

The Tyranny of Belief¹

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There is a very nice passage in *Words and Objections* where Quine argues that existence is a theoretical notion.² It is anchored to reality by medium-sized material objects close at hand : in order to prove existence at this point, you can't beat Dr. Johnson's kicking of the stone. But, through a process of analogy and inference, you soon start to generalize. You generalize over the temporal dimension. Objects that you remember to be there in the past are said to exist. You generalize over the spatial dimension. Objects that are far away and that you only see hazily are said to exist. Sometimes they are so far away that you can't see them, but you trust the report of trustworthy witnesses. Sometimes they are objects that are too far to be seen, even by witnesses, unless aided by telescopes — which you then trust. They may be objects that are too far to be seen at all, even with the most powerful telescopes, but at which you can get by long chains of inferences. You generalize over the size dimension. Objects that are very small are said to exist. You may use microscopes but some of them are too small even for that and you depend once more on long chains of inferences. Others, like our galaxy, are simply too large, and again you rely on inference and analogy. You generalize over the very sensibility of the objects. You get to thoughts, yours and others, that are immaterial yet still tied up to what is material. You get to gods, and devils, that are conceived in the image of material things and that can interact with those things; and, sometimes, even materialize. And, with mathematics, you get to abstract entities that sometimes have no

- 1 This paper is a preliminary version of a chapter of a book I am writing on logic and philosophy. It was presented in this form in July 1990 at the conference « Racionalidad Epistémica » organized by the Sociedad Filosófica Ibero Americana in Campinas.
- 2 In the reply to Smart, p. 292. See also *Word and Object*, pp. 3-5.

relationship whatsoever (unless genetic) to material, sensible, things; though sometimes they are also conceived in the image of material things — forms, shapes, pluralities, *etc.* Your notion of existence has become truly theoretical, tied up to your entire conceptual scheme. At this point, as Quine says, you can even make sense of pulling up your anchor and deny the existence of the stones over which you trip.³ This is a very enlightening conception.

I want to say something similar about knowledge and belief. Your anchor in this case is gut belief; animal faith, as Santayana calls it.⁴ You have gut belief in the stone that you avoid : in the prey that you hunt; in the beast that preys on you : in the water you drink; in the others you hunt with. This gut belief carries its own justification with it, and, since it's mostly true, it is knowledge of sorts; gut knowledge. It is the starting point of all knowledge. Again you generalize in all directions. There is that river where you drank yesterday, and you remember where it is. And so you know that it is there and that you drank from it.

At some point you start arguing to convince other people of your knowledge, and of your belief. And you get more and more sophisticated, and you want knock-down arguments for your beliefs and against those beliefs that you don't share. And you want to make sure that they really are knock-down arguments, because by now a certain confusion has set in. And you begin to try to understand what makes an argument knock-down. You want to protect your beliefs against those other believers — and to knock-down their unwanted beliefs. And so you get to logic, and science, and philosophy, and religion. And your knowledge has become theoretical, tied up to your whole conceptual scheme.

But you still have your gut beliefs : your animal faith. How else are you going to avoid that stone in your path ? How else are you going to live ? Gut belief, and gut knowledge, are part of those mechanisms of survival that keep us here as a species, and as individuals, and we share them with our fellow

3 This is what Quine says (*Words and Objections*, p. 292) :

« The expressions 'real', 'exist', 'there is', first come to make sense to us through our observing their commonest uses. So do pronouns, the prototypes of bound variables. The paradigmatic objects of reference of all these devices are, I suggest, visible, tangible bodies. If certain speakers have learned these expressions only from such applications, and then somebody proceeds forthwith to deny the reality or existence of bodies, those speakers will find the denial puzzling or absurd. Someone can, on the other hand, intelligibly shift his attributions of existence a little at a time. First he adds bodies which are invisible and intangible only because we are not sensitive enough. At length a systematic usage of the existential idioms thus develops which we find manageable by dint more of system and analogy than of visibility and tangibility. When we have reached that point, we can begin even to understand the denial of existence of visible, tangible things. »

4 In *Scepticism and Animal Faith*. Says Santayana (*The Philosophy of Santayana*, p. 403) :

« That such external things exist, that I exist myself, and lie more or less prosperously in the midst of them, is a faith not founded on reason but precipitated in action, in that intent, which is virtual action, involved in perception. »

species and fellow individuals. And their beliefs, the beliefs of those « lowly » creatures, can get pretty sophisticated too. When I throw her ring up in the air, my dog Bogey expects it to fall in exactly the right place. When I go out for a walk with my dog Sussie, she knows where all the dogs in the neighborhood are and strains at her leash in anticipation.⁵ When a male chimpanzee leader is defeated by mother male, sometimes with the help of others, he knows, even though he may not even be wounded, that he is leader no more.⁶

What is curious, however, is that we keep our gut beliefs even in the most abstract reaches of knowledge. Some do not believe in molecules, or atoms, or elementary particles, or quarks, because they can't see them and kick them around. Some do not believe in gods because they can't see them and be kicked around by them. Some do not believe in abstract entities because they can't feel them in any way. How many times have you been asked, if you have defended a platonic view in philosophy, where *are* these entities ? (In a platonic heaven ? Ha ! Ha !) How can you possibly *know* about them ? (With the eyes of the mind ? Ha ! Ha !) Don't be silly, they say, coming to us with such fairy tales. Go join a cult ! And the funny thing is, you often do.

You sublimate your theoretical beliefs into faiths. You hang on to accounts of revelations and of prophets. Religious prophets, philosophical prophets, mathematical prophets. What did d'Alembert say to his fellow mathematicians ? Go forward that faith will come to you ! What do religious leaders say to their flock ? The same thing — but in their case there is more justification. You have to have *faith* in Reality, or in Mind, or in the Absolute. And you ridicule those that don't share in your faith. (They didn't see the light !) You condemn, and are condemned, to obscurantism and the eternal flames. You are ridiculed. (Poor devil, he went to India searching for a guru and his guru

5 This is what J.J. Gibson says about the likes of Bogey and Sussie in *The Senses Considered as Perceptual Systems*, p. 280 :

« The apprehension over time of the motion of an object, one might suppose, has nothing in common with the learning that may occur in the event sequences described above. The motion, we say, is simply perceived; remembering and expecting do not come into it. A kitten perceives the course of a rolling ball, an outfielder perceives the trajectory of a batted ball, and that is all there is to it. Nevertheless, in a sense, the kitten and the ballplayer expect the ball to continue in a predictable path, and that is why they can both start out on a dead run to intercept it. This foreseeing is much like ordinary seeing, and not much like Tolman's expectancies, for it depends on a continuous flow of stimulation. But the two kinds of situations do have something in common. The unbroken continuation of the optical motion is a consequence of the invariant laws of inertia and gravity in physics. The ball continues in a straight line, or a trajectory, because of Newton's laws. The invariant is implicit in the motion. Both the kitten and the ballplayer may have to practice and learn in order to detect it accurately, but in a certain sense what they are learning is to perceive the laws of motion. »

Good old Bogey, she's on to Newton, no less. (Sussie, by the way, is Freddie's grandmother)

6 See J. Goodall's marvellous books *In the Shadow of Man*, Chapter 10, and *The Chimpanzees of Gombe*, Chapter 15.

died in the middle of breaking his ego. Ha ! Ha !) This creates a good deal of anguish; and doubt. You may appeal to self-flagellation, you may pray, you may despise, you may keep to the fold. But since you are not ready to bow to your animal nature, you don't want your faith to be animal faith. So you start doing some fancy epistemological footwork. It is part of the sublimation process.

In the name of rationality we emulate the bigots of all kinds and become philosophical bigots. We may set up sects, or join them, seeking the company of those like us and rejecting the company of the others. (So that they won't poison our minds ?) We don't let them into our departments; or have a token representative of them to bow to the free minds of our students and to show that we aren't really bigots. (Poor students, they get taken in by all sorts of mumbo-jumbo, we say; they'll come out of it.) How many snide remarks have you heard or uttered against a system you don't like ? And you, the pillar of reason, don't even have the slightest idea of what you are talking about, most of the time, when you utter these remarks.⁷ We often have been taught to be philosophical bigots by honest, enlightened teachers. And when our turn comes, we pass it on. We straight-jacket our students to like us and to despise the others.

In order to avoid this kind of philosophical bigotry, we may become broad-minded; historians, maybe. We run over the whole history of philosophy (or of aspects of it) showing the pros and cons of every system, but we stay out of it. We are a fancy club of butterfly collectors, beautiful and ugly. We don't have an opinion; or, if we do, it doesn't matter. Or we may see ourselves as meta-philosophers, or meta-scientists, or some other kind of meta. We become incredibly erudite and can cite chapter and verse in a flash. In a word, we become parasites. No wonder we are despised by real philosophers and scientists alike. And sometimes we are taken to task. Who are you to come and tell me about mathematics, or physics, or religion, or whatever ? Do you become more erudite and fill up our papers with formulas, the more complicated the better. We'll show them.⁸

7 See the section « The Strange Case of Astrology » in Feyerabend's *Science in a Free Society*. If you want to figure out how bigoted and square you are, go read this book several times over. It's much cheaper than an analyst.

8 Thus, in the philosophy of science, papers are getting more and more technical and becoming almost part of the sciences being discussed. There is nothing wrong with this if the technical details really matter and if they cannot be replaced by simple examples. But one often gets the feeling that the writer has to display a certain amount of technical virtuosity in order to establish his scientific credentials and, therefore, his *right* to discuss problems in that science. Some scientists and mathematicians have not helped much either, sometimes dismissing philosophical works not in virtue of some intrinsic lack of value but with the excuse that they don't discuss complicated examples. One sees, however, that when scientists and mathematicians do philosophy, and they can do it very well, they don't use complicated technical machinery. Why ? Because they are usually rather famous people who are quite done establishing their scientific credentials.

Or else we may become doubters. You can be a nice doubter or you can be a nasty one. The nice doubters may be philosophers, areligious men and women, dadaists. They may poke some fun at their fellow humans but, basically, they respect them and they respect their beliefs. The nasty doubters are rather frustrated people who would very much like to believe but can't. So, since they want, but can't, they have to destroy. But even if you are not nasty, there may still be a certain air of superiority against those who forcefully believe something, or those who found the faith. (They'll come out of it, sometime.) This kind of doubting has a way of leading to the earlier « broad-minded » conceptions of philosophy; we seek « philosophy » somewhere else. But many of our students, and others, can recognize a real philosopher when they see one. And they go for faith and incredible jargon. Or they read about Cosmology and Quantum Physics; the Big Bang, Black Holes, Chaos, Indeterminism, Realism, the Anthropic Principle. It blows their minds. But who are these physicists to talk so nonchalantly about philosophy, we ask ? (They are so naive, poor fellows. Ha ! Ha !) I'll tell you who they are. They are the pre-socratics of the Twentieth Century, that's who. And the biologists, and the psychologists (the ones uncontaminated by a certain philosophical *savoir faire*), and all the others. And there are also the philosophers who do philosophy as such, of course. But the doubting can also lead to skepticism.

Skeptic philosophers are, on the whole, nice doubters : from Pyrrho, to Carnap. Thus Carnap's Principle of Tolerance.⁹ They agree to disagree with everything and everyone, but they often feel bad because when they go out for a walk, animal faith takes over. They get stuck with their gut beliefs, and they don't know what to do about them. And even when they consider that the object of all these gut beliefs may, perhaps, be an illusion, they have a hard time following through. They try to deny their humanity, their obvious animal nature; they achieve feats of will-power; they consider shutting up.¹⁰

9 In « Empiricism, Semantics, and Ontology », p. 40 :

« Let us grant to those who work in any special field of investigation the freedom to use any form of expression which seems useful to them; the work in the field will sooner or later lead to the elimination of those forms which have no useful function. *Let us be cautious in making assertions and critical in examining them, but tolerant in permitting linguistic forms.* »

Since linguistic forms are conceived as possibly involving a whole concept of the world, this allows almost anything. »

10 Thus the well-known story about Pyrrho, told by Diogenes Laertius (Long and Sedley *The Hellenistic Philosophers* 1, p. 14 C) :

« When he was once scared by a dog that set on him, he responded to criticism by saying that it was difficult to strip oneself completely of being human; but one could struggle against circumstances, by means of actions in the first instance, and if they were not successful, by means of reason. When a wound he had was treated with desinfectants, surgery and cautery, it is said that he didn't even frown. »

In « Empiricism, Semantics, and Ontology », Carnap makes a fundamental distinction between internal questions — yes/no questions that are answered within a linguistic framework — and external questions that are not answered by means of a given framework but are non-cognitive questions concerning the *choice* of linguistic frameworks. In his

We not only have theoretical knowledge, but also theoretical belief. A lot of the time our reasons and justifications are so balanced, that we can't, in all honesty, presume to know. We believe. But we believe with our heads and not with our guts. We are aware of the pros and cons; we know that other arguments are just as good as ours; that our justifications are too partial; that we don't have good answers to many good questions — and, often, that we don't have good answers to bad questions either. So, we don't presume to know, but we may presume theoretical belief.

Does this mean that we must have some sort of faith, nevertheless? Or that we must be tortured nominalists, or platonists, or idealists, or materialists?¹² No, it doesn't mean that we must have faith; though we may have it if we want. Nor does it mean that we must be tortured; though, again, we may if we want — or if we can't help it. It means that we must not be megalomaniacs, Mr. Know-It-All's. It means that we may know without being certain, or even reasonably certain. That we may believe reasonably in spite of all the holes in our conceptions. That we may believe, or know, reasonably, because the conception is so beautiful that it takes our breath away. Because it's powerful; because it is very articulate, in spite of the holes; because it held

12 This question came up in a conversation that I had with Tarski many years ago. Tarski used to say that philosophy is a subject to be discussed late in the evening; and, meeting him at a party one night, I asked him about his position on ontology. He characterized himself as a tortured nominalist because his fundamental philosophical beliefs were nominalistic, and yet his work was in such fields as set theory which are essentially platonistic. Moreover, he liked set theory and the interplay of its ontology. But he didn't see how to conciliate the two: hence the torture. It is sad, I think, that instead of enjoying fully, including philosophically, the marvellous work he did, he should be tortured by it because of philosophical prejudices.

I actually think that a certain kind of torture is a natural ingredient of any intellectual enterprise; be it philosophy, or mathematics, or whatever. Anybody who seeks understanding is naturally tortured by his lack of it. But there doesn't seem to be much point in torturing yourself with something that you don't really take that seriously, even if you recognize that it may be a serious problem in some intrinsic sense and that it is a serious problem for others. (Questions about the ultimate origin of the Universe could be an example; for some people.) And if you are not grabbed by the problems of philosophy to the extent of seriously thinking about them in a systematic way, then there is no need to be tortured by philosophy. From which it doesn't follow that you should allow yourself to be bulldozed by philosophers. A brilliant example of this is Hardy. He took philosophy seriously, and in my opinion he had a very sharp philosophical mind, but he didn't seem to be willing to take too much time away from mathematics to think about philosophy systematically. So, he had his views, which in his case were consistent with his mathematical work, but he didn't develop them in detail. Yet, he didn't allow himself to be cowed by the philosophical tendencies of the times.

I didn't know Tarski well enough to know to what extent he took philosophy seriously — though, evidently, there is a serious philosophical preoccupation that is apparent in many parts of his work. But even in those parts one sees a tendency to dismiss philosophical questions that cannot be mathematized in some way. The philosophical problem as such does not seem to grab him. And this was not just a quest for precision, because we see that same quest in Gödel who was clearly tortured by the philosophical problems themselves.

because it held its own for such a long time, in spite of all the attacks. Theoretical belief can help free us from bigotry and, hence, make us better people. That no one can be that free need not be an excuse for not trying. At the end may lay a certain tranquility that you may want to achieve. The skeptic himself can't really reach this tranquility because of the reality of his gut beliefs. No matter how much he squirms, they hold him fast to the ground.¹³ But you may not want to be tranquil. You may want to fight and argue and even, in the heat of the argument, deal a few low blows of your own. But without malice. You may want to be seen as an intellectual anarchist, even though you are not one. You may want to expose pomposity and superficiality. But this may also be, in the last instance, a manifestation of that very same tranquility.¹⁴

But what about our gut beliefs and our gut knowledge ? What becomes of them ? They stay there so we may go on living and enjoying life. They are perfectly compatible with theoretical belief and unbelief, and with theoretical knowledge. True, they may get a little on the way of each other and hold you back sometimes. (You don't throw away your ladder after you have climbed

13 A very interesting paper on this question, and written with great sympathy for the skeptic's position, is Burnyeat's « Can the Sceptic Live his Scepticism ? ». What I am arguing is that the skeptic gets in a bind by holding a very extreme, megalomaniac, either/or; either I can know with finality, or I can't know at all. Since he has good arguments against the first alternative, he chooses the second, and that leads him to conclude that the way to reach (epistemic) tranquility is by suspension of belief. But the suspension of gut belief (where it matters) calls for very drastic action on his part; something that doesn't seem to me to qualify as *epistemic* tranquility. It is rather a willful epistemic seeking of (seeming ?) detachment. If, on the other hand, he decides to live with his gut beliefs and work entirely by reason through the distinction between appearance and reality, he is open to the objection that this involves him in theoretical belief. This is Burnyeat's objection against Sextus Empiricus (*Op. Cit.*, p. 52) :

« If tranquility is to be achieved, at some stage the sceptic's questing thoughts must come to a state of rest or equilibrium. There need be no finality to this achievement, the sceptic may hold himself ready to be persuaded that there are after all answers to be had. He is not a negative dogmatist furnished with *a priori* objections that rule out the possibility of answers as a matter of general principle once and for all. But *ataraxia* is hardly to be attained if he is not in some sense satisfied — so far — that no answers are forthcoming, that contrary claims are indeed equal. And my question is : How can Sextus then deny that this is something he believes ? I do not think he can. Both the causes (reasoned arguments) of the state which Sextus calls appearance and its effects (tranquillity and the cessation of emotional disturbance) are such as to justify us in calling it a state of belief. »

I am suggesting that the skeptic can escape the dilemma by being a little more modest in his demands for knowing and believing — and, hence, a little less modest with regard to his lack of knowledge, — and that in this way he may be able to reach epistemic tranquility *through* theoretical belief. He may even hold the *theoretical* position, for which he has amassed a certain amount of evidence, that on questions of ultimate reality the evidence is too well balanced, as yet, for there to be theoretical knowledge. But he wants to be more radical than that.

14 The reference is, of course, to Feyerabend. See his *Against Method* and *Science in a Free Society*. These books have had a major influence in re-shaping my views on epistemology (and on myself).

finished climbing and you will crash to the ground if you do.) You may even enjoy the contradictions between your gut beliefs and your theoretical beliefs — just as when you watch a suspense movie that knots your stomach with events that you know aren't happening.

Your gut belief may tell you that there are no abstract entities for you to kick around, but your theoretical belief may tell you that it is an enlightening conception. And you needn't be tyrannized by your gut belief and take a detached and aloof attitude towards these entities, hoping against your better judgement, or inclination, that they may vanish some day because you'll find a *really* knock-down argument for it. And you needn't sublimate your theoretical belief into a faith, and be tyrannized by it, spreading the word with glassy eyes hoping again that you'll find a really knock-down argument for *it*. You can be forceful without being a believer. And the same goes, of course, for your other (or alternative) theoretical beliefs. You don't have to *believe in* your theoretical beliefs or theoretical knowledge.

It is an axiom of epistemology, at least of the kind of epistemology to which I was exposed, that knowledge is justified true belief. The formulations may vary, and some other things may be thrown in to take care of the Gettier examples, for instance, but that's the core.¹⁵ What kind of belief is that? Does it have any place there? It should be theoretical belief, or opinion, but in practice it isn't. It's belief; just plain belief. Since you start your epistemology by considering gut belief that is gut knowledge, you get stuck with it. Since the justification comes separately *anyway*, you think that there is nothing wrong with that; and when you get to some systems or theories that you just can't believe in, because of your prejudices or whatever, you demand that the justification be very tight indeed. The slightest hole reinforces your gut belief against the system or theory. (See, I told you, it doesn't hold any water.) Of course, since you are intellectually honest, you demand the same tight justifications for the systems or theories in which you do believe. And then you are lost, because no system or theory is that good.

So, you may become a pragmatist. As long as it works, you're happy. If it works, even if only partially, it means that you are heading the right way. If you have some realist bones in your body, you'll say that you are heading for the truth; and, if you have faith in the scientific method as well, you believe that a sequence of better and better working theories will ultimately reach

15 See Gettier « Is Justified True Belief Knowledge ? ». An illustration of his arguments is the following. Suppose that I am in a field and that I see something that I take to be a rabbit. So, I believe that there is a rabbit in the field. Moreover, I see it clearly, and this is my justification. It turns out however, that what I see is a Japanese toy rabbit that some child left in the field a short while ago and that is still moving about. But it also turns out that behind some bushes there is a real rabbit that is not allowing himself to be seen. So, it's true that there is a rabbit in the field and that I have justification for my belief. Do I know that there is a rabbit in the field?

that a sequence of better and better working theories will ultimately reach that goal.¹⁶ (The goal of truth is a little bit like gut belief; no matter how much you deny it, it stays with you.)

If you don't like pragmatism, for whatever reason, then you'll feel a certain amount of anguish for being unable to come up with a really knock-down argument for what you like. You then have two options. To live with your anguish, and become a tortured something-or-other, or to try to cut the Gordian knot by force. You may bring in God, for example, or become a relativist, or, finally, you may become a skeptic. Your force is either blind assertion or blind denial. Of course, you may go on to rationalize this, and then you get rationalized blind assertion or rationalized blind denial.

But, just like gut belief carries its own justification with it, justification carries its own belief with it. The better the justification, the stronger the belief; theoretical belief, of course. This belief may be counteracted, to a greater or lesser extent, by other theoretical beliefs that you may have, and also by your gut beliefs. This may spur you on to develop various alternative systems and theories and set them against one another to see if one of them gains the upper hand. And this may lead to your believing, theoretically and consecutively, and even simultaneously, in many contradictory systems and theories. Sometimes we find this hollow; we admire people who hold fast to their beliefs and look down on those who change their minds often. But they are both admirable, unless other things intervene. The goal is truth, and there may be many ways to reach it. If you become convinced that the battle is fairly even, then, again, there are two things you can do.

You may decide, for various reasons, to work with one of these systems or theories. Given that the situation is balanced, the most serious reasons, to my mind, are personal reasons.¹⁷ You like this system, just like it; you find it beautiful; elegant; satisfying. But there are other reasons, still personal. You know a certain system very well; you feel comfortable with it; it may not be so powerful but you have a taste for desert landscapes;¹⁸ you think that if you work hard enough, you'll see your way out of some of the difficulties. You don't despise the alternatives, though you may land a low blow now and again, but this is what you like to do. There are other personal reasons that are not so good, but acceptable. There are some things that you dislike intensely, maybe rightly

16 This is an idealized goal. The idea is, in some form, Peirce's. See Quine's comments in *Word and Object*, p. 23.

17 I am assuming that the situation is balanced and that there are other reasons that make it so; these personal reasons are additional.

18 On the taste for desert landscapes see Quine's « On What There Is » and many other works. It is funny that for Quine the opposite of desert landscapes are slums; or, at any rate, that's the contrast he wants to emphasize. Luscious gardens, rain forests, tropical forests, and other non-desert landscapes don't seem to qualify. Why should platonism be likened to a slum? Because there are problems? What about those places in the desert where the sand is loose and you just sink? And what about sand storms that sweep you away?

so, and you see other systems than your own as embodying some of these things in some way. Maybe you don't like what other people are doing with these systems. You reject the alternatives, often with a lot of low blows.

The other thing you can do (there were two, remember), is to try to make a synthesis of all these systems and theories that you like. In order to do this however, your own system must be very open-minded, which usually means that it must be very powerful, so that you can fit in it all these contradictory systems that you like. How can you do this? You may decide that there is nothing wrong with contradiction, after all, as long as you can sublimate it in some way. Or, you may decide that all these systems can fit in as non-contradictory in their attempt to give the *whole* picture. They embody a certain kind of philosophical exclusion principle: what I say to be the case, is all that is the case. You deny this, and, all of a sudden, they become harmonious aspects of your big system. Of course, your system is still a choice; a reasoned choice, but a choice. But the fact, if it is a fact, that all these other systems can fit in harmoniously into yours, gives you an additional and very powerful argument. You don't have to leave out anything of value, or, at least, anything that you value. And if you value a lot of things, this is a good argument.

But isn't this just Carnap's argument that the choice of conceptual framework is not a cognitive matter? Not at all. It is a cognitive matter, but with a different view of cognition. There may be more to cognition than is dreamt of in your philosophy!¹⁹•

• So, I conclude that knowledge is not justified true *belief*. Knowledge is truth justified beyond a reasonable doubt. If there is enough doubt, or if there isn't

19 The idea that cognition consists in answering questions within linguistic frameworks modelled upon formal systems is, in any case, a rather strange one, and it is one of the focuses of the debate on ontology between Carnap and Quine — see especially Quine « On Carnap's Views on Ontology », and Carnap's « Replies and Systematic Expositions », pp. 868-873. But this is precisely where Carnap's Skepticism lies. Since the acceptance of any linguistic framework is a matter of choice — and therefore not a cognitive matter for him — and any cognitive work is relative to the acceptance of a linguistic framework, there is no cognition in an absolute sense. And there is no belief either in the reality of the entities assumed by the framework. It is, as in Sextus Empiricus, all a question of appearances, but now formulated linguistically.

It is an interesting question, it seems to me, whether the skeptic is justified in using language at all. If one says that he is, as long as he doesn't make assertions, or at least assertions about what is, as opposed to what appears to be, then what status should one assign to his assertions about language? If one agrees that assertions about language are assertions about meaning, and that meanings are appearances of some sort, then one may count language as part of the world of appearance. In this case one could see a large part of (some versions of) Logical Positivism as a skeptical program. But, if questions of meaning are not questions of appearance but of (linguistic) fact, even if relative to a single language, then it is not so clear that a skeptic can appeal to language in the way that Carnap does. Quine's criticisms of Carnap's use of the analytic-synthetic distinction can be seen in this light — even for 'analytic-in-L'. Also, if the adoption of linguistic framework commits you to some interpretation of reality, as Quine claims, and Carnap denies, then your only alternative may really be to shut up.

much doubt but some justification as well, then you may have an entertainable position but you may want to hold back belief, one way or the other.²⁰

The additional condition that is placed on knowledge because of the Gettier examples is also otiose, and misleading, in the way in which it is usually formulated. (There must be some kind of causal connection between the grounds of your belief and the grounds of the truth of the proposition believed.) People got a lot of mileage out of this, but I don't think that it really got them anywhere.²¹ Of course, if belief is not part of knowledge, neither are its grounds. But this is not the answer to the Gettier examples. The problem comes from viewing the ontological constraint on knowledge, i.e. the condition on truth, in too narrow a way. It is not just the truth of the propositions that is relevant to knowledge, but also the correctness of the justification. The justification should not just *seem* to be a good justification; it must *be* a good justification. It is the difference, once again, between psychology and epistemology.

If you make epistemology a part of psychology, and if you want knowledge to involve truth (in a non-psychological sense of truth), then you are stuck with the position that knowledge is an unattainable ideal because nobody has ever found an absolutely guaranteed way from subjective mind to objective constraint on knowledge, and, for some, this dissolves the need for the absolute guarantee. The notion of justification however, at least in cases not involving argument, continues to be treated as a psychological notion for no good reason that I can see. If we treat this notion as a normative

20 The rough model that I am suggesting for justification is based on discussions earlier in the book. Although this suggestion did not come to me consciously from reading Feyerabend, I have no doubt that it was very much influenced by his work.

Theoretical belief in a position, or theory, may involve holding that it is better than alternative positions that you have considered for any one of a number of reasons. You do have an opinion on the worthiness of the position *vis-à-vis* alternatives, but the reason you think that that position is better need not be because you think that it is less problematic than other alternatives. You may hold that they are all problematic in (possibly) different respects, or that yours is actually more problematic than some others. But you hold it because you like it, for example, because it is more beautiful or more satisfying to you, or because you think that in the long run it may prove to be the more illuminating theory.

21 In « Mathematical Truth », Benacerraf argues against Gödel's platonism as follows. If the grounds of mathematical truth are in mathematical aspects of reality, and these do not causally interact with material aspects of reality, which provide the grounds for our mathematical beliefs, then mathematical truths are unknowable by us. Neat, but, to my mind, totally unconvincing. In my comments on Benacerraf's paper at the symposium, I argued that, on the one hand, the notion of cause that is involved in this characterization of knowledge must be fairly loose — it can't be « billiard-ball » cause, for example — and, therefore, that it is not at all clear that it excludes immateriality of one sort or another. And, on the other hand, that our perception of material aspects of reality involves the perception of abstract structures (or structurings, if you wish) and, therefore, that the grounds of our beliefs may be quite well connected with mathematical aspects of reality. I illustrated the latter point by referring to Gibson's *The Senses Considered as Perceptual Systems*, which is based on the idea that perception involves invariants, and these invariants can be nothing else but abstract structurings. (Gibson, however, rejects platonism for reasons of his own.)

notion for no good reason that I can see. If we treat this notion as a normative notion in all cases, and, therefore, as involving an ontological constraint of its own, then you can distinguish between what seems to you, or to everyone, to be a correct justification, and what is a correct justification. It is the same distinction as the distinction between that seems to you to be true and what is in fact true, whether or not it seems so to you or to anyone else.²² This takes care of the Gettier example that I gave before because even though your seeing what you took to be a rabbit seemed to you a correct justification, it wasn't correct, as a matter of fact. It wasn't correct because you were not seeing a rabbit; reality didn't cooperate.²³

And don't tell me that then we can never know anything, because you would be joining ranks with those who say that because of the condition on truth. The only way to attain knowledge, they say, is to have an absolutely incontrovertible guarantee of the truth of the proposition claimed to be known. But this would be beyond our world and, since we are in it, knowledge will be forever unattainable. And so they open the gates to skepticism. And they are right, given the assumption. We have seen over and over again that the best philosophical minds that the world has produced have not been able to reach, alone or joined by other human minds, this kind of absolute incontrovertible guarantee for any kind of knowledge. At some point they appealed to God. So, as many other philosophers have done, and scientists, and common folk, let's recognize that we are talking about human knowledge in this world and that nobody owns truth.

To claim that belief is not a necessary condition for knowledge is not to claim that belief plays no role in knowledge. 'Belief' is a highly ambiguous word; it ranges from the sort of belief involved in religious belief to a rather loose sort of belief which is also expressed by such words as 'view', 'opinion', *etc.* It seems to me that this ambiguity has been instrumental in many discussions of epistemology in the Anglo-American tradition.

If you have a justification for some position, or proposition, which is convincing beyond a reasonable doubt, then this justification can generate a theoretical belief in that position or proposition. But it doesn't follow from this that you do believe in the ordinary sense. You may simply refuse to believe, for various reasons. Sometimes the truth is just too painful to accept

22 We do this for justifications based on proof, for example, as I pointed out earlier. If the proof is incorrect, then you don't know, even if it seems to you and to everyone else that the proof is correct. Obviously, this may not affect your *claim* to knowledge.

23 If we take the justification to be based on something like
 (i) $\exists x$ (I see x & x is a rabbit in the field)
 and the inference to
 (ii) $\exists x$ (x is a rabbit in the field),
 then the inference is correct but (i) is false. For a justification to be *correct* as a justification for knowledge, the inferences involved must be correct *and* the premises involved in these inferences must be true.

— as often happens in human relations; — sometimes the position or proposition in question seems just too incredible to accept because of certain beliefs or positions that you have or hold. Are we to say that you know but that you don't acknowledge your knowledge ? I think so. The justification you have is a justification for truth beyond a reasonable doubt, where what constitutes a reasonable doubt will vary according to the subject that the justification is a justification beyond a reasonable doubt, and if the proposition is true and the justification is correct, then you know.

The situation is quite different, of course, if you refuse to accept the justification as being beyond a reasonable doubt. For most people who have studied the evidence, the evolutionary origin of man has been justified beyond a reasonable doubt. I can conceive of one of these people refusing to believe it nevertheless. If true, he knows that it is true, yet he hopes (for whatever reason) that it isn't true. And he may be quite candid and honest about it. But many people who reject the evolutionary origin of man either have only but the foggiest idea as to the evidence for it, or reject it as a justification beyond a reasonable doubt. In fact, the tactic by outspoken opponents of the evolutionary hypothesis is precisely to question the worthiness of the theory of evolution as a whole and of that specific aspect of it. They raise many doubts which *they* don't see as being unreasonable, because experts agree that there are problems with the formulation of the theory of evolution as such. Evidently, even if the hypothesis is true, it would be absurd to impute knowledge of the evolutionary origin of man to these people.

The important role that belief, and opinion more generally, has for knowledge is connected with the gathering of evidence and the putting together of justifications. Your beliefs, or opinions, or very general theoretical conceptions, may lead you to knowledge by directing your search in certain ways. This is not always essential however, because there are many cases in science where people simply toyed with certain ideas which eventually paid off. And in some cases you just happen to hit upon the evidence in spite of your efforts to go in a different direction.

A very interesting example of how a general philosophical conception can lead to specific mathematical results is Gödel's completeness theorem for first-order logic. Many people agree that by 1922 Skolem had the required results to obtain the completeness theorem; yet, nobody proved it until Gödel in 1930. And Gödel attributes this « blindness ... of logicians ... [to] a widespread lack, at that time, of the required epistemological attitude toward metamathematics and toward non-finitary reasoning. »²⁴ The same thing happens everywhere, including ordinary life.

24 These remarks of Gödel's are from a letter to Wang quoted and discussed in pp. 8-12 of Wang's *From Mathematics to Philosophy*. It continues as follows (pp. 8-9) :

« Non-finitary reasoning in mathematics was widely considered to be meaningful only to

Your beliefs and opinions not only direct your search for evidence and justification in various ways but also make you blind to it in various ways. They both contribute and detract from knowledge. One may wish to conclude that the best attitude is a very open-minded attitude, but this doesn't seem to me to be entirely true. It is important to be open-minded to keep the blindness in check to see the other side of things, but you must have a direction if you are to get ahead. And, sometimes, in order to go against the overwhelmingly accepted directions you must protect yourself with blinders. If you are too open-minded and every path seems to you equally good (or equally bad), you may end up like the skeptic, denying your humanity and taking refuge in an alleged sea of epistemic tranquility.²⁵

results and subsequent work.) This view, almost unavoidably, leads to an exclusion of non-finitary reasoning from metamathematics. For, such reasoning, in order to be permissible, would require a finitary metamathematics. But this seems to be a confusing and unnecessary duplication. Moreover, admitting 'meaningless' transfinite elements into metamathematics is inconsistent with the very idea of this science prevalent at that time. For according to this idea metamathematics is *the* meaningful part of mathematics, through which the mathematical symbols (meaningless in themselves) acquire some substitute of meaning, namely rules of use. Of course, the essence of this viewpoint is a rejection of all kinds of abstract or infinite objects, of which the *prima facie* meanings of mathematical symbols are instances. I. e. meaning is attributed solely to propositions which speak of *concret and finite objects*, such as combinations of symbols. »

« But now the aforementioned easy inference from Skolem 1922 is definitely non-finitary, and so is any other completeness proof for the predicate calculus. Therefore these things escaped notice or were disregarded. »

« I may add that my objectivistic conception of mathematics and metamathematics in general, and of transfinite reasoning in particular, was fundamental also to my other work in logic. »

« How indeed could one think of *expressing* metamathematics *in* the mathematical systems themselves, if the latter are considered to consist of meaningless symbols which acquire some substitute of meaning only *through* metamathematics ? »

- 25 This chapter is not primarily an attempt to refute skepticism, or to attack anyone, but, rather, it has the character of a personal reflection — at least parts of it do. I have traced some influences in the text, and in earlier notes, but there are some others. When I was at Harvard as a Visiting Lecturer in 1972, I went out to dinner one night with a group of faculty and students. I sat next to Rogers Albritton who, suddenly, before I had even ordered, turned to me and asked : « What do you *believe in*, anyway ? » That took my breath away because it hadn't really occurred to me to actually believe in anything. I had been convinced, it's true, at one time or another, by various positions, but I always saw them as propositions, not beliefs. I had a healthy innocent attitude, and Albritton's questions took it away. I gave him a jokingly weak answer, about liking extreme positions such as Goodman's and Gödel's, and that was that. But he had handed me the apple, the old Devil, and I couldn't get back to innocence. So, by the time I was asked to comment on Benacerraf's paper at the Eastern APA meetings in 1973, I had decided that if I was to be serious about philosophy, I must *believe in* something; and my choice was Gödel's platonism. And, after the meetings, I went around to various places, including Princeton, delivering my pitch with that slightly prophetic air of true believers. Well, it took a long time for me to come out of it. First I became a cynic, in the ordinary sense, and then a skeptic of sorts — a reasonably nice one, I hope. It is only recently that I have managed to see my way out of my version of skepticism. Or, perhaps, I have transformed it. Seek epistemic tranquility, by all means, if that's your temperament. But there is no need to do it through denial. A little humor and a little dadaism

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perhaps, I have transformed it. Seek epistemic tranquility, by all means, if that's your temperament. But there is no need to do it through denial. A little humor and a little dadaism may be a better approach. From which it doesn't follow that you aren't serious about it. I know, however, that for some people this is hard to swallow.