophical -- entails sharing certain attitudes, typically including certain beliefs, but allows for many relevant differences as well.

For both Teller and Lipton the focus is on what we had best call 'epistemic policies'. That may be a bit limited, and may suggest a limit to the analogy between stances and policies, as I will indicate below.

A. "Stance" and non-philosophical stances

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"Stance" is a technical term, but the choice of this word was not random.   In one literal use this English word denotes a person's *standing place* or vantage point, advantageous or even

indispensable to a certain purpose, for the possibility of its pursuit (e.g. as a mountaineering term for a ledge or foothold on which a climber can secure a belay). In another equally literal use it denotes the person's *posture*, the configuration of the body -- again, one advantageous or even indispensable to a certain purpose, such as to perform a specific athletic feat.

"Stance" may therefore be difficult to translate into another language, if that has no word with both connotations.   In addition it enjoys analogical and metaphorical extensions in the vernacular. In the most salient less than literal use (which "stance" sometimes shares with "posture") a stance is an attitude adopted in relation to a particular subject. A fairly recent BBC headline said "Mandela condemns US stance on Iraq". Other phrases found include "a pro-Palestinian stance" and "a pro-Israeli stance". The relation to the term's literal uses continues in the questions which Mandela may have been answering: "Where does the US currently stand on the issue of Iraq, and where do you stand?"

Dan Dennett's book *The Intentional Stance* (1987) surely introduced the best known previous technical use of the term in philosophical discourse. But Dennett's concern was not to characterize philosophical positions. He discusses three strategies for dealing with any system of concern to us, such as a person, an animal, or a machine. These strategies are followed when adopting toward those systems the *physical stance*, the *design stance*, and the *intentional stance*. Each of these is a strategy for prediction of behavior. Adopting such a stance or its strategy involves several steps, that -- if I understand them correctly -- centrally involve the decision to

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regard and/or treat the entity in a certain way.

Both in the ordinary but less than literal use and in Dennett's use we find that a stance, like a policy or strategy, is something one can adopt or reject. If adopted, it guides ways of dealing with one's problems though without providing algorithms: implementation involves decisions of various sorts, subject to consistency with the associated strategy.   All of this is to be retained as part of the character of "stance" also in its technical use in our present context of discussion.

B. Role and unity of a stance

Having or taking a stance consists in having or adopting a cluster of attitudes, including a number

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of propositional attitudes which will generally include some beliefs.   To adequately characterize a stance we will have to include other sorts of attitudes as well. To love something

or someone, to be contemptuous or enamored: these attitudes cannot be equated with propositional attitudes. Similarly for empiricist's dissatisfaction and the metaphysician's contentment with certain ways of raising and answering questions.

The role a stance plays must include guidance, for adjusting beliefs and other opinions, both in self-critique and in response to new experience and new ideas, as well as for adjusting the other attitudes, and decisions pertaining to action -- if only to such action as study, research, or addressing certain philosophical concerns rather than others. Therefore we must think of the

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cluster as including also *commitments* and *intentions*.

If we stop with this sort of list, we leave it quite mysterious why that cluster should constitute a single stance, a single something at all. There is unity to a stance one takes, if it is to merit the name. How shall we explain this unity?

To begin, it is clear that these various ingredients cannot be hygienically disentangled and separated. Hope and love as well as faith, not to mention fear, disdain, and detestation, all involve both opinions and evaluations and are inconceivable without them. Conversely, opinions without any emotive coloring or associated valuing attitudes may not be possible for us embodied subjects. Nor can we hygienically separate intentions and commitments from opinion or evaluation. If it simply does not make sense for me to express the intention to become a hippopotamus, that is surely because such an intention requires opinion that does not completely exclude the possibility of success.

The connections are not logical ones, strictly speaking, but are logical in a broader sense that we can locate in pragmatics as opposed to semantics. There is no logical inconsistency in the statement that Peter intends to become a hippopotamus even though he believes that he cannot succeed. That conjunction could be true, logically speaking. However, there is a pragmatic inconsistency in his stance: almost as strong as, and clearly akin to, the pragmatic inconsistency in Moore's Paradox. An assertion of form "P, and I do not believe that P" may express someone's state of opinion accurately, but in that case shows at the same time that this is not a coherent

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opinion.

Finally we must add that a stance is not a *state*: the term "stance" has its own connotations of commitment and intention: specifically, *the commitment to preserve oneself in that very stance*. There is a pragmatic inconsistency in "I am committed to doing X but not committed to

maintaining this commitment". But the stance has other ingredients, which together are meant to be a coherent whole, and for this cluster as a whole to have that status, it must involve a similar *self-regarding commitment for its own preservation*. This is crucial to the stance's having its characteristic unity.

3. What is a philosophical stance?

Appendix B, section 3 of *The Empirical Stance* relates Kant's classification of philosophies and philosophical traditions. Kant gave an explicit use to "empiricism" to classify philosophies rather than scientific methodologies, in his effort to orient us within the history of philosophy.   To

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continue this orientation Wilhelm Dilthey introduced the term *Weltanschauung*. Worldviews, as he saw it, involve three components: a 'cosmology' (more or less what we call ontology), certain values and ideals (ethical and otherwise), and "Formation of the will" -- a certain pattern of conduct, behavior, or policy for action. He described three main types: naturalism (Democritus, Hobbes), the idealism of freedom (Plato, Kant), and objective idealism (Heraclitus, Leibniz, and Hegel). Naturalism has a reductionist or materialist ontology and is pluralistic with respect to values. The idealism of freedom insists on the autonomy of the will and is dualist; objective idealism is monist.

This division may not seem by any means natural or obvious to us now. What is to the point rather is that he sees these worldviews as clusters of beliefs, values, and attitudes required to be in alignment with the holder's modes of representation, volition, and values. The idea that a philosophical tradition derives its unity from such a cluster of underlying attitudes, both cognitive and non-cognitive -- hence a basic stance -- is the point to retain. How will such a philosophical stance be manifest? Presumably in:

       -- which approaches are felt as congenial or promising,

       -- the forms of language one is willing to adopt or prefers to eschew,

       -- the metaphors and analogies that seem pertinent,

       -- the satisfaction or dissatisfaction, sympathy or antipathy, admiration or disdain felt for certain kinds of account philosophers give of subjects of one's interest.

But obviously there is something more to it, namely how one approaches those subjects of

interest oneself, in consonance with these reactions. One good example lies in such topics as modality and intensionality where empiricists turn automatically to philosophy of mind, logic, or philosophy of language, practicing e. g. 'semantic ascent'.

4. What is an empiricist stance?

Engaging in philosophy and engaging in the practice that we are philosophizing about are not at all the same. That is the point of distinguishing e. g. between a scientific realist (a philosopher) and a scientific gnostic (a true believer in current science). I want to chide my commentators a little here, as will be clear below, for I think that they sometimes conflate the two.

I suppose then that the primary use of "empirical stance", as opposed to "empiricist stance", should be to characterize the sort of epistemic policy that empiricists display as a paradigm of

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rational inquiry.   Usage of "stance"outside of philosophy confirms this. A quick search of on-line literature, for example, produced such article titles as "Making refactoring decisions in large-scale Java systems: an empirical stance", and such quotable passages (in other articles) as "Counselors should be driven by curiosity, collaboration and openness.   Routine evaluation allows us to have an empirical stance which is an exact copy of the stance in the counseling relationship."   These do not refer to philosophical positions, however much they delight the empiricist philosopher to see.

Teller and Lipton focus on those aspects of the empirical stance that relate to belief and opinion. Teller's suggestion that we should here address what could be a policy, to be implemented in the

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forming and managing of opinion, has thus immediate merit.   With respect to this question, Teller has done yeoman's work, and has come up with a guide that I have already seen a number of our colleagues take to heart.   It also echoes my repeated insistence that (for the empiricist) the empirical sciences are a paradigm of rational inquiry. That slogan expresses first of all a central, perhaps the main, attitude integral to empiricist epistemologies, and it trades implicitly on an assertion to the effect that the practice of the empirical sciences instantiates an epistemic policy to be admired and emulated.

But I want to make two points here to place this in a larger context. First of all, as the foregoing should already have signaled, we should expect there to be a good deal more than this to an

empiricist philosophical position. Not all of it will be encapsulated in the advocacy of a certain (type of) epistemic policy. There are attitudes logically independent, perhaps even unrelated, to whatever such advocacy betokens.

Secondly, we need to make a distinction here between an *epistemological position* and an *epistemic policy*. The person who best exemplifies the form of rational inquiry of the empirical sciences is the empirical scientist -- who may of course not be a philosopher, or philosophical, at all. That there are different possible epistemic policies, and that they are subject to choice, is part of Lipton's clear and concise statement of what the voluntarist asserts: " Once we satisfy the constraint of consistency, what and how much we believe is a matter for decision, a question of the stance we choose to adopt."

 The empiricist philosopher will express certain views, value judgements, and other attitudes about such a practice, but may not be engaged in it at all. But while an empiricist philosopher will have a characteristic epistemological stance, that is not at all the same as having an epistemic stance. The most concise way to indicate the empiricist tradition's tendencies in epistemology is once again to point to the sorts of metaphysics it rejects. To manage one's opinion on the basis that it is incumbent on the intelligent, reflective person to have answers to formulable 'why' questions, even if that can only be through purely speculative assertion, or postulates called for to fill the gaps explicitly created by those questions -- that the empiricist views with disdain. This is obviously not unconnected with disdain for the metaphysical contraptions constructed in response to such 'why' questions. But the coin's other side should be equally obvious: if interested in factual question raising and answering, betake thee to an observatory!

II. Metaphysics

Ladyman begins by confronting the first chapter's critique of analytic metaphysics, and raises specifically the question of the value of metaphysics within philosophy of science. As Ladyman points out, in *Quantum Mechanics: an Empiricist View* I adopted a fairly conciliatory tone. Clearly I must walk a fine line here, for I do from time to time join the metaphysicians in their enterprise. But I do so under two very different headings, and there is the rub!   Firstly it may take some immersion to show that certain metaphysical accounts are unsuccessful even by their own lights. It helps to show that these metaphysical solutions to philosophical problems don't work. Secondly, metaphysical theorizing may be verbally identical to *interpretation* of a

scientific theory. Briefly, the interpretation of a theory targets *how nature is represented in that theory*, while the metaphysician targets (or purports to target) the nature that the theory

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represents.

Whether or not a theory admits a viable interpretation is a real question, in the context of what I take an interpretation to be (as Ladyman also notes). In that context we take an interpretation to be an answer to the following question "How could the world possibly be the way this theory says it is?" That question in turn has several presuppositions, and for now at least I take those

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presuppositions to be correct in the case of even the advancing edge of physics.   Note, however, that the way the question is phrased allows for many equally good, alternative answers, which cannot be consistently conjoined. In that way it is precisely different from the question "What is the world like?"   It is a request for interpretation, not for factual information.

But Ladyman then wonders why the empiricist should not advocate metaphysical theorising as valuable theoretical activity. I'm not sure I can see where we differ here. If the phenomenology of scientific theorizing bears this resemblance to that of metaphysical speculation, we'll not disdain it for that reason. If in addition the latter has great heuristic and inspirational value, let's encourage scientists to so far forget themselves as to constantly engage in it. That will not erase the difference between the two enterprises.

Ladyman notes the difference that I do see between the two: "In his [van Fraassen's] view, it is the lack of any prospect of empirical testing that ought to offend us, for although it is easy enough to construct logically consistent additions to empirical science, we ought to remember that we have no reason to believe them." Precisely: only if a theory has empirical import it is subject to test, whether deliberately by us or spontaneously by nature taking a hand; and then much is at stake for us.

When interpreting scientific theories we see much careful attention to the empirical aspect, and the relationship of the empirically superfluous parameters introduced to the observable phenomena. That is why the Cartesian theory of vortices should receive considerably more respect -- I'll say the same about Bohm's particles -- than e.g. Peter van Inwagen or David Lewis' mereological atoms. Mere observance of correct logical form does not make a theory genuinely valuable: in Tom Stoppard's phrase, it can be coherent nonsense.

Ladyman's critique is many-barreled. One challenge which I am not rising to here at all, but take

very seriously indeed, concerns the manifest image. How does an empiricist's resistance to metaphysical speculation relate to our everyday flowery language about intentions, actions, character, manipulation by hand or by emotional expression? I have twice taken this on, but will

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here just acknowledge it as serious and still inadequately answered.

III. Voluntarism

My commentators are entirely right to see voluntarism in epistemology as central to the variety of empiricism that I advocate. I am glad indeed to see Lipton's explicit agreement here and to count him as a much valued ally; noting however that his closing words reveal some uneasiness that I have to share.

Initial support for a voluntarist position in epistemology comes from the continuing and by now boringly repetitive failures of the idea of Induction and similar rule-governed concepts of rational opinion and its management. There is some positive support as well from our everyday and scientific practice. We do after all tend to see ourselves as exercising some choice and judgement in what we admit as evidence, to what sources we allocate some credence, and how we make up our minds to believe or disbelieve after we have appreciated the evidence. We can go further than this, as Lipton makes clear. Both the Kuhn texts he cites and his own arguments furnish

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strong support for voluntarism in epistemology.

A. Ladyman's challenge: counterinductive strategies

Ladyman asks how a voluntarist can rule out counterinductive strategies as irrational. To understand the question we would have to know what the correct Inductive strategy is. Presumably counterinductive strategies consist in rules, or practices governed by rules, which are contrary to the rules of Induction. But all philosophical attempts to spell out what Induction is have failed. If there is no Induction, then there are not literally any counter-inductive rules or practices.

Let me make a verbal distinction: let "induction" refer to the practice of forming opinions that go beyond our evidence, and let "Induction" stand for the putative recipe or rules that spell out a consequence relation that goes beyond logical consequence, and delimits the precise conclusions

one must believe (and believe no more than) on the basis of given evidence, on pain of irrationality. The former is something we all do, and includes both rank superstition and responsible scientific theorizing. But is there such a thing as Induction? It seems to me that it was one of those things that was baptized before it was born -- and we are enjoined to still look forward to its coming.

But Ladyman may now see me as in a worse spot still. If there is no such thing as Induction, does that not mean that just anything goes? His examples rightly emphasize the hilarious consequences for a practicing skeptic:

> How can I make sense of myself as a moral agent without basing my beliefs about the consequences of my actions on inductive reasoning. Anyone who defended shooting someone in the head to alleviate a migraine would be mad.

What is the criterion of madness? Not factual error, presumably. But anyone among us who defended such a thing would be mad. Here, "among us" refers to us who share a great deal of relevant opinion with Ladyman.

I submit that the putative examples of counterinductive strategies trade, not on any general understanding of what Induction is, but on our common shared beliefs. As far as I can see there is no coherent body of opinion in which shooting alleviates migraine -- at least none that we can get to by any imaginable assimilation of information -- that we would not currently assign zero probability on any scenario that we do not classify as absurd.

Ladyman is well acquainted with this sort of response to such an objection, and counters immediately with "The problem is that this can only be a sociological matter for van Fraassen." The reference to *us* is certainly to a historical community of minds. But the greater point is that any discussion of epistemic rationality should begin with the acknowledgement that we can only go on from where we are. At any point we have a certain body of opinion; we can launch a critique of where we see ourselves as being now. Alternatively we can momentarily take that body of opinion as what is precisely ours, so that experience is to be assimilated by straightforward updating. What we cannot do is justify our so taking it, except perhaps relative to parts of our own prior opinion -- or, in dialogue, of an interlocutor's opinion.

The challenge for voluntarism at this point, as is also made quite clear by Ladyman's misgivings, is to develop an acceptable account of what is to be classified as rational epistemic living, without eliminating the degree of arbitrariness that is admitted with free choice. Let us go about this step by step, starting with the most extreme form of which an intelligent reasoner could be accused,

and then go on to specify lesser charges.

My own starting point insists on an element of self-reference in any standards to be applied. Self-sabotage by one's own lights, that is the defining hallmark for the strictest sense of irrationality. If someone's own lights are weak, not much counts as self-sabotage by his or her own lights -- I admit that. To be irrational in the strictest sense you must be quite intelligent yet in dire need of cognitive therapy. For the lesser endowed, or less erring, we are free to offer further evaluative judgements, *by our own lights*. If you think that you can alleviate your migraine with a bullet, I'll say that you are mad. But name-calling aside, I'll leave open both the possibility that you yourself are able to appreciate some resulting incoherence in your opinion, or that you are merely so drastically mistaken according to my opinion as to seem mad to me. I do not classify you automatically as strictly speaking irrational on the basis of your medical beliefs alone -- but is

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that much of an objection?

There is an obvious new question here: what resources are to be admitted by all epistemic agents

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for evaluation of rationality? What if I detect a straightforward contradiction in someone's beliefs, conclude that he has sabotaged himself in the management of his opinion, and he turns out to be Graham Priest? Priest happily admits to believing that certain contradictions are or may be true. Another equally disturbing scenario has the accused pleading that he is not Priest but has very different aims and values to pursue in his opinion management -- certainly not the aim of tracking the truth or to be well calibrated.

In the case of Graham Priest I am actually mistaken to think that I have detected an inconsistency in his beliefs. In the second example I am mistaken to think that the inconsistency detected is in the beliefs. The latter may be more obvious: whatever it is that this person has (and that I took for opinion), *it is not opinion* if it is not being managed with the basic aim of tracking the truth. Priest's case is subtler, but straightforward from the point of view about logic that I hold, namely that one's logic is a structural aspect of one's language. The language of which Priest's LP ('logic of paradox') is the logic is not the language of which classical propositional calculus is the logic. It is indeed up to him to fashion, create, or choose a language quite different from the one

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most familiar to us.

This may indeed make it difficult -- or under certain conditions even impossible -- to find out

whether that person with egregious medical opinions is or is not irrational in that strict sense. A scientific realist should be the last person to see this as an objection. Much is true that we can only glimpse through a glass darkly. I do not see any reason to doubt that some people are irrational in this strict sense and some not, regardless of how scanty my evidence may have to remain on that score. But it is also possible to have relevant evidence. In this particular case, natural selection may give us a good clue. Someone whose language is not well adapted to the expression of empirically adequate scientific theories, for example, may be ready prey for those linguistically better endowed.

B. The challenge concerning toleration

Lipton writes:

> If, as van Fraassen maintains, empiricists are committed to a principle of tolerance that entails that if they admit one metaphysical claim then they must take seriously other metaphysical claims as well, then it is difficult to see how they can foreswear the analogous principle for stances. Having taken their stance, they are not in a position simply to dismiss all other stances.

In fact, I do not think that this parallel critique can get off the ground. What I called the third characteristic of empiricism:

> (c) As in science, so in philosophy: disagreement with any admissible factual hypothesis is admissible

does not derive from a general attitude or notion of tolerance. It pertains quite narrowly to factual truth and error. Consider Thales' belief that the Earth is flat. That does not put Thales beyond either the scientific or empiricist pale. Today we classify this belief as a factual error; but that is no great fault. If one of our contemporaries were to express such a belief, we would marshal all sorts of other criticisms; but clearly, given Thales' example, those criticisms would not be based simply on the content of that belief.

What I have just expressed here is the empiricist tradition's adherence to this principle of tolerance concerning factual statements, that they are at worst factual errors -- they all have an initial right to life. What is the basis for this? It has nothing to do, as far as I can see, with toleration in general. First of all we see empiricists here following as usual the example of their venerated empirical sciences (as they conceive of them). A deeper reason, though presumably not unconnected, is a profound sense -- typical of the empiricist tradition -- of utter contingency

in nature. It is the sense that finds expression in their rejection of any and all rationalist groping for natural necessities (let alone informative a priori truths).

Certainly the content of a particular empiricist's philosophical stance must be precisely what characterizes his/her position. Thus it must entail the relevant beliefs (for example, that there are no laws of nature), bring along other attitudes (for example, disdain for explanation by postulate of universals or occult powers), including the 'tolerance' that admits as significant any direct contrary of any statement that is admitted as significant.

To take a stance is however, *ipso facto*, to rule out all competitors as stances for oneself. I suppose that is tautological, so that is not what Lipton means to deny. Rather, he supposes that the 'tolerance' in question must be something like the following parallel:

> (i) all direct contraries to any empirical hypothesis are legitimate empirical hypotheses themselves, hence not to be ruled out by the philosophical position;

> (ii) all direct contraries to any attitude recognized as admissible by the empiricist are also to be recognized as admissible, hence not to be ruled out by the philosophical position.

But I do not see (ii) as in any way involved in the empiricist tradition. Quite the contrary: a point well illustrated by Feyerabend on the subject of the difference between the crank and the creative scientist, within scientific activity itself (see *The Empirical Stance*, p. 48). This does not imply that a non-empiricist, or a metaphysician is a crank. It simply illustrates that the rejection of something as non-scientific does not rest on a classification of statements but expresses an attitude, or more specifically a commitment, which rules out as non-scientific certain other attitudes or approaches that do not instantiate such a commitment.

Lipton suggested in correspondence that there is here another part of the empiricist tradition -- like the psychologism and foundationalism that tended to defeat earlier forms -- to be rejected when we ask what empiricism can be now: "The empiricist got herself into trouble by trying to rule out metaphysics in the strong sense of showing it to be irrational, an attempt born of anti-voluntarist sentiment." This suggests that voluntarism must bring with it abandoning any attempt to refute metaphysics. The advisable, nay mandated, course will be just to show that metaphysics is not to be preferred, although it is to be respected under the heading of a principle of stance tolerance, just as respect for an alternative factual belief or doctrine follows from a principle of doctrine tolerance.

But does the voluntarism I advocate in epistemology imply 'stance tolerance'? Here the distinction between an *epistemological position* and an *epistemic policy* is relevant.

Epistemological s voluntarism implies that there are rationally permissible epistemic policies that allow for a significant measure of choice in the assessment of evidence and/or the updating in response to what is accepted as evidence. The Lockean metaphor, that (rational) opinion is to be proportionate to the evidence, has a presupposition of uniqueness in the measure of proportionateness which is denied here.

Are there stronger forms of voluntarism, with a wider reach than the above, in epistemology? Certainly; and Carnap's principle of tolerance with respect to the choice of language (presumably, of conceptual resources in general, for mobilizing when theories are created) is a very good example. I see such a choice as similar to the choice to believe or not when evidence is not compelling either way: it is a matter of courageously or foolheartedly sticking one's neck out. The chosen resources may be too meagre; or they may bring 'riches' of a sort that were said to lead the Irish elk to extinction; or be just adequate.

But in none of this do I see implied a general principle of tolerance. Specifically I do not see this as opening up the door to the sort of enterprise we witness in analytic ontology today, where it is not even attempted to make the case *either* that the 'theories' offered are indeed contentful factual claims rather than things that have the grammatical and logical form of such claims, *or* that the enterprise is ratifiable in terms of the values and probabilities of its possible gains.

IV. Objectifying inquiry

Concerning Lecture Five, Ladyman argues persuasively that the sympathies and affinities, antipathies and disparities, between science and secularism, religion and the empirical stance can be read quite differently from how I depict them. He presents without dispute the way I describe scientific inquiry: it takes us personally out of the picture ('objective distancing'), it adopts value-neutrality ('objective neutralisation'), and it approaches the study of its phenomena in the spirit of 'objectifying inquiry'.[22]   The question he raises concerns my association of scientific realism with secularism, and the implication which he sees there that the secular think that science gives us a complete worldview. To that implication he objects: "Someone who believes that giving a theoretical account of the unobservable world is the aim of science, may also consistently believe that there are domains of inquiry to which the methods of science are inappropriate."

In fact I thoroughly agree with this, but I would emphasize the "may". I realize very well that there are no clear borders here, and I tried to describe the affinities I see very carefully so as not to imply that there are. What I do think is that at or near the center of the cluster of attributes that go into secularism is the view of objectifying inquiry (as typified by the empirical sciences) as in principle not only the sole accurate way of learning anything but also completely sufficient. This view tends to be codified in such rhetorical dismissals as "What else is there to know?"

It is not easy to dispute readings of such a cluster concept, but I think that on the one hand the founders and evangelists of the 'secular societies' in the 19th century, and on the other hand many

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of those who have enjoyed an exclusively secular education in the West, would assent to this. Yet before I am accused of not being able to tell the difference between *secular* and *philistine*, let me note the guarded and cautious way in which I mean to say this: " The line between the religious and the secular is blurred in aesthetic and moral thinking, in philosophies of life, and in non-theistic religions. The idea, that the objectifying study proper to scientific inquiry may by no

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means suffice as total guide to life, is not exclusively religious."

Of course there is also a deeper issue, not so easily dismissed. As Ladyman puts it, "The world of the empiricist, with its brute regularities and the endless concatenation of unconnected events, is surely so thoroughly disenchanted as to appeal to the secularist." That may be a bit harsh, given again the quite extensive philosophical variety to be discerned among the secular. But it is certainly the view of nature of Antoine Roquentin, Sartre's protagonist in *La Nausée*. That view is not logically unconnected with the atheistic form of existentialism Sartre gave us, nor with the empiricism with reference to the sciences that Sartre expressed in the discussion period after his

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"Existentialism is a Humanism" lecture.   This view is sometimes caricatured as the philosophical version of "it's just one damn thing after another". (Precede that by "there are no laws of nature, no unobservable causes, no ..." and it will sound uncommonly apt ....). Well, we can equally well say "it's just one blessed thing after another". I have written more about this

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elsewhere, so will leave the topic for now with these I fear all too cryptic remarks.

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I also want to thank Ric Otte and especially Bradley Monton for extensive comments, to which I am indebted throughout.

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Concerning claims of this sort see my "Gideon Rosen on constructive empiricism".

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Could we so narrow and massage the words and structure of such a slogan as "Experience is our sole source of information" as to provide it with some definite factual content? Certainly; and then the result is of course the sort of thing someone might believe.   But then it cannot also be the basis for empiricist critique of metaphysics, either because it does not reach far enough (giving information only of an empirical sort, e.g. in cognitive psychology) or because it rules itself out at the same time. See my "Against naturalized empiricism".

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Thus Ladyman rightly observes " Principle zero is false, if taking a stance is part of a philosophical position and there is anything more to taking a stance than believing in a core doctrine, but even if this is conceded it may still be argued that believing some X+ is at least a necessary condition for adopting a stance even if it is not sufficient."

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See pages 324-325 of my "Against Transcendental Empiricism".

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See *The Empirical Stance* p. 62, for example, for the way beliefs too are involved in a stance.

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 For what follows I draw for evidence on several subheadings in the OED.

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In reporting on this I am careful not to identify the stance and its characteristic strategy; I am not sure that he does, but even if he does not they are extremely closely associated.

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In the terminology that Russell introduced in his *Lectures on Logical Atomism*, beliefs as well as desires, doubts, and quite a few other things are classified as *propositional attitudes*. This name derives from the grammatical analysis of corresponding sentences: "I believe that snow is white" is parsed as "I + believe + that snow is white". Such a sentence is then assigned the logical form 'Binary relational predicate (subject, object)', and the object place is occupied by a singular term formed from a sentence. But the term also signals an analysis of content. Does having beliefs, desires, doubts really consist in bearing certain relations to propositions? The word "attitude" carries additionally the suggestion that the relation in question consists in or is a proper analogical extension of the one found in "I like spinach, detest lettuce, am satisfied with the menu". At this point the 'propositional attitude' analysis of content seems to become positively misleading. I do not fear a proposition; presumably the analysis is intended to take the form "I fear that X if and only if I fear* the proposition *that X*". But the new verb "fear*" has no meaning except what it derives from this equation, and so we certainly do not have an explanation or

illumination here of what it is to fear consequences. I want to thank Herman Philipse here for valuable comments.

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At a certain level of detail I insist on the expression of opinion as sharing the status of an expression of intention; this is part of the rationale for the Reflection Principle for subjective probability.

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It is not easy to accommodate this insight into our epistemology; I have attempted to do so in "Belief and the will" and "Belief and the problem of Ulysses and the Sirens", but this is not a finished project.

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Dilthey, "Die Typen der Weltanschauung und ihre Ausbildung in den metaphysischen Systemen"; see also Kluback and Weinbaum.

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I may be chided then for naming the book as I did rather than "The Empiricist Stance". I am sure the reader can defend my actual choice here as well as I can.

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As Bradley Monton pointed out to me, one important disanalogy is that one is generally less committed to a policy than a stance. A stance seems more encompassing, whereas policies are usually more explicit, more specific, and more detailed.

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See further the last part of my ""On McMullin's Appreciation of Realism Concerning the Sciences", *Philosophy of Science* 70 (2003), 479-492.

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I am using "the world" lightly here, should perhaps replace it by "nature". That the world exists is not one of the presuppositions that I am endorsing here. I should add that what I just said could be given a naive 'representationalist' reading from which I would also wish to distance myself.

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See my "Armstrong, Cartwright, and Earman on *Laws and Symmetry*" on the subject of causation, and also my ""The Manifest Image and the Scientific Image".

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I hope to have wanted to have an epistemology that is at once voluntarist and probabilist. Discussions of voluntarism are most naturally framed in the terms of more traditional epistemology, terms that are much harder for the probabilist to understand or explain than seems to be generally recognized.

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There are paradoxes in this neighborhood. I relate these to the Reflection principle for subjective probability and to pragmatic tautologies in the theory of language; for some additional reflections on the former see my "The Day of the Dolphins".

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This is in effect the point at which Ladyman raises the question of "what van Fraassen considers to be

the source of the absolute status of classical logic and the probability calculus, given his insistence that everything else in epistemology depends upon the values of the inquiring individual or community." As I will make clear here, I do not actually think that "classical logic is a sine qua non of rationality", as Ladyman takes me to do.

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For this point of view, cf. my *Formal Semantics and Logic*, or, more easily the much more recent Beall and van Fraassen, *Possibilities and Paradox: An Introduction to Modal and Many-Valued Logic.*

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This last characteristic is not aptly characterized by his "as if the existence and concerns of human beings were irrelevant"; but that does not play a role in his argument.

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See note 18 to page 177 of *The Empirical Stance*, concerning the 19th century origin of contemporary secularism.

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The Empirical Stance, p. 174.

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That discussion is unfortunately omitted from most English translations.

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See my "The world of empiricism".