

II

AXIOMS AS POSTULATES

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I. THE GROWTH OF EXPERIENCE

1. Agreement that the world is experience + connecting principles—why we should start rather than conclude with this.
2. But (a) *whose* experience? Ours. Why self cannot be analysed away; why knowledge of self depends on experience.
3. (b) Experience of *what*? The world. But what the world is, it is not yet possible to say completely.
4. (1) The World not ready-made datum but constructed by a process of evolution,
5. (2) *i.e.* of *trial* or experiment—original flexibility or indeterminateness of world. Experiment suggested by practical needs—conscious and unconscious experimenting.
6. (3) Limits of experimenting—‘matter’ as resisting medium—impossibility of saying what it is in itself. Conception of material world developing in experience. Value of Aristotelian description of a $\theta\lambda\eta$ capable of being moulded.
7. (4) The ‘World,’ therefore, is what is made of it—plastic. How far, to be determined only by trying. But methodologically plasticity assumed to be complete. Provisional character of our ‘facts.’
8. Bearing of this ‘*pragmatism*’ or ‘*radical empiricism*’ on the nature of axioms. Their origin as postulates to which we try to get world to conform. Contrast with the old empiricism and apriorism.

II. CRITICISM OF EMPIRICISM

9. (1) Its standpoint psychological, (2) intellectualist, (3) axioms presupposed in the experience which is supposed to impress them on us—Mill’s admissions, (4) derivation not historical, but *ex post facto* reconstruction, (5) its incompleteness, (6) impossibility of really tracing development of axioms and so unprogressiveness.

III. CRITICISM OF APRIORISM

- 10-25. Its superficial plausibility and real obscurity. Fallacy of inferring from § 9 (3) that there are *a priori* truths.
11. How postulates also yield ‘universality’ and ‘necessity.’ ‘Necessity’ and need.

12. 'Condition of all possible experience' means? Might be (1) cause or *psychical* antecedent, (2) presupposition of reflection (*logical*), or (3) *ethical* or *aesthetical*. Objections.
13. Meaning of '*a priori*'; (1) *logical* or (2) *psychological*? Equivocations of apriorist authority.
- 14-18. *The a priori as logical*. But why analyse in Kant's way? *Exclusive* correctness of Kantian analysis not to be based either (1) on its *a priori* truth, or (2) on experience of its satisfactory working. Else why should Kantians have tried to better it?
15. Kant's derivation of his analysis from psychology.
16. Even if it were satisfactory, no proof that it would be the only or the best possible.
17. If *a priori* is not in time, its superiority to the *a posteriori* merely honorific.
18. Kant's analysis neither simple nor lucid.
- 19-22. *A priori as psychical fact*. But if so, has it (1) been correctly described? (2) how is it distinguished from innate idea? (3) does not epistemology merge in psychology?
20. As facts *a priori* truths have a history, which must be inquired into.
21. *A priori* faculties tautologous, and
22. should not be treated as ultimate.
23. Result that science of epistemology rests on systematic confusion of alternative interpretations of apriority. The proper extension of logic and psychology.
- †24. Intellectualism of both apriorism and empiricism incapacitates them from recognising unity and activity of organism. How this may be recognised by deriving axioms from a volitional source by postulation.
25. Kant's recognition of postulation in ethics—its conflict with his 'critical' theory of knowledge—resulting dualism intolerable. Hence either (1) suppress the Practical Reason or preferably (2) extend postulation to Theoretic Reason.

IV. SOME CHARACTERISTICS OF POSTULATION

26. Postulates at first tentative and not always successful—their various stages and common origin—the theoretic possibility of changing axioms not practically to be feared.
- †27. Postulates not a coherent system *inter se* except as rooted in personality.

V. THE POSTULATION OF IDENTITY

28. Not to be derived out of nothing, but out of a prior psychical fact on the sentient level of consciousness—why consciousness itself cannot be derived—its characteristics on the sentient level.
29. Hence identity (of self) first *felt* in the coherence and continuity of mental processes, and forms basis for the postulation of identity—the practical necessity of recognising the 'same' in the 'like.'
30. Once postulated, identity proves a great success, though never completely realised in fact. Stages of identity-postulation: (1) recognition of others and objects of perception. But these change and so do not provide a stable standard of comparison. Hence (2) postulation of ideally identical selves.
31. (3) Meaning demands absolute identity and recognition leads to cognition—advantage of classification by 'universals' which abstract from differences.

32. (4) The use of language, *i.e.* *identifiable symbols*, connected with the demand for identity.
33. Logical bearings of this doctrine. The practical purpose of the judgment as the clue to the meaning of predication and as determining the limits to which abstraction shall be carried.
34. Limitations and conventions on which the logical use of identity depends.

VI. OTHER POSTULATES

35. The concurrent development of consciousness of 'self' and 'other' = the 'external world,' postulated to account for felt unsatisfactoriness of experience.
39. Postulation of Contradiction and Excluded Middle.
37. Hypothesis a form of postulation.
38. Causation a demand for *something* whereby we can control events. Its various formulations relative to our purposes. Sufficient Reason. The absolutely satisfactory as 'self-evident.' The infinite regress of reasons and causes limited by the purpose of the inquiry.
39. Postulate of 'Uniformity of Nature.' Suggested by gleams of regularity amid primitive chaos. Methodological advantage of postulating complete regularity. Its practical success.
- 40-3. *The Space and Time Postulates.* Kant's *reine Anschauung* a hybrid between perception and conception and so a confusion of psychology and logic. Really psychological data have served as basis for conceptual constructions which are methodological postulates.
41. Construction of physical space out of sensory data. Geometrical space a construction to calculate behaviour of real bodies. Antithesis between qualities of perceptual and conceptual space—reasons for postulating the latter.
- + 42. Alternative conceptual constructions of 'metageometry.' Their obscurity due to their greater complexity and uselessness. A conceptual space is *valid* in so far as *useful*, but never *real*.
43. Time: (1) subjective, (2) objective, (3) conceptual. (1) Too variable to be useful, (2) a social necessity, but relative, (3) a postulate.
44. Other postulates, *e.g.* substance, passed over.
- 45-7. *Postulates not yet fully axiomatic.* (1) Teleology—its derivation from the postulate of knowableness. Necessity of anthropomorphism. Rational human action teleological. Why this is not extended by science to nature. Its misuse by professed believers—possibility of future use.
46. Ultimately mechanical methods imply teleology, assuming that world is *partly* conformable to our ideals. But part being given, we must assume all. Postulation as illustrating the teleology of axioms.
47. (2) Religious postulates—personality and goodness of God—immortality.

VII. CONCLUDING REFLECTIONS

48. The psychological possibility of instinctive postulation and its relation to logical justification.
49. The method of origins never gives complete explanation. But validity must be connected with origin. Completeness unattainable while knowledge is still growing.
50. Effects on philosophy—a return to practice and a perception of the inadequacy of intellectualism.

51. Belief in the alleged incompetence of the reason due to (1) the putting of questions which have no practical value and ultimate meaning, (2) 'antinomies.' But these at bottom volitional and due to a refusal to choose between conflicting aims. *E.g.* the 'insoluble mystery of evil.' Methodological necessity of assuming all real problems to be soluble.
52. Gain to philosophy because (1) more responsibility felt about *voluntary* confusions of thought which (2) are more easily remedied and to which (3) the young are not pledged. Invigorating effect of Pragmatism.

I

§ 1. THE first survey of his subject ought to be sufficient to appal the intending writer on almost any philosophic topic. The extent, variety, and persistence of the divergences of opinion which he finds are such that he needs to be possessed of unusual faith and courage not to despair of convincing even an unprejudiced reader—and in philosophy where shall he be found?—that his undertaking holds out any prospect of scientific advance. For it needs no little philosophic insight to perceive that these divergences, instead of discrediting Philosophy, are really a subtle tribute to its dignity. They testify that in our final attitude towards life our *whole personality* must be concerned, and tend to form the decisive factor in the adoption of a metaphysic. As soon as a metaphysic attempts to be more than 'a critical study of First Prejudices,' and essays to be constructive, it will always come upon a region where different men argue differently, and yet with equal cogency, from (apparently) the same premisses. The most reasonable explanation of this phenomenon is to admit that as the men *are* different, and differ in their experience, neither the data which have to be valued, nor the standards by which they are valued, can really be the same. Indeed, the whole history of philosophy shows that the fit of a man's philosophy is (and ought to be) as individual as the fit of his clothes, and forms a crushing commentary on the intolerant craving for uniformity which ineffectually attempts to anticipate the slow achievement of a real harmony by the initial fallacies and brusque assumptions of a 'cheap

and easy' monism. It behoves the true philosopher, therefore, to be tolerant, and to recognise that so long as men *are* different, their metaphysics *must be* different, and that even so, nay for this very reason, any philosophy is better than none at all.

But though the ultimate differences of philosophic opinion are probably too deeply rooted in human idiosyncrasy to be eradicated by any force of argument, it is none the less conducive to the progress of every philosophic discussion that some common ground of (at least apparent and preliminary) agreement should be found on which the rival views may test their strength. This is accordingly what I have tried to do, though it was not without difficulty that I seemed to discover two fundamental points of initial agreement which would, I think, be admitted by nearly all who have any understanding of the terms employed in philosophic discussion. The first of these is that the whole world in which we live is experience and built up out of nothing else than experience. The second is that experience, nevertheless, does not, alone and by itself, constitute reality, but, to construct a world, needs certain assumptions, connecting principles, or fundamental truths, in order that it may organise its crude material and transmute itself into palatable, manageable, and liveable forms.

Acceptance of these two propositions does not perhaps carry us far, and I have no desire to exaggerate its controversial value. For, as soon as we attempt to go a step farther and ask what, more precisely, is this experience, out of which, and for the sake of which, it is agreed that all things are constructed, we speedily realise that we have, here also, stumbled unwittingly into a very quagmire of metaphysical perplexities. It is indeed a convenient fashion in high philosophic quarters to treat the harmless truism with the enunciation of which I have ventured to start, as the final term in a protracted course of dialectical philosophy, and to put forward Experience (written of course with very large capitals) as the ultimate explanation of all things. My excuse for not treating my

readers (if any) to a similar performance must be that I have neither the heart nor the head for feats of this kind, and that they can always fall back upon the consoling dictum that experience is Experience (with the addition 'of the Absolute' thrown in, if they are very inquisitive), when they have found that my explorations in a very different direction lead to nothing interesting or valuable.

§ 2. I shall accordingly proceed to divide my question into two. If all the world be experience and what is needed to understand that experience, (1) *whose* experience is it? and (2) *of what* is it experience? To both questions again some will be satisfied to reply—'of the Absolute, of course.' If that really contents them, and is all they wish to know, they had better read no further. For my part I hold that this answer, even if it were true and intelligible, is of no scientific or practical value whatsoever, and hence cannot be of any philosophic value either, except to votaries of philosophies which have no scientific or practical value.

To the first question, therefore, I shall make bold to answer, '*our* experience,' or, if that imply too much agreement among philosophers, and I may not take a common world for granted, more precisely, '*my* experience.'

Here again I must be prepared to be assailed by a furious band of objectors intent on asking me—"Who are you? How dare you take yourself for granted? Have you not heard how the self is a complex psychological product, which may be derived and analysed away in a dozen different ways? And do you actually propose to build your philosophy upon so discredited a foundation?"

To all this the simplicity of my humble reply may, I fear, be thought to savour of impertinence. I shall merely say "Abate your wrath, good sirs, I beseech you. I am right well aware of what you urge. Only I have observed also a few facts which in your scientific zeal you have been pleased to overlook. In the first place I notice that these analyses of the self you allude to are various,

and that so the self may find safety in the very multitude of its tormentors. I observe, secondly, that the analysis is in every case effected by a self. And it always gives me a turn when the conclusion of an argument subverts its own premiss. Next I note that these analyses being the products of a self, must, if that self is (like my own) rational, serve some purpose. But unless that purpose is the highest of all (which in your case I see no reason to suppose), the validity of the whole procedure will be relative, and its value methodological. It may be excellent, therefore, for your purposes and quite unsuitable for mine. And, lastly, I observe that an analysis does not fall from heaven ready made; it is the product of a purposive activity, and however appalling it may sound, it remains *brutum fulmen* until such time as somebody *chooses* to adopt it. It is from this act of choice, then, that its real efficacy springs, and if I *choose* to analyse differently or not at all, if I find it convenient to operate with the *whole* organism as the standard unit in my explications, what right have Scribes and Pharisees to complain? For in either case the choice must be justified by its consequences, by the experience of its working, and I am not aware that anything valuable or workable has resulted from the psychological analyses in question. I am therefore sanguine that the assumption of my own existence, which I provisionally make, may very possibly turn out better and be less futile than any of the denials of the self which it may seem convenient to maintain for certain restricted and technical purposes of psychologies which neglect their proper problem in their anxiety to be ranked among the 'natural sciences.'

"As for the other, personal, question—'Who am I?'—*that* we shall see. I say *we* pointedly, because, to be quite frank, I too am still learning what I am, by experience. For unfortunately I was as little endowed with any *a priori* knowledge of myself as of anything else. Hence I can only say, provisionally, that I am *at least* what I am, and what I am capable of becoming. For I have a notion that my career is not yet over. In saying this

I do not, of course, lay claim to anything unknowable ; I only mean that I am not anything completely known, either to myself or any one else, until I cease to have *new* experience. And if you are content to share these humble attributes and to be selves in this sense, you are very welcome !”

§ 3. I come next to the second question—*what* is it I experience? The answer must be very similar. My knowledge of the object of experience—we may call it ‘the world’ for short—is still imperfect and still growing. And so though I may provisionally describe it by all the ordinary phrases as ‘external,’ and material, and spatial, and temporal, I do not attach much value to them, and cannot honestly say that I know what it ultimately is. For I do not know what it will ultimately turn into. Not of course that I despair on that account of ultimately answering this question also to everybody’s satisfaction (and especially to my own!). Only the world of knowledge always seems to be painted on an uncompleted background of the unknown, and fresh knowledge is always coming in which modifies the total impression. This knowledge is largely (or perhaps wholly) the result of guesses which I cannot help making, like my fathers before me, for practical reasons. As for the character and the details of these guesses, are they not written in the histories of human sciences and religions?

§ 4. In reflecting on these histories, however, I observe several things which seem to have no slight bearing on the question of the nature of the world and our knowledge.

(1) The world, as it now appears, was not a ready-made datum ; it is the fruit of a long evolution, of a strenuous struggle. If we have learnt enough philosophy to see that we must not only ask the ontological question, *What is it?* but also the profounder epistemological question to which it leads, *How do we know what it is?* we shall realise that it is a *construction* which has been gradually achieved, and that the toil thereof dwarfs into insignificance the proverbial labour *Romanam condere gentem*. As a rule we do not notice this, partly

because we are taught to neglect the history of ideas for the sake of burdening our memory with the history of events (which very likely did not happen in the manner alleged), partly because the sciences have a habit of evading the verbal confession of the changes which the growth of knowledge has wrought in their conceptions. Thus the physicist continues to use the term 'matter,' although it has come to mean for him something very different from the simple experiences of hardness and resistance from which its development began, and although he more and more clearly sees both that he does not know what 'matter' ultimately is, and that for the purposes of his science he does not need to know, so long as the term stands for something the behaviour of which he can calculate.

§ 5. (2) I observe that since we do not know what the world is, we have to find out. This we do *by trying*. Not having a ready-made world presented to us the knowledge of which we can suck in with a passive receptivity (or rather, *appearing to have* such a world to some extent only in consequence of the previous efforts of our forerunners), we have to make experiments in order to construct out of the materials we start with a harmonious cosmos which will satisfy all our desires (that for knowledge included). For this purpose we make use of every means that seems promising: we try it and *we try it on*. For we cannot afford to remain unresistingly passive, to be impressed, like the *tabula rasa*¹ in the traditional fiction, by an independent 'external world' which stamps itself upon us. If we did that, we should be stamped out. But experience is always more than this: it is either experiment or *reaction*, reaction upon stimulation, which latter we ascribe to the 'external world.' But reaction is still a kind of action, and its character still depends in part on the reacting agent. Nor have we any independent knowledge of the 'external

¹ It is hard to say why this inadequate illustration should continue to haunt philosophic discussion, the more so as it always missed the point. For as Lotze has so well observed the 'receptivity' of the tablet is really due to the intrinsic nature of the wax and not to an absence of positive character.

world'; it is merely the systematic way in which we construct the source of the stimulation on which we feel ourselves to be reacting. Hence even our most passive receptivity of sensations can, and should, be construed as the effortless fruition of what was once acquired by strenuous effort, rather than as the primal type to which all experience should be reduced. In it we are living on our capital (inherited or acquired), not helping to carve out ('create') the cosmos,¹ but enjoying the fruits of our labours (or of those of others!). Which is pleasant, but not interesting. What is interesting is the course of the active experimenting which results in the arts, the sciences, and the habits on which our social organisation rests.

I proceed accordingly to consider the mass of experiments which collectively make up the world-process and by their issue determine the subsequent course of affairs. At the outset there seems to be nothing determined, certain, or fixed about it. We may indeed shrink from the assertion of an absolute indeterminism, but it is certain that we cannot say what made or determined the character of the first reaction, and that the first establishment of a habit of reaction is a matter of immense difficulty. And to a less extent this indeterminateness persists as the structure of the cosmos grows. The world is always ambiguous, always impels us at certain points to say, 'it may be,' 'either . . . or,' etc.² Nor were it well that it should grow rigid, unless we were assured that it would set in forms we could not wish to change. As it is, we have no absolute nor initial rigidity. All determinations are acquired, all are ratified, by their working ;

¹ It is significant that most of the words which have been used to express the conception (?) of creation are metaphors which meant originally to hew or shape. For if, as seems probable, the conception of absolute 'creation' ('out of nothing') be ultimately unthinkable, the assumed 'metaphor' will be able to supply the true conception.

² We do not, of course, affect the fact by assuming its absolute determination, 'if only we knew all.' For this is merely a postulate, devised to keep us in good heart while calculating, and in order that we may be able to forecast the future. We *may be* able to achieve the realisation of this ideal in a cosmos absolutely determined and absolutely satisfactory, but at present it is not true that *for us practically* all things are determined.

nothing can be said to be absolutely exempt from modification and amendment by experience of its working.

The intellectual cosmos also neither has nor needs fixed foundations whose fixity is an illusion. Like the physical universe it is sustained by the correspondence and interplay of its parts ; or, if we prefer it, floats freely in a sea of the unknown, which now and again buffets it with its waves, but across which the sciences have established well-travelled routes of intellectual intercourse.

The cosmos grows, as we have said, by experiment. Such experiment may have been random at first (as for methodological purposes we shall be prone to assume) ; at all events it was vague, and its prescience of its issue was probably obscure. In any case its direction is ultimately determined not so much by its initial gropings as by the needs of life and the desires which correspond to those needs. Thus the logical structures of our mental organisation are the product of psychological functions.¹

It must next be admitted that when it is said that the world is constructed by experiment, the conception of experiment is taken very widely and in a way that extends far beyond the conscious experiment of the scientist who is fully aware of what he does and what he wants, and precisely controls all the conditions. Of the 'experimenting' which builds up the cosmos the scientific experiment is only an extreme case which even now is comparatively rarely realised. Most of the experimenting that goes on is blind or very dimly prescient, semi-conscious or quite unconscious. To what extent there is consciousness of the experimenting depends of course on the mental development of the beings engaged in it ; for while in the lowest it is infinitesimal, the more intelligent they become the more capable they are of taking the experimenting into their own hands.

But from the experimenting itself there is no escape ;

¹ In this aspect logic is related to psychology as morphology is to physiology. A 'logical necessity,' therefore, always rests upon, issues from, and is discovered by, a psychological need. Dr. Bosanquet adopts the comparison, but does not work it out, in his *Logic*.

it goes on, and if we refuse to experiment, we *are experimented with*. Nay, in this sense we are all nature's experiments, attempts to build up a world of beings that can maintain themselves permanently and harmoniously. We are asked as it were, "Can you do this?" and if we cannot or will not, and "do not answer," we are eliminated. The elimination which is involved in this experimenting habit of nature's has in modern times been widely recognised, under the name of Natural Selection; its essence is that a large number of individuals and varieties should be produced *on trial* (as 'accidental variations' or *θεία μόλπα*), and that upon those that stood their trials best should devolve the duty of carrying on the world. The conception of Natural Selection was suggested by human selection; its procedure by trying is so far analogous to that of our own intelligence, and it is denied to be that of an intelligence only because of a misunderstanding of the methodological character of the postulate of indefinite variation.¹ We may therefore plausibly contend that if a superhuman intelligence is active in the forming of the cosmos, its methods and its nature are the same as ours; it also proceeds by experiment, and adapts means to ends, and learns from experience.

We see then that there are two excellent reasons for conceiving the notion of experiment so broadly. In the first place it becomes possible thereby to comprehend under one head the infinite complications and gradations which are possible in the consciousness of the experimenter, from the most random restlessness and the most blindly instinctive adaptations, to the most clearly conscious testing of an elaborate theory; in the second, it serves to bring out the radically tentative tendency which runs through the whole cosmos. And if the propriety of a phrase may be held to atone for the impropriety of a pun, we may sum up our result by saying that the clue to experience must be found not in words but in deeds, and that the method of nature and the true method of philosophy is not a *Dialectic* but a *Trialectic*.

¹ Cf. *Contemp. Rev.*, June 1897, p. 878.

§ 6. (3) In describing our activity in constructing the world by experimenting or making trial, I may seem to have ignored the subject-matter of the experiment, *that in which* and the conditions *under which* we experiment. But of course I have no intention of denying the existence of this factor in our experience and, consequently, in our world. We never experiment *in vacuo*; we always start from, and are limited by, conditions of some sort. Just as our experiment must have some psychological motive to prompt it and to propel us, so it must be conditioned by a resisting something, in overcoming which, by skilfully adapting the means at our disposal, intelligence displays itself. Let it be observed, therefore, that our activity always meets with resistance, and that in consequence we often fail in our experiments.

But while there can be no dispute as to the fact of this resistance, there may be not a little as to its nature, and no slight difficulty about defining it with precision. It would be pushing Idealism to an unprofitable extreme to revert at this point to the ancient phrases about the Self positing its Other and so forth. But the opposite and more usual device of dubbing it an objective or material world which exercises compulsion upon us, is also not free from objection.

For what is so misleading about this traditional manner of talking is that it implies just what we have seen to be untrue, viz. that there is an objective world given independently of us and constraining us to recognise it. Whereas really it is never an independent fact, but ever an aspect in our experience, or better still, a persisting factor in it, which we can neither isolate nor get rid of. Hence, however far back we essay to trace it, we can never say either what it is really and in itself, or that it has disappeared. If we take it as it appears in our experience as now organised, we are, similarly, met with the difficulty that what it now is is nothing definitive, but merely a term in a long development the end of which is not yet in sight. And if, led by such

considerations, we look forward and declare that the objective world most truly is whatever it develops into, who will take it upon himself to prophesy concerning its future developments, and guarantee that it will always remain objective in the way it is at present, that it will continue to resist and constrain? For already it is only partially true that it constrains us; it is becoming increasingly true that we constrain it, and succeed in moulding it into acceptable shapes. In what sense, therefore, should we continue to call 'objective' a world which had ceased to be objectionable and had become completely conformable and immediately responsive to our every desire?

The truest account, then, it would seem possible to give of this resisting factor in our experience is to revive, for the purpose of its description, the old Aristotelian conception of 'Matter' as *ὑλη δεκτικὴ τοῦ εἶδους*, as potentiality of whatever form we succeed in imposing on it. It may be regarded as the raw material of the cosmos (never indeed wholly raw and unworked upon), out of which have to be hewn the forms of life in which our spirit can take satisfaction. To have lost this sense of 'matter,' in the effort to render its notion more precise and useful for the purposes of the natural sciences, is a real loss to philosophy. And yet the notion of matter as an indeterminate potentiality which, under the proper manipulations, can assume the forms we will, reasserts itself *de facto* whenever the great physicists set themselves to speculate respecting the 'ultimate constitution of Matter.' For provided only that their results enable them to calculate, more or less, the behaviour of sensible matter, they never hesitate to calculate into existence new 'ethers' and modes of matter and to endow them with whatever qualities their purpose demands and their imagination suggests.

§ 7. (4) The world, then, is essentially *ὑλη*, it is what we make of it. It is fruitless to define it by what it originally was or by what it is apart from us (*ἡ ὑλη ἄγνωστος καθ' αὐτήν*); it *is* what is made of it. Hence

my fourth and most important point is that the world is *plastic*, and may be moulded by our wishes, if only we are determined to give effect to them, and not too conceited to learn from experience, *i.e.* by trying, *by what means* we may do so.

That this plasticity exists will hardly be denied, but doubts may be raised as to how far it extends. Surely, it may be objected, it is mere sarcasm to talk of the plasticity of the world; in point of fact we can never go far in any direction without coming upon rigid limits and insuperable obstacles. The answer surely is that the extent of the world's plasticity is not known *a priori*, but must be found out by trying. Now in trying we can never start with a recognition of rigid limits and insuperable obstacles. For if we believed them such, it would be *no use* trying. Hence we must assume that we can obtain what we want, if only we try skillfully and perseveringly enough. A failure only proves that the obstacles would not yield to the method employed: it cannot extinguish the hope that by *trying again* by other methods they could finally be overcome.

Thus it is a *methodological necessity* to assume that the world is *wholly plastic*, *i.e.* to *act as though* we believed this, and will yield us what we want, if we persevere in wanting it.

To what extent our assumption is true in the fullest sense, *i.e.* to what extent it will work in practice, time and trial will show. But our faith is confirmed whenever, by acting on it, we obtain anything we want; it is checked, but not uprooted, whenever an experiment fails.

As a first attempt to explain how our struggle to mould our experience into conformity with our desires is compatible with the 'objectivity' of that experience, the above may perhaps suffice, though I do not flatter myself that it will at once implant conviction. Indeed I expect rather to be asked indignantly—'Is there not an objective nature which our experiments do not make, but only discover? Is it not absurd to talk as if our attempts could alter the facts? And is not reverent submission to

this pre-existing order the proper attitude of the searcher after truth?’

The objection is so obvious that the folly of ignoring it could only be exceeded by that of exaggerating its importance. It is because of the gross way in which this is commonly done that I have thought it salutary to emphasise the opposite aspect of the truth. We have heard enough, and more than enough, about the duty of humility and submission; it is time that we were told that energy and enterprise also are indispensable, and that as soon as the submission advocated is taken to mean more than rational methods of investigation, it becomes a hindrance to the growth of knowledge. Hence it is no longer important to rehearse the old platitudes about sitting at the feet of nature and servilely accepting the kicks she finds it so much cheaper to bestow than half-pence. It is far more important to emphasise the other side of the matter, viz. that unless we ask, we get nothing. We must ask often and importunately, and be slow to take a refusal. It is only by asking that we discover whether or not an answer is attainable, and if they cannot alter the ‘facts,’ our demands can at least make them appear in so different a light, that they are no longer *practically* the same.

For in truth these independent ‘facts,’ which we have merely to acknowledge, are a mere figure of speech. The growth of experience is continually transfiguring our ‘facts’ for us, and it is only by an *ex post facto* fiction that we declare them to have been ‘all along’ what they have *come to mean for us*. To the vision of the rudimentary eye the world is *not* coloured; it becomes so only to the eye which has developed colour ‘sensitiveness’: just so the ‘fact’ of each phase of experience is relative to our knowledge, and that knowledge depends on our efforts and desires to know. Or, if we cling to the notion of an absolutely objective fact of which the imperfect stages of knowledge only catch distorted glimpses, we must at least admit that only a final and perfect rounding-off of knowledge would be adequate to the cognition of such

fact. The facts therefore which *we* as yet encounter are not of this character: it may turn out that they are not what they seem and can be transfigured if we try. Hence the antithesis of subjective and objective is a false one: in the process of experience 'subject' and 'object' are only the poles, and the 'subject' is the 'positive' pole from which proceeds the impetus to the growth of knowledge. For the modifications in the world, which we desire, can only be brought about by our assuming them to be possible, and *therefore* trying to effect them. There is no revelation either of nature or of God, except to those who have opened their eyes; and we at best are still self-blinded puppies.

Even the notion that the appearances which reality assumes to our eyes may depend on the volitional attitude which we maintain towards them is a truism rather than an absurdity,¹ and nothing is more reasonable than to suppose that if there be anything *personal* at the bottom of things, the way we behave to it *must* affect the way it behaves to us. The true absurdity, therefore, lies in our ignoring the most patent facts of experience in order to set up the Moloch of a rigid, immutable and inexorable Order of Nature, to which we must ruthlessly immolate all our desires, all our impulses, all our aspirations, and all our ingenuity, including that which has devised the very idol to which it is sacrificed!

§ 8. The above sketch of the nature and manner of the process which has moulded us and the world of our experience may have seemed to bear but remotely on the relations of Axioms to Postulates. In reality, however, it will be found that the whole subsequent argument has already had its main lines mapped out by our introductory discussion of the *Weltanschauung* which Prof. James has called *pragmatism* and *radical empiricism*.² For when,

¹ Cf. James' *Will to believe*, pp. 28, 61, 103 foll. And it is, of course, psychologically true that not only our *delusions* but also our *perceptions* depend on what we come prepared to perceive.

² Regarded as labels perhaps, neither of these terms is quite satisfactory. But as philosophic, like political, parties are commonly named (or nicknamed) by their opponents, it would be premature to attempt fixity of nomenclature until criticism has had its say.

as we must do, we apply it to the theory of our cognitive faculties and the first principles whereby in knowledge we elaborate our experience (§ 1), it leads to a very distinctive treatment of epistemological problems, differing widely from those traditionally in vogue. It follows that the general structure of the mind and the fundamental principles that support it also must be conceived as growing up, like the rest of our powers and activities, that is, by a process of experimenting, designed to render the world conformable to our wishes. They will begin their career, that is, as *demands* we make upon our experience or in other words as *postulates*, and their subsequent sifting, which promotes some to be axioms and leads to the abandonment of others, which it turns out to be too expensive or painful to maintain, will depend on the experience of their working.

The contrast with both of the traditional accounts of the matter, both that of the old empiricism and of epistemological apriorism is well marked, and I hope to show that its superiority is no less palpable.

The truth is that both the traditional accounts of the nature of Axioms are demonstrably wrong, and though to give such a demonstration may appear a digression, it will ultimately facilitate our progress. I shall accordingly indulge in a criticism, which will show that the axiomatic first principles, whereby we organise and hold together our knowledge, are neither the products of a passive experiencing, nor yet ultimate and inexplicable laws or facts of our mental structure, which require from us no effort to attain comprehension but only recognition and reverence as '*a priori* necessary truths.' In the case of empiricism the criticism will be comparatively brief and easy, because its inadequacy is pretty generally conceded; apriorism will demand a lengthier and more difficult discussion, because it has attempted to conceal its inadequacy behind so many technicalities of language, so many obscurities of argumentation and a fundamental duplicity in its standpoint.

II

§ 9. Taking then the old empiricism first, we observe that there seems to be little doubt about its standpoint. Its derivation of the axioms is frankly psychological, and describes how the mind may be conceived actually to come by them. Its psychology is doubtless mistaken, and its recourse to psychology to settle the problem of knowledge may often be crudely worded, but it propounds a definite method of answering a real question. And we are at least free from the perplexities which arise in apriorism when an argument is conducted on two planes at once, the psychological and the epistemological (logical), and the relations of the two are left carefully undefined.

Secondly, it should be noted that empiricist psychology is at bottom quite as much infected with intellectualism as that of the apriorists. It conceives, that is, the experience which yields the elements of our mental structure as cognitive ('impressions,' 'ideas,' etc.); it does not place the central function of mental life in volitional striving and selective attention. Now intellectualism, though it may lend itself to many descriptive purposes in psychology and hence will probably never wholly disappear, is ultimately a misdescription of mental life even as psychology, while it is essentially incapable of connecting itself with the wider biological context, in which the organism is conceived as reacting on its environment, or with the higher ethical plane, on which it is conceived as a responsible *person*.

I pass to the graver counts of the indictment. Empiricism conceived a purely passive mind as being moulded by an already made external world into correspondence with itself in the course of a process of experience which overcame whatever native refractoriness the mind possessed.¹ Hence we come by our belief that every event has a cause in consequence of the *fact* that there are causes in nature, and that this eventually impresses itself

¹ It is thus the exact converse of the account given above (§ 6) in which moulding activity was due to 'mind,' and resistance to 'matter.'

upon us ; two and two make four, because there are units which behave so, and we must count them thus and not otherwise, though in another world, as Mill consistently observed, they might insist on making five, and force upon us a new arithmetic. So also it is because nature *is* uniform that an unbroken series of inductions *per enumerationem simplicem* hammers into us the principle of the 'uniformity of nature.'

To all this the fatal objection holds that these principles cannot be extracted from experience because they must already be possessed before experience can confirm them. Hume's simple discovery, that the connection of events which all assume is never a fact of observation, is as awkward for empiricism as for apriorism. Unless, therefore, we look upon the succession of events as possibly regular, it can yield no evidence of a principle of regularity ; until we count them, things are not numbered, until we look for order, order does not appear. In the case of the uniformity of nature Mill indeed practically concedes this ; he admits (*Logic*, bk. iii. ch. iii. § 2, and ch. vii. § 1) that "nature not only is uniform, but is also infinitely various," that some phenomena "seem altogether capricious," and that "the order of nature as perceived at a first glance presents at every instant a chaos followed by another chaos." Now if this is still true of the impression produced on us by nature, whenever we assume the receptive attitude of a disinterested observer, how much more of a chaos must nature have appeared to the primitive intelligence which had yet to lay down the fundamental principles of cosmic order ?¹

The truth is that the whole empiricist account of the derivation of axioms is *not* psychological history experienced by the primitive mind : like so much 'inductive logic' it is at best an *ex post facto* reinterpretation (for logical purposes) of such experience by a reflecting mind which has already grasped, and long used, the principles

¹ There is of course ample evidence that this was actually felt to be the case. Primitive animism is (*inter alia*) an explanation of the material chaos of experience by a corresponding spiritual chaos, conceived as rather more manageable.

of cosmic order. To the primitive mind such principles can at most be *suggested* by the regularity of phenomena like, *e.g.*, the alternation of day and night, or of organic habits (breathing, heartbeat, hunger, etc.) already acquired before reflection begins; but if mere experience were the source of axioms, such suggestions of regularity would necessarily have their effect effaced by the preponderantly chaotic character of the bulk of experience, and would be swept away by a cataract of 'lawless' impressions.

Again it is incumbent on us to note the difficulty of generalising the empiricist derivation of Axioms: though Empiricism is over 2000 years old, it has never been completely carried out, and few indeed would be found to envy the empiricist the task, *e.g.* of adequately deriving the Principle of Identity.

And lastly, it affords just ground for complaint that empiricism as it stands, does not really satisfy the desire the appeal to which constituted its chief charm. It does not really exhibit the derivation of the axioms in a process of experience. It asserts indeed that such a derivation occurred. But it assigns to it a date in a so remotely prehistoric and prelogical age that it is impossible to observe the details of the process. And in any case the process is complete. Thus, according to Mill, the romance of the axioms is past before real thinking and scientific induction begin: association has engendered them, but that does not prevent them from being final constituents of the present intellectual order; once established "in the dim red dawn of man," they are exempt from further vicissitudes, and undergo no selection or real confirmation in the development of our intelligence. Thus they lay claim to the same vicious finality as their rivals the *a priori* structures of the mind: neither the one nor the other leaves room for a real growth in the intrinsic powers of the mind.

III

§ 10. But to castigate empiricism is to flog a dead horse; to go on an expedition against apriorism is to plunge into an enchanted forest in which it is easy to miss the truth by reason of the multitude of "universal and necessary truths" which bar one's way.

At first, indeed, nothing seems easier and more obvious than the considerations upon which apriorism is based. If there are certain truths which are necessary to all knowing, which are implied in the existence of every act of knowledge, if these truths cannot be derived from experience because they are presupposed by all experience, if, as we said, we must be in possession of them before experience can confirm them, then what can we do but call them *a priori* and suppose that they reveal the ultimate self-evident structure of the mind, which we must recognise, but which it would argue impiety to question and fatuity to derive?

Nevertheless I propose to show that beneath the thin crust of this self-evidence there lie concealed unsuspected depths of iniquity, that the clearness of the doctrine is superficial and gives way to deepening obscurity the farther it is explored, that in every one of the specious and familiar phrases, which apriorists are wont to fling about as the final deliverances of epistemological wisdom, there lurk indescribable monsters of ambiguity. Nay, my criticism will culminate in a demonstration that the whole conception of an independent and autonomous theory of knowledge is afflicted with an ineradicable and incurable confusion of thought, the clearing up of which demolishes the *locus standi* of the whole apriorist position.

Let us note then in the first place that as an inference from the break-down of the old empiricism apriorism is devoid of cogency. It does not follow that because the 'necessary' truths are presupposed in all experience they are, in the technical sense, *a priori*. We must indeed be possessed of them to organise our experience, but we

need *not* be possessed of them in the manner asserted. It suffices that we should hold them *experimentally*, as principles which we *need practically* and would like to be true, to which therefore we propose to give a trial, without our adoring them as ultimate and underivable facts of our mental structure. In other words they may be prior to experience as *postulates*.¹

§ 11. Similarly the method of postulates is capable of supplying an alternative explanation of what, since Kant, have been esteemed two infallible marks of a genuine *a priori* truth, viz. its universality and necessity. It is not enough merely to contend that these truths cannot come from experience, because experience can only give fact and not necessity (or at least not an objective necessity), and because it can never guarantee an absolute universality which applies to the future as well as to the present and past. For a postulate possesses both these valuable characteristics by as good a right as an *a priori* truth, and is not afflicted with the impotence that besets a mere record of past experience.

Its universality follows from its very nature as a postulate. If we make a demand that a certain principle shall hold, we naturally extend our demand to all cases without distinction of time, past, present, and to come. The shrinking modesty which clings to the support of precedent is out of place in a postulate. A truth which we assume because we want it may as well be assumed as often as we want it and for all cases in which it may be needed. We can make it therefore as universal as we please, and usually we have no motive for not making it absolutely universal.² Nor is the enormity

¹ To meet the obvious criticism that most people are quite unaware that they postulate in knowing, it may be well to add that the postulating, like the 'experimenting,' may proceed with little or no consciousness of its nature. Indeed this is precisely the reason why the voluntarist and postulatory character of mental life has been so little recognised, and its assertion still appears such a novelty in philosophy. The philosophers who indignantly reject it argue that they are not aware of postulating, and *ergo* there is no such thing. But this is a mere *ignoratio elenchi*, and does not prove that they are not deluded.

² Sometimes, it is true, a principle which is assumed as useful for one purpose turns out later on to conflict with another. The scientific postulate of determinism and its relations to the ethical postulate of freedom are a good example. In such cases there is a temptation to deny the absolute universality

of a postulate lessened, or atoned for, by self-denying economy in the use of it. A postulate is none the less a postulate because it is a little one, and if in making it we sin, we may as well sin boldly.¹

Similarly the 'necessity' of a postulate is simply an indication of our *need*. We want it and so *must* have it, as a means to our ends. Thus its necessity is that of intelligent purposive volition, not of psychical (and still less of physical) mechanism.² The inability to think

of one or both of the conflicting principles. But the better way of obviating the conflict is to emphasise the fact that each principle is relative to the purpose for which it was assumed, and that consequently, on their respective planes and from their several points of view, both principles may be universally valid, though one or the other, or both, must eventually be subjected to reinterpretation.

¹ It is a great satisfaction to me to find myself on this point in complete agreement with Dr. Hodder (*The Adversaries of the Sceptic*, p. 14) whose merciless castigations of the half-hearted postulations of some modern logicians, can, to my mind, be met only by an open avowal of the fundamental part played by postulation in the constitution of all knowledge (including Dr. Hodder's scepticism).

² I am of course painfully aware that the term *necessity* is exceedingly equivocal. At first sight it seems as though we could distinguish—

1. 'Absolute' and intrinsic necessity *sui juris* (*et optimi juris*) (Aristotle's ἀναγκαιὸν ἀπλῶς καὶ πρώτως), of which the 'necessity' of *a priori* truths is commonly reputed to be an illustrious example.

2. The conditional necessity of a logical train of thought, in which the conclusion follows 'necessarily' from its premisses.

3. The necessity of the 'necessary conditions' under which all actions take place. This influence of the given material is Aristotle's οὐδὲν ἀνευ.

4. The necessity of means to ends (Aristotle's οὐδὲν ἀνευ τῶ ἀγαθῶν), which renders the 'necessary' ultimately the 'needful.'

5. The psychical feeling of 'having to' or 'compulsion' (Aristotle's ἀναγκαιὸν βίη).

But in reality the last two alone of these senses are primary and descriptive of ultimate facts about our mental constitution, from which the others may be derived. The feeling of necessity (No. 5) may be evoked by a variety of circumstances, by physical constraint, by attempts to deny facts of perception, or to interrupt a train of thought which coheres, either logically, or psychologically (for all minds, or for an individual's mind). It arises wherever a volition is thwarted, and not until this occurs; hence the necessity alike of fact and of reasoning appears to be 'implicit.' The truth, however, is that factual data and logical reasonings are *not* 'necessary' in themselves; their 'necessity' is only aroused in consciousness when the will needs to affirm them against resistance in the pursuit of its ends. That '2 and 2 *must be* 4' only marks the rejection of some other result: *if* we desire to adhere to our system of arithmetical assumptions and are determined to go on counting, we cannot be called upon to add 2 and 2 in any other way. But behind the '*can't*' there always lurks a '*won't*': the mind cannot stultify itself, because it will not renounce the conceptions it needs to order its experiences. The feeling of necessity, therefore, is at bottom an emotional accompaniment of the purposive search for the means to realise our ends (sense 4). And inasmuch as the pursuit of means is unmeaning except in beings working under limitations in their choice of means, which means are themselves extracted from the resisting material (βίη), the 'necessity' of the material conditions (sense 3) comes to be bound up with and included under this (4th) head.

As for 'absolute necessity' (sense 1) it is altogether a misnomer, involving a

them otherwise, which is supposed to distinguish necessary truths, is at bottom a *refusal* to do so, a refusal to strip oneself of useful means of harmonising one's experience at the summons of a casual doubt. To argue, then, from the universality and necessity of our axioms to their *a priori* origin is a *non sequitur* which should not be allowed to pass unchallenged, even if there were no alternative theory in the field.

§ 12. Let us consider next the possible meanings of the phrase 'a condition of all possible experience.' When an *a priori* truth is so denominated, what is the precise meaning attached to 'condition'? Does it mean that without which experience cannot *be*, or cannot *be thought*, or cannot be thought *in an aesthetically pleasing or ethically satisfactory manner*? Evidently we ought to distinguish between a truth which is operative as a psychical antecedent fact *causing* the subsequent experience and a logical factor which is detected in that experience by subsequent reflection, but need not be actually present in consciousness at the time of experiencing, and so cannot be called a psychical fact. In the latter case the 'condition of the possibility of experience' is not anything actually necessary to the experience, but rather necessary to its *ex post facto* reconstruction which ministers to our desire for the logical ideal of an intelligible system of experience.

And of course the answer to the question—what are the conditions of thinking such a logical system?—will depend on the mode of logical analysis we may choose to adopt: hence the burden of proof will rest with the advocates of any particular form of apriorism that their account is the *only one* possible.

All these considerations may be urged with still

contradiction *in adjectis*: necessity is always dependence, and the factual only becomes 'necessary' by having a ground assigned to it, *i.e.* by sacrificing its independence and becoming hypothetical. But the hypothetical necessity of thought (sense 2), into which it is thus absorbed, is itself reducible to a means: Our coherent systems of 'necessary connection' can (and will) be shown to be but means for the realisation of our purposes in thinking, and apart from these possess no necessity. No one need add 2 and 2 as 4 unless he needs to add, *i.e.* *wills* to add them, because he *needs* arithmetic.

greater force against versions of the *a priori* conditions of experience which reduce themselves to demands (it is true for the most part semi-conscious and unavowed) that the cosmos shall conform to various æsthetical and ethical ideals: such demands may be entirely legitimate in their way, and I myself would be the last to think the worse of any philosopher for showing susceptibility to ethical and æsthetical ideals, and holding that their realisation also is included in the conditions of a thoroughly rational experience. But should they not be avowed as such? and is it not entirely improper to mask them under the ambiguity of 'the conditions of experience'? There remains then only the first interpretation, which takes the 'condition' to be an actual psychical fact, and so decides in one way the very debatable question which must next engage our attention.

§ 13. What does *a priori* mean? When we speak of 'the *a priori* principles implied in the existence of all knowledge,' do we mean implied *logically* or *psychologically*? Are they, that is, the products of a *logical analysis* or *psychical facts*? Is the 'priority' asserted *priority in time* (psychical fact) or *priority in idea* (logical order)? Or, *horribile dictu*, can it be that the *a priori*, as it is used, is a little of both, or each in turn, and that the whole apriorist account of our axioms rests on this fundamental confusion?

Of course it would be very pleasant if we could answer this question by an appeal to authority, if we could find, for choice in Kant, or, if not, in some of his followers and interpreters, an unambiguous and authoritative settlement of this question. But unfortunately Kant's own utterances are so obscure, ambiguous, and inconsistent, and his followers are in such disagreement, that this short and easy way is barred, and that we shall have to adopt the longer, and perhaps more salutary, method of arguing out the logical possibilities of each interpretation.

§ 14. I shall, accordingly, begin by considering the interpretation of the *a priori* as a term in a logical

analysis, as it seems on the whole to be that best supported and most supportable.

If we take the *a priori* as the outcome of a logical inquiry, as the product of a logical analysis describing how the formation of knowledge out of its constituent factors is to be conceived, if the world is to be thinkable (*i.e.* to satisfy our logical ideals), then the first point of which we shall require an explanation is *how we come by* these factors. In the Kantian analysis knowledge is said to arise out of the union of heterogeneous elements, Sensation and Thought, the former supplying the Matter, the latter the Form. But what authenticates Kant's fundamental antithesis of Matter and Form, Sensation and Thought, so that it should be imperative on every one to set out from it in his analysis of the nature of knowledge? Why are we not to be at liberty to conduct our analysis in whatever way and by whatever principles appear to us most suitable? Why should we be tied down to Kant's factors? Has not Mr. Shadworth Hodgson recently shown that it is possible to construct a logical analysis of knowledge as elaborate and careful as Kant's (though perhaps just as unsound ultimately) without having recourse to a use of *a priori* principles? Or better still, should we not do well to go back to Aristotle and find in his antithesis of mediate and immediate, discursive and intuitive, the basis of an analysis quite as legitimate in theory and far more fertile in practice? Is it not in short an unavoidable methodological defect of any 'epistemological' argument that it must rest on an *arbitrary selection* of fundamental assumptions?

So far as I can see, the *exclusive* claims of the Kantian analysis could be defended only in two ways. It might be alleged that the recognition of its truth was itself an *a priori* necessity of thought. Or it might be contended that its correctness was guaranteed by the manner of its working, by our finding that, as a matter of subsequent experience, it *did* enable us to account rationally for all the observed characteristics of our knowledge.

But would not the first defence be exposed to the crushing retort that it begged the question, and was nothing more than a circular argument which tried to make the unsupported allegation of a necessity of thought into the logical ground of that allegation?

The second defence on the other hand seems obnoxious to a double objection. In the first place has it not a pronounced empiricist trend, and is it consonant with the dignity of apriorism to introduce a sort of transcendental 'payment by results' into the estimation of theoretical philosophemes? And secondly, if we answer thus, it will be necessary, but not easy, to show that *de facto* the Kantian epistemology gives a complete and satisfactory answer to the whole problem. And I hardly anticipate that the distinguished philosophers who have devoted their lives to proving the necessity of going beyond Kant to Fichte, or Hegel, or Herbart, or Schopenhauer, because of the glaring defects they have found in Kant's system, will find it to their taste so to defend the Kantian position, even though it has supplied them with the common foundation of their several systems. We must either deny, therefore, that the truth of the Kantian analysis of knowledge is vouched for by its self-evident adequacy, by the pellucid cogency of its constructions, or assert that the whole procession of philosophers that has started from Kant has gone hopelessly astray.

But after all it is not we who are concerned to find our way past the uninviting horns of this dilemma; whether the Kantian analysis of knowledge is perfect and his followers have erred in amending it, or whether it is fundamentally wrong and his followers have erred in continuing it, the point which has now aroused our curiosity is what guarantees it offers for the correctness of its presuppositions. Let us turn, therefore, to the history of philosophy and inquire whence as a matter of fact Kant derived the presuppositions of his analysis.

§ 15. I greatly fear the answer will be shocking. Kant's whole construction seems to be based on psychology,

nay on the psychology of the period! How can this be reconciled with the assiduity with which the dominant school of Kant-Pharisees has preached that epistemology and psychology have nothing to do with each other and that the former must be kept quite clear from contamination with the latter? After it has been so long and laboriously instilled into us that subservience to psychology is the one deadly sin which the good epistemologist must shun, that psychology is the wicked realm of Hume, Mill, and the Devil, have we not a right to be shocked when we find that Kant himself has distilled his *elixir vitæ* from this broth of Hell? Is it not intolerable then to force us to employ psychological assumptions as to the nature of mind? For even though it is permitted to receive instruction from a foe, we know that it is prudent to dread the Danaans even when they are bearing gifts.

And yet the facts are hard to argue away. Is not the antithesis between the 'matter' of sensation and the 'form' of thought the old psychological distinction invented by Plato? Again has it not often been shown¹ that in its conception of the 'manifold of sensation' the Kantian system presupposes all the figments of an empiricist psychology, and implies the very psychological atomism which the whole subsequent history of philosophy has shown to be unworkable, and which the simplest introspection shows to be untrue? And is it not in a large measure because he vainly and falsely follows, nay outdoes, Hume in assuming a wholly unformed and unfounded *ὄλη* of sensations, which not all the *a priori* machinery made in Germany can ever really lick into shape, that Kant's epistemology breaks down?

And what Kant adds to this psychological mixture of Platonic dualism and Humian atomism is a no less unoriginal ingredient. It consists simply of a number of faculties, invented *ad hoc*, upon which devolves the duty (which we are vainly assured they are capable of fulfilling) of organising the formless matter with which they are supplied. But does not this commit the Kantian theory

¹ Most recently and lucidly in Mr. Hobhouse's *Theory of Knowledge*, p. 42.

of knowledge to another psychological fallacy, the effete and futile doctrine of faculties? In fine what answer should we be able to make, nay how should we disguise our sympathy, if an *enfant terrible* should arise and declare that so far from being uncontaminated with psychology Kantian epistemology was in reality nothing but a misbegotten cross by faculty psychology out of Humian atomism?

I have never been able to discover from the apriorists what they conceive to be the relation of logical analysis to psychological fact, *i.e.* the actual process of experience, but if, as experience shows, some reference to the latter occurs, and is indeed inevitable, we may at least demand that the reference should be made clear and explicit. And in addition it may fairly be demanded that if a theory of knowledge cannot but rest on presuppositions as to the factual nature of conscious life, recourse should be had to psychological descriptions of the best and most modern type, before an attempt is made to decide what super- or extra-psychological principles are 'implied in the existence of knowledge.'

§ 16. It would seem then that the attempt to construe the *a priori* as a logical analysis independent of psychological fact is not practicable, and cannot really dispense with an appeal to psychological assumptions which are arbitrary and exploded. But the difficulties of this theory of the *a priori* by no means end here. Supposing even that somehow, aided, let us say, by some spiritual influx from a noumenal world, we had succeeded in constructing a complete account of the structure of knowledge which satisfied every logical requirement, worked perfectly, and was applicable to everything that could be called knowledge, even so we should have gained an æsthetical rather than logical advantage. Our epistemology would be beautiful, because great and symmetrical, but would it be indisputably true? Could we not conceive some other philosopher gifted with an equally synoptic imagination setting himself to compete with our lovely construction, and succeeding, perhaps, in throwing it into the shade of

oblivion by a rival structure based on different assumptions, built up by different connections and excelling its predecessors in completeness, simplicity, and æsthetic harmony?¹

Theoretically at least *any number* of such analyses of knowledge would seem to be possible; for they have only to construct imaginary logical systems, to describe how knowledge *may be conceived* to be put together, without restriction as to the choice of principles assumed and without reference to what actually occurs *in rerum natura*. It would need therefore the decree of some absolute and infallible despot of the intelligible world to secure for whatever *a priori* account was preferred—on account of its simplicity or æsthetic completeness or practical convenience—a monopoly of epistemological explanation.

§ 17. However, even this may be conceded. I am in a yielding mood and not disposed to cavil or to stick at trifles, and so will not contest the right divine of Kant and his dynasty—he has too great a bodyguard of philosophy professors.

I proceed only to point out a consequence of the attempt to construe the *a priori* logically without reference to psychical fact. It follows that its priority is *not in time*. For the whole matter is one of logical analysis. The actual knowledge, which the epistemologist professes to analyse, is then the real fact, and prior to the analysis which professes to explain it. It is the actual presupposition of the analysis which distinguishes in it an *a priori* and an *a posteriori* element. Thus in actual fact the *a priori* and *a posteriori* elements in knowledge are co-eternal and co-indispensable, even though not esteemed co-equal. The priority therefore of the *a priori* is solely an honorific priority *in dignity*. *A priori* and *a posteriori* are merely eulogistic and dyslogistic appellations, which we are pleased to bestow upon factors which we are pleased to distinguish in one and the same act of knowledge. In the concrete reality they are fused together; there is no form without matter and no matter without

¹ That this actually occurs has been shown above (§ 14).

form—*συνεξεύχθαι μὲν γὰρ ταῦτα φαίνεται καὶ χωρισμὸν οὐ δέχεσθαι.*¹

Now if this be the case, I cannot for the life of me see why such inordinate importance should be attached to the distinction of *a priori* and *a posteriori*, nay to the whole epistemological theory, nor why the naming and precedence of such abstractions should be accounted essentials of philosophic salvation. What now hinders us from inferring from the course of the argument that the procedure and terminology of our epistemological analysis is arbitrary and indifferent, and that the real test of truth comes, not from any distinctions we assume beforehand, but *a posteriori* and *empirically* from the manner of its working?

§ 18. As far as the Kantian analysis of knowledge is concerned, the issue can be narrowed down to this question, whether it works, and is the simplest and most convenient analysis that can be devised. If such a contention on its behalf can be substantiated, let it be called true, in the only sense in which mortal man can intelligibly speak of truth; if not, let it be finally housed in that 'Museum of Curios' which Prof. James has so delightfully instituted for the clumsy devices of an antiquated philosophy.²

Now this is a question which I could not presume to answer for others without a thorough knowledge of their tastes and customs of thought; but personally I have long felt towards the Kantian epistemology not much otherwise than Alphonso the Wise felt towards the Ptolemaic astronomy when he realised its growing complications; and if by incantations or recantations or decantations I could induce its author to leave the society and the *otium cum dignitate* of the Thing-in-itself, I would fain relieve my feelings by apostrophising him as follows:—

'Oh mighty Master of both Worlds and both Reasons, Thinker of Noûmena, and Seer of Phenomena, Schematiser of Categories, Contemplator of the Pure Forms of Intuition,

¹ Aristotle, *Eth. Nich.* x. 4. 11.

² *Philosophical Conceptions and Practical Results*, p. 24.

Unique Synthesiser of Apperceptions, Sustainer of all Antinomies, all-pulverising Annihilator of Theoretic Gods and Rational Psychologies, I conjure thee by these or by whatever other titles thou hast earned the undying gratitude of countless commentators, couldst thou not have constructed the theory of our thinking activity more lucidly and more simply?’

§ 19. At this point it would seem to be time for believers in the *a priori* to shift their ground and to try another version of its meaning. I expect to be told, and in no measured terms, that I have misinterpreted and maligned Kant, and blasphemed against the sacred image of immutable truth which he has set up. Epistemological analysis is not the arbitrary pastime of an idle imagination, *ἐνδεχόμενον ἄλλως ἔχειν* in myriad ways. *A priori* truths are facts which can neither be nor be conceived otherwise, and without which no other knowledge can be or be conceived.

“You will not surely,” I shall indignantly be asked, “deny that you think by the principle of identity, that you predicate the categories of substance and causality, that you refer your experiences to a synthetic unity of apperception, that you behold them in space and time? And we call these operations *a priori*, to indicate that without them you cannot know or experience anything at all.”

Very well, then, let us recognise the *a priori* truths as facts. If it is on this condition alone that I may use them, I will gladly grovel in the dust before them rather than that they should withdraw the light of their countenance and I should be cast into outer darkness. Still I cannot but hope that the said light is not so blinding that I cannot behold their *features*. Permit me, therefore, to trace them and to bask in their beauty.

The *a priori* axioms are facts—real, solid, observable, mental facts—and woe betide the philosopher that collides with them! In one word they are *psychical facts* of the most indubitable kind.

My delight at having found something tangible at

the bottom of so much obscure terminology is so sincere that I have not the heart to be critical about their psychological credentials. Let me waive, therefore, the question, mooted before, whether they have always been described with psychological accuracy, and by the best psychological formulas. I waive also the cognate question whether their description suffices to distinguish them unequivocally from their discredited ancestors, the innate ideas, which since Locke we have all been taught to deny with our lips. I will postpone also an obvious question as to what is now to prevent the theory of knowledge from being absorbed in psychology. For I have no wish to "sycophantise" against an argument which bids fair to become intelligible.

§ 20. But of course I cannot close my eyes to the consideration that observable psychical facts *have a history*. The *a priori* axioms, therefore, may be contemplated *historically*, and *psychogenetically*; and then, perhaps, the valet within me whispers, it will turn out that they were not always such superhuman heroines as they now appear, and that they have arrived at their present degree of serene exaltation from quite simple and lowly origins. Accordingly I shade my eyes, thus, and scrutinise their countenances, so, and lo! I begin to discriminate! They do not all seem to be of an age or of equal rank; some, as Plato says,¹ are *πρεσβεία καὶ δυνάμει ὑπερέχουσαι*. Others seem to have been admitted into the Pantheon in historic times, while yet others have been thrown into the background, or even into Tartaros. Shade of Plato! is not even the supercelestial World of Ideas exempt from change? Nay more, their manners and bearing are not uniform, and I swear by Aphrodite, I believe some are rouged and powerless to hide the ravages of age!

To carry on the imagery would be too painful, but I must adhere to its meaning. If the *a priori* axioms are in any sense psychical facts, or contained in psychical facts, each of them has a theoretically traceable history,

¹ *Republic*, 509 B.

and in many cases that history is visibly written on their faces. They are complex growths which constitute *problems* for the philosophic mind; they are in no sense solutions of the problem of knowledge, or of any other.

Whoever then can carry their analysis farther, either historically, by showing how, when, and why they arose, or logically, by systematically connecting them with and deriving them from the other constituents of our nature, or by the mixed method to which the gaps in our knowledge will probably long compel us, *i.e.* by supplementing and colligating actual observation by hypothesis, will have deserved well of philosophy, even though he will have had to sacrifice the dogma of the verbal inspiration of the Kantian Criticism.

§ 21. Any such further inquiry into axioms, therefore, is necessarily preferable to any view which is content to leave them *plantées là* as insuperable, indissoluble, unquestionable, ultimate facts which obstruct the advance of science by their unintelligibility. For what could be more disheartening than to encounter this serried array of *a priori* 'necessities of thought' entrenched behind craftily contrived obstructions of technical jargon, and declining to yield or to give any account of themselves?

Can we indeed, so long as we tolerate their pretensions, be truly said to have explained the nature of knowledge at all? For what do they do to explain it? What do they do beyond vainly duplicating, as *μάταια εἶδη*, the concrete processes of actual knowing? At best they seem nothing but the *capita mortua* of a defunct faculty psychology, which offers us only a tautological *δύναμις* in lieu of the *ἐνέργεια* whereof we desired an explanation.

I have experience of the spatially extended—*forsooth*, because I am endowed with a 'pure' faculty of space perception! I experience succession—*forsooth*, because I have the 'pure' form of empty time! I refer my experience to my 'self,' and the operation is 'explained' by being rebaptised in the name of the Synthetic Unity of Apperception!

I know of course that Kant supposed himself to have

guarded against this interpretation and the criticism which it provokes, by denying that the 'pure intuition' of Space or Time is *a priori* only in the sense in which, *e.g.* the colour sense is prior to the colour perception.¹ But I should dispute his right to do this, and contend that in so far as he succeeded in establishing a difference, it was only at the cost of making the 'pure intuition' prior to experience in the evil psychological sense of the 'innate idea.'²

§ 22. "But is not this whole indictment based on a refusal to recognise the axioms as ultimate? And what do you hope to gain thereby? For surely you do not mean to refuse to recognise anything as ultimate? And what more deserving objects could you find for such recognition than the body of necessary truths?"

Certainly I do not in the least mean to commit myself to a denial of anything ultimate. Every inquiry must stop, as it must begin, somewhere. Only I am disposed to deny that we should stop with the 'necessary truths.' And I urge that if by one method a fact (under investigation *in pari materia*, of course) appears ultimate, which by another is easily susceptible of further analysis, then the latter method is logically superior. And I contend also that the so-called *a priori* truths do not look ultimate, and that it is highly disadvantageous to treat them as such: I am preparing to contend that upon proper investigation they turn out to be certainly derivative, and that a knowledge of their ancestry will only increase the regard and affection we all feel for them.

It appears, then, that if *a priori* truth be taken as psychical fact, it is arbitrary to treat it as ultimate, and that we have every motive to connect it with the rest of our mental constitution. We have thereby completed the proof that the apriorist account of our axiomatic

¹ *Critique of Pure Reason*, § 3, *s.f.*

² Kant supports an erroneous doctrine by downright psychological blunders. Thus he asserts that he can 'think' empty Space and Time, but not objects out of Space and Time. If we resolve the ambiguity of 'think,' it will appear (a) that both the objects and the 'pure intuitions' are alike *conceivable*, and (b) that they are alike *unimaginable*. But Kant contrasts the unimaginableness of the objects with the conceivableness of the intuitions to make the latter seem 'prior.'

first principles is invalid, in whichever way it is consistently taken.

§ 23. But then it never is consistently taken. Neither in Kant nor in any of his successors is either interpretation of the *a priori* consistently adhered to. When objections are raised against the manifestly fictitious nature of its psychological foundations, all connection with psychology is indignantly disavowed. If, on the strength of this disavowal, the whole theory of knowledge is treated as a pretty structure which need comply only with logical canons of formal consistency, the actual reality and *de facto* use of the axioms is thrust down our throats.

And the worst of it is that this duplicity of attitude is unavoidable. For it is in truth essential to the whole epistemological point of view. There is no room for a separate theory of knowledge with a peculiar standpoint, if we assign to psychology and logic the whole field that each of them can and ought to occupy.¹ In the so-called theory of knowledge the primary problem is psychological; it is a question of the correctest and most convenient *description* of what actually occurs in acts of knowing, *i.e.* a question of psychological fact. To logic on the other hand it appertains to estimate the *value* of all these cognitive processes: all questions as to whether the judgments that claim truth actually attain it, as to how cognitions may be rendered consistent, may realise the purposes which we have in knowing, may contribute to the ideals we set before ourselves in knowing, fall into the province of the science which aims at systematising our cognitions into a coherent body of truth. Between these two what remains for epistemology to do? From what point of view, and with what purpose is it to treat knowledge, if both the facts and their valuation are already otherwise provided for? It is not a normative science like logic, and it is not descriptive science like psychology. And the 'critical' question—*how do we know?*—important though it is in itself, surely

¹ I do not of course maintain that either science does this at present. It is just because they are not clear as to the character and relations of their respective standpoints that they leave a sort of no man's land around their border line, for hybrids like epistemology to squat on.

does not suffice to found a science. For the question cannot be answered unless it is asked on the basis of definite facts and with a definite aim in view. And whenever it is answered, the answer will always be found to be in terms either of psychology or of logic.

§ 24. As the outcome of our criticism of the two current theories of the nature of our axioms we have arrived at the conclusion that neither the apriorist nor the empiricist account is tenable. Both have proved unsatisfactory; the former because it represented the axioms as mere brute facts of our mental organisation (either entirely disconnected or connected only among themselves), the latter as the fictitious imprints of a psychologically impossible experience on a purely passive mind.

At bottom the failure of both accounts springs from the same source. Both are infected with an intellectualism which is a libel on our nature, and leads them to take too narrow a view of its endowment. Because of this common intellectualism they fail to realise the central fact which we always encounter so soon as we abandon the abstract standpoints of the lower sciences and try to conceive our relation to our experience as a whole, the fact that the living organism *acts as a whole*. Or to bring out separately the aspects of this central fact which empiricism and apriorism severally misinterpret, we may say that *the organism is active and the organism is one*.

Empiricism, with its fiction of the *tabula rasa*, fails to appreciate the first aspect; to see that, even in its reactions on its environment, the organism is active, reacting in a mode decided by its own nature and guided by its aspirations towards a harmony of its experience. Its whole attitude is one of volition and desire, which is ultimately a yearning for the Apocalypse of some unearthly ideal of harmonious equilibration in its whole experience, and for the attainment of this end the whole intellectual apparatus is a means.¹

¹ Of course this has not wholly escaped the notice of philosophers even in former days, and so we may remind ourselves of Spinoza's *conatus in suo esse perseverare*,

In short, the *πρώτον ψεύδος* of the old empiricism is to have failed to recognise this fact of living activity and its bearing on the growth and constitution of the mind.

Again the organism is *one* and reacts as a whole. This is what apriorism fails to appreciate. In the fierce struggle for existence we need all our forces, and require a compact control of all our resources to survive. The organism, therefore, cannot afford to support a disinterested and passionless intelligence within it, which hovers unconcerned above the bloodstained battlefields of progress, or even sucks a ghoulish and parasitic sustenance from the life-blood of practical striving. *Θεωρία* must not be separated from *πράξις*, but related to it as means to end; thought must be conceived as an outgrowth of action, knowledge of life, intelligence of will, while the brain which has become an instrument of intellectual contemplation must be regarded as the subtlest, latest, and most potent organ for effecting adaptations to the needs of life.¹

Thus the *πρώτον ψεύδος* of apriorism is to take our intelligence in abstraction from its biological and psychological setting, from its history, from its aim, and from the function which it performs in the economy of our nature. It perpetrates a *χωρισμός* between knowing and

of Schopenhauer's Will-to-live, nay of Herbart's account of sensations as self-maintenances of the soul. At the present day, voluntarism bids fair to prevail over intellectualism, having obtained the support of men like James, Wundt, Ward, Sigwart, Stout, Paulsen, Renouvier, etc. Since this was written the recently published remains of Nietzsche (*Wille zur Macht*, iii. 1. 1901) have made it manifest that he also conceived our axioms as postulates transformed into 'truths' by their usefulness, and that I might have quoted from him some telling phrases to this effect.

To all this even Mr. Bradley's reiterated asseverations (*Mind*, N.S., No. 41, pp. 7, 9, etc.) that he "cannot accept" principles which he sees to be subversive of the dogmatic assumptions of his whole philosophy hardly seem a sufficient counterpoise.

¹ Of course this doctrine does not involve a denial of the existence (though it does of the rationality) of a 'pure' or 'disinterested' love of knowledge 'for its own sake.' All our functions are liable to perversion and so as a psychological fact, there may also occur such a perversion of the cognitive instinct; nay, history would even seem to show that it may persist and even be strengthened in the course of evolution. But then the explanation probably is that 'useless' knowledge is not nearly so useless as its votaries suppose, and that in the minds which are capable of it the love for it is connected with other mental capacities which are both useful and valuable.

feeling which renders both impotent and their *de facto* union unintelligible.

But when we try to grasp experience as a whole, we must set ourselves above the encumbering abstractions of a psychological classification that has transgressed the limits of its validity. By conceiving the axioms as essentially postulates, made with an ultimately practical end, we bridge the gap that has been artificially constructed between the functions of our nature, and overcome the errors of intellectualism. We conceive the axioms as arising out of man's needs as an agent, as prompted by his desires, as affirmed by his will, in a word, as nourished and sustained by his emotional and volitional nature.¹ It is manifest that we thereby knit together the various factors in our nature in a far closer and more intimate union than had previously seemed possible. Our nature is one, and however we distinguish, we must not be beguiled into forgetting this, and substituting a part for the whole. And, correspondingly, we open out the prospect of a systematic unification of experience of a far completer and more satisfactory character than can be dreamt of by an intellectualist philosophy. For just as the unity to which we may (and indeed must) now aspire is no longer merely that of the frigid abstraction called the 'pure' intellect, but includes

¹ I am not here concerned with the intra-psychological questions as to the number and nature of the psychic 'elements,' as to whether special volitional or affective processes must be recognised in psychology. For the question cannot be answered until it has been settled what is to be the *purpose* of the psychological description. Like all conceptions, the meaning and validity of those of psychology are relative to the use to which they are put, and in the abstract they have only potential meaning. As Dr. Stout well puts it (p. 10), one "cannot be right or wrong without reference to some interest or purpose," and before bespeaking their readers' attention for the details of their classifications, psychologists should above all make it clear *what they propose to do with them*. Now I do not doubt that it is quite possible, and for certain purposes even convenient, to devise descriptions in purely intellectual terms, which entirely dispense with the conceptions of volition, of agency, and even of feeling. Only of course it must not be imagined that any such descriptions are final and sacrosanct. They are purely methodological, and their validity extends as far as their usefulness. And the question arises whether they can be used for a purpose like that which we have in view. If not, we are entitled to describe differently. For it cannot be too soon or too strongly emphasised that there is no intrinsic or absolute truth or falsehood about any of our assumptions, apart from the manner of their working.

and satisfies the will and emotions, so the corresponding unity of the cosmos will not be a purely intellectual formality (such as every world must possess *ex vi definitionis*), but a complete harmony of our whole experience.

§ 25. It is a curious fact that in passing from the *a priori* to the postulate we can appeal to the authority of the same Kant whose characteristic doctrine of an independent theory of knowledge we have been compelled to reject. For Kant, in accordance with his peculiar greatness, which his critics' very criticisms have ever recoiled to recognise, became partly and tardily aware of the fatal error of his intellectualism and of the impossibility of accommodating the whole of life on the basis prescribed by the *Critique of Pure Reason*. After constructing for the 'Pure Reason' a fearful and wonderful palace of varieties, full of dungeons for insoluble antinomies, dispossessed sciences and incarcerated ideals, haunted and pervaded by the sombre mystery of the Noûmenon, he came upon the problem of practical life and found himself unable to organise the moral order similarly, *i.e.* without reference to the *demands* which we make upon experience.

Hence he was constrained to rationalise conduct by the assumption of ethical *postulates*, which boldly encroached and trespassed on the forbidden domain of the unknowable, and returned thence laden with rich spoil—God, Freedom, and Immortality.

This achievement is too often underrated, because it seems to have cost Kant so little—merely a decree for the creation of one more hardly-noticed addition to the lengthy list of faculties, yclept the Practical Reason, conjured into existence *ad hoc*, and apparently as obedient as the rest to her author's word.

But in reality the consequences of enunciating the principle of the postulate are far more momentous, and with a little reflection, it soon appears that Kant has evoked a force which he cannot curb or confine within the borders of his system. The immediate consequence

of admitting ethical postulates which outflank the 'critical' negations of the Pure Reason, is a conflict between the Pure Reason, which had denied the possibility of *knowing* the subjects of the Postulates, and the Practical Reason, which insists that we must practically *believe* and *act on* these tabooed dogmas. Kant essays indeed to delimitate an arbitrary and unscientific frontier between their domains, based upon psychologically untenable hairsplitting between knowledge and belief,¹ but the most indulgent reader cannot but feel that the dualism of the Pure and the Practical Reason is intolerable and their antagonism irreconcilable, while the dual character which this doctrine imposes upon Kant as both the Cerberus and Herakles of the Noumenal world is calculated to bring ridicule both upon him and upon his system.

In view of this fundamental incongruity between the organising principles of knowledge and action, one of two expedients had to be adopted. The first is that preferred by the main body of Kantians to whom the true and epochmaking Kant is the writer of the first Critique.² They regarded the Practical Reason as a bit of a joke and accounted for Kant's subsequent recantation of his 'critical' results either wittily like Heine,³ or dully, like—but no! too many have written on the subject for me to mention names!

The faithful few who tried to balance themselves in the unstable equilibrium of Kant's actual position, who believed his assurances as to the supremacy of the Practical over the Theoretic Reason and its speculative impotence, were left in a sad perplexity. They accepted the dogma, without venturing to define it, and were

¹ How can one prevent one's knowledge and one's belief from affecting each other? If we think at all, either the knowledge will render impossible the practical belief, or a conviction will arise that a belief we constantly act on, which permeates our whole being and never fails us, *is true*. Personally indeed I should say that such was the origin and ratification of all truth. Conversely, a belief which is foredoomed to remain a mere belief soon ceases to be acted on, *i.e.* to be a belief in any real sense at all. The history of religions is full of deplorable examples.

² Or rather of its dominant doctrine.

³ *Philosophie in Deutschland*.

troubled with an uneasy consciousness that it would not bear thinking out.

Even here, however, there was a notable exception. Fichte, with the enterprise and courage of youth, took the Practical Reason seriously in hand, and combining the doctrine of its supremacy with Kant's hints as to a common root of the two Reasons,¹ proceeded to posit the Self as an '*absolutes Sollen*,' whence were to be deduced both the Not-Self and the practical and theoretical activities. The whole construction of the *Wissenschaftslehre*, however, proceeds in a *τόπος ὑπερουράνιος* which is too high for my humbler and concreter purpose—I mention it merely as a partial anticipation of the second and sounder way of conceiving the relations of the Practical and the Theoretical Reason to which I now proceed.

It is impossible to acquiesce in Kant's compromise and to believe by the might of the Practical Reason in what the Theoretic Reason declares to be unknowable. For if the suprasensible and noumenal does not really exist, it is both futile and immoral to tell us to believe in it on moral grounds; the belief in it is an illusion, and will fail us in the hour of our direst need. If the belief in the postulates is to have any moral or other value, it must first of all be used to establish the reality of the objects in which we are bidden to believe. We cannot *act as if* the existence of God, freedom, and immortality were real, if at the same time we *know* that it is hopelessly inaccessible and indemonstrable. We must therefore choose; we must either trust the Theoretical or the Practical Reason (unless, indeed, we are to conclude with the sceptic that both alike are discredited by their conflict).

If we choose to abide by the former, the undeniable fact of the moral consciousness will not save the postulates of the Practical Reason from annihilation. It may postulate as it pleases, as pathetically or ridiculously as it likes, its desire shall not be granted to it, and it will

¹ *E.g.* in the introduction to the *Critique of Judgment*.

prove nothing. By postulating the inadmissible it merely discredits itself. To the plea that the moral life must live and feed upon the substance of unverifiable hopes, Science must ruthlessly reply "*je n'en vois pas la nécessité.*" If then the moral life demands freedom, and freedom be an impossibility, the moral life must inexorably be crushed; Kant is *der Alles-sermalmende*, as Heine thought, and nothing more.

If on the other hand the Practical Reason be really the higher, if it really has the right to postulate and ethical postulates are really valid, then we really stand committed to far more than Kant supposed. Postulation must be admitted to be capable of leading to knowledge, nay, perhaps even to amount to knowledge, and indeed the thought will readily occur that it lies at the very roots of knowledge. For of course postulation cannot be confined to ethics. The principle, if valid, must be generalised and applied all round to the organising principles of our life. The Theoretic Reason will in this case be rendered incapable of contesting the supremacy of the Practical Reason by being absorbed by it and shown to be derivative. Thus postulation is either not valid at all, or it is the foundation of the whole theoretic superstructure.

We stand committed, therefore, to the assertion that in the last resort it is our practical activity that gives the real clue to the nature of things, while the world as it appears to the Theoretic Reason is secondary—a view taken from an artificial, abstract and restricted standpoint, itself dictated by the Practical Reason and devised for the satisfaction of its ends.

But to carry through this programme the price must be paid. The *Critique of Pure Reason* must be not merely revised, but re-written. It must be re-written in the light of the principle of the Postulate. Or as Prof. Ward has excellently put it, Kant's three *Critiques* must be combined into one.¹ The simplest thing of all, however, is to proceed independently to show in what

¹ *Naturalism and Agnosticism*, ii. p. 133. The whole passage is admirable.

manner our fundamental axioms are postulated, now that we may be held to have exhibited the necessity of the principle and its historical justification.¹

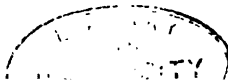
IV

§ 26. We have already incidentally discovered some of the chief characteristics of the Postulate, such as its universality and necessity (§ 11), its experimental character (§§ 5, 8, 11), its psychological origin from practical needs, its function in holding together the intellectual and practical sides of our nature and developing the former out of the latter (§§ 24, 25). But it will not be amiss to consider some further points of a general character before proceeding actually to trace the development of specimen postulates into axioms.

The first point which perhaps will bear further emphasis is that mere postulating is not in general enough to constitute an axiom. The postulation is the expression of the motive forces which impel us towards a certain assumption, an outcome of every organism's unceasing struggle to transmute its experience into harmonious and acceptable forms. The organism cannot help postulating, because it cannot help trying (§ 5), because it must act or die, and because from the first it *will* not acquiesce in less than a complete harmony of its experience. It therefore needs assumptions it can act on and live by, which will serve as means to the attainment of its ends. These assumptions it obtains by postulating them in the hope that they may prove tenable, and the axioms are thus the outcome of a Will-to-believe which has had its way, which has dared to postulate, and, as William James has so superbly shown, has been rewarded for its audacity by finding that the world granted what was demanded.²

¹ For its relation to Aristotelianism, cf. the art. on 'Useless Knowledge' in *Mind*, N.S., No. 42.

² Practical postulation is the real meaning of his much misconstrued doctrine of the 'Will to believe.' It is not so much exhortation concerning what we *ought* to do in the future as analysis of what we *have done* in the past. And the critics of the doctrine have mostly ignored the essential addition to the 'will to believe,' viz. '*at your risk*,' which leaves ample scope for the testing of the assumed belief by experience of its practical results.



But the world does not always grant our demands. The course of postulation does not always run smooth. We cannot tell beforehand whether, and to what extent, a postulate can be made to work. Compliance with some of our demands is only extorted from the refractory material of our 'world,' by much effort and ingenuity and repeated trial. In other cases the confirmation we seek for remains incomplete, and the usefulness of the postulate is proportionately restricted. Sometimes again we may even be forced to desist from a postulate which proves unworkable.

It follows that we may find postulates (or attempts at such) in every stage of development. They may rise from the crudest cravings of individual caprice to universal desires of human emotion; they may stop short at moral, æsthetic, and religious postulates, whose validity seems restricted to certain attitudes of mind, or aspects of experience, or they may make their appeal to all intelligence as such; their use as principles of the various sciences may be felt to be methodological, or they may have attained to a position so unquestioned, useful, and indispensable, in a word so *axiomatic*, that the thought of their being conceived otherwise never enters our heads.

But even the most exalted of these ἀρχαὶ ἀναπόδεικτοι τῶν μὴ ἐνδεχομένων ἄλλως ἔχειν differ from their humble relatives in human wishes not in the mode of their genesis, but in their antiquity, in the scope of their usefulness, in the amount and character of the confirmation which they have received in the course of experience, in a word, in their *working* and not in their *origin*. They are the successful survivors in the process of sifting or 'selection' which has power also over the products of our intellectual striving.

But it ill becomes them on this account to give themselves airs and to regard their position as immutable and unassailable. For in many cases they retain their hold over our affections only *faute de mieux*. They are the best assumptions we can work with, but not the best we can conceive. And some one may some day discover a

way to work with what are now unsupported postulates, and so raise them to axiomatic rank. Thus whatever axioms we may at any time employ are, and ever remain relative to the nature of our desires and our experience, and so long as changes may occur in either, inexhaustible possibilities of corresponding developments must be admitted in the list of our axiomatic principles. An emotional postulate may become the guiding principle of a new science, a methodological principle may become superfluous and be discarded or be superseded by a better, a primitive desire may die down and cease to nourish a postulate, nay even a full blown axiom may be conceived as becoming otiose under changed conditions of experience.

While our empiricism is thus too radical, and our trust in experience too honest, to permit our theory to assign to any axiom an absolutely indefeasible status, we must yet admit that practically the possibility of modifying them is one that may safely be neglected. The great axioms or postulates are so ineradicably intertwined with the roots of our being, have so intimately permeated every nook and cranny of our *Weltanschauung*, have become so ingrained in all our habits of thought, that we may practically rely on them to stand fast so long as human thought endures. For apart from the fact that it would be gratuitous to suppose a revolution in our experience sufficient to upset them, they are protected by our laziness. To think always costs an effort, and the effort of thought required to undo the structure of mind which has grown up with the ages would be so gigantic that we should shrink with a shudder from the very thought thereof. And all for the sake of what? Merely to show that the mental order was constructed bit by bit by postulation and might be constructed otherwise! And would it not be sheer insanity to upset the authority of the axioms in use unless we were prepared to substitute others of superior value? There is therefore in general little prospect of revolutionary plots against the validity of axioms. The enterprise would too much resemble an attempt by a coral

polyp to cut itself adrift from its reef and to start *de novo*. So we do as the corals do and build on the corpses of our ancestors, hoping that if they were right we also shall profit by following suit, that if they were wrong, the consciousness of our wrongness will at least be borne in upon us with a less painful promptitude than if we had set out to go wrong on our own account.

§ 27. It follows as a matter of course, and will readily be comprehended, that, if our axioms have the origin alleged, if postulation pervades our whole mental life and forms the *nisus formativus* of mental development, no exhaustive, or even systematic, table of axioms can, or need, be drawn up. In principle their number and nature must depend on our experience and psychical temperament. They will radiate from human personality as their centre, and their common service in ministering to its needs will bestow upon them sufficient unity to debar us from attempts to force them into artificial systems which at best can result only in sham 'deductions' of the rational necessity of the actual, while making no provision for the possibilities of future development.

We may therefore absolve ourselves from the supposed duty of giving a 'deduction of the categories,' or even an exhaustive list of axioms and postulates. This is the more fortunate as it justifies us in considering only such select specimens of the growth of postulates and their development into axioms, as may suffice to illustrate the principle, or prove particularly interesting, and enables us to save much time and spare much weariness.

V

§ 28. Which of our fundamental axioms I select therefore, does not matter much, any more than the order in which they are treated; but as I am anxious not to incur the charge of shirking difficulties, I shall begin with tracing the genesis of one which is perhaps the most difficult, as it is certainly one of the most

fundamental and axiomatic—viz. the basis of all thinking in the strict sense of the term, the Principle of Identity.

Not, of course, that I propose to derive it out of nothing. I must entirely disavow the Hegelian (or hyper-Hegelian?) ambition of conjuring all Being into existence out of Not-being by a Dialectical Process working *in vacuo*; I have not even got the whole of concrete reality up my sleeve to insinuate bits thereof into my conclusions, whenever and wherever my reader's attention has been relaxed by some tortuous obscurity of argumentation. I prefer honestly to start from what may be taken to be, so far as psychology can describe it, matter of psychical fact. For I hold that epistemological speculation like every other, must take something factual for granted, if it is not to be vain imagining, and defy those who contest my presuppositions to state the alternatives they are in a position to offer. If on this account a claim be advanced that my initial basis of psychical fact is *a priori*, that is, prior to the axiom to be derived, I make no objection. I am content that it should be called so, if the phrase comforts anybody, and if I am permitted to point out (1) that such priority is only relative, *pro hac vice*, and for the purposes of the present inquiry, (2) it is admitted to lie below the level of what can properly be called thought. For I wish to make it quite plain that the psychical fact from which I propose to start, is on what I may perhaps best call the *sentient level of consciousness*, i.e. involves only a consciousness which feels pleasure and pain, which strives and desires without as yet clear self-consciousness or *conception* of objects.

In so doing, I assume, of course, the existence of consciousness or sentiency as a *datum*, and abstain from the alluring expedient of conducting my whole plea on the more concrete plane of biological discussion, obvious and seductive as it might appear to start thence and to argue (1) that the genesis—by a so-called 'accidental variation'—of the concomitance of psychical with physical process was of great survival-value to the lump of matter which first happened to find itself alive and

dimly conscious ; (2) that subsequently great advantages accrued to organisms in which these mental processes cohered and coalesced and became continuous and centralised, until they culminated in self-consciousness. There is a fatal facility and engaging modernity about arguments of this sort, and they bring out an important aspect of the truth. For it is not too much to say, that every step in the development of our axioms, including even the steps hypothetically conceived to precede consciousness, could be plausibly formulated in terms of survival-value. But though it might be easy in this way to enlist the support of the biologically-minded, I prefer to conduct the argument on a higher and more philosophic plane, in order to avoid even the appearance of the *ὑστερον πρότερον* which is inevitably involved in every derivation of consciousness.

In assuming consciousness, moreover, we are bound to assume also the characteristic features whereby it is psychologically described, *e.g.* its continuity, coherence, conativeness, and purposiveness. It should be observed further that in pointing out these characteristics of consciousness, we are not attempting to *define* consciousness. For why should we court failure by propounding an inevitably inadequate formula, to contain and constrain that which embraces all existence, generates all formulas, uses them and casts them aside in its victorious development? Whoever is possessed of consciousness himself will recognise to what in him the description of consciousness refers ; unless he were capable of this, the most exhaustive definitions would impinge on him in vain and without conveying a glimmer of meaning. That consciousness is a psychic fact therefore I shall assume ; what it is, I must leave to my reader's own consciousness to inform him. I have then in consciousness a *ποῦ στῶ* of psychic fact beyond which we neither can nor need go.

Nor I think need we allow the objection to perturb us that our present conception of consciousness may be miserably inadequate. In view of its continuing develop-

ment in the course of experience the suggestion is probably true ; but we do not need the adequate conception of consciousness, which could be reached only in the seventh heaven, and there might have become superfluous. And in any case our ignorance of what the ulterior development of consciousness may portend, is no reason for refusing to recognise in it the actual features which are relevant to our purpose.

§ 29. Now among the factual features *implicit* in all consciousness, though perhaps hard to distinguish in its lower forms and not as yet completely *expressed* in any that we have so far reached, is an *identical self*—or what we are subsequently able so to designate. By this I do not of course mean anything lofty and metaphysical, but merely a convenient description of certain psychical facts. I have no quarrel with the psychologists who argue against an antiquated view of futile and unknowable soul-substance, and insist that the only self they can recognise is just the implicit ‘owning’ of all conscious processes. If the coherence and continuity of conscious processes can under the proper conditions develop into explicit self-consciousness, that is enough ; and so long as the psychologists are able and eager to tell us all about the psychogenesis of the self, I see no reason why their accounts should not be referred to with gratitude and respect.

But my problem is not one of origin, but of the origin of validity ; *i.e.* assuming this conscious self to have been developed, I have to trace out how it proceeds to the conception and postulation of identity. The felt self-identity of consciousness, which, however it arises, is a psychical fact, is, I contend, the ultimate psychical basis for raising the great postulate of logical identity, which is the first and greatest of the principles of discursive thought and introduces order into the chaos of presentations and analyses the *συνκεχυμένον* of primitive experience.

Now this achievement is not a ‘necessity of pure thought’ so much as of practical life ; and without postulation it would remain impossible. The unceasing flow of

like impressions by itself would not suggest the recurrence of what has preserved its identity in change; nor would even its *felt* likenesses suffice to engender a perception of identity.¹ To obtain identity we must first desire it and demand it; and this demand, though it would be impossible if we did not feel ourselves to be identical selves and fruitless if we could not discover such around us, is a distinct step beyond anything given in passive experiencing.

Thus the conception of identity is a free creation of a postulating intelligence which goes beyond its experience to demand the satisfaction of its desires. But it must have been the felt sameness of the continuous conscious life that suggested the clue to the *recognition of the same* in the *recurrence of the like*.

§ 30. Edwin meets Angelina in her winter furs whom he admired last summer in fig leaves; he recognises her identity in the differences of her primitive attire. That such things as the persistence of identity through change should be, and what they mean, he could learn only from the immediate experience of his own identity. That they are *is his postulate*, a postulate that fills his heart with the delicious hope that Angelina will smile on him as bewitchingly as before. Why should I introduce sordidness into this romance, by dwelling also on the coarsely practical advantages of recognising objects in one's surroundings?

Yet it is surely plain that the recognition of the same amid variety of circumstance is advantageous; and if desiring it to be true, because he felt his whole happiness depended on it, Edwin made bold to postulate it, he well deserved the rich rewards which poured in as an overwhelming experience of its working confirmed his postulate.

¹ It seems to me clear that *psychologically* perception of likeness is ultimate, anterior to identity, and incapable of being reduced to it. The analysis of likeness into 'partial identity' is a *logical* procedure which occurs when we manipulate the psychical fact with a logical purpose and try to *conceive* the likeness. But then conception is admittedly a matter of thought, and thought rests on the principle of identity. What the tautology of the Hegelian definition ('identity is *identity* in difference') is struggling to express (or conceal?) is really the *use* of logical conception in manipulating the felt likenesses. Cf. the discussion in *Mind* between Prof. James and Mr. Bradley (N.S., Nos. 5-8).

We, of course are far removed from the scene of this primitive idyll, and have long since ceased to notice what a postulate identity was, and for the matter of that still is. We need a world of philosophic quibbling to bring before our eyes the fact that strict identity never yet was found by land or sea, but is always and everywhere a construction of our mind, *made* by voluntary concentration on the essential and rejection of the irrelevant.¹

Nor, of course, did Edwin know this. He had postulated under the impulsion of practical need, without knowing what he did. The enormity of the logical consequences of his act was hidden from him and only gradually revealed. Still less did Angelina know that she had become the mate of the first *animal rationale*.

Edwin, again, could not foresee that his original postulate would not suffice, and that stupendous efforts of abstraction were still before him if he would complete the postulate of identity and attain to the purity of its present logical use.

In recognising Angelina he had of course (although he realised it not) construed her identity upon the model of his own. But the concrete given identity of self-consciousness is a slender basis for the construction of the logical ideal; indeed it even proves unequal to the requirements of a social life, and needs on this account to be sublimated and idealised into a concept that transcends the given.

The concretely identical, alas, changes in the flow of differences! Edwin has grown bald and Angelina wrinkled, and I grieve to say, they often quarrel. They are no longer what they were when each succumbed to the other's charms, and identity seems dubious and a fraud. *Eheu fugaces Postume! Postulate!* The cure is a hair of the dog that bit you. Edwin must postulate once more, must postulate a more permanent self which rises superior to such mischances of a mortal life, and,

¹ If identity were ever found, Dr. Hodder's amusing strictures (*Adversaries of the Sceptic*, pp. 116-117) on Mr. Bradley's "identity of indiscernibles" would be fatal to every use of the principle.

ever at its best, feeds on ambrosia and drains the nectared cups with changeless gods!

Gods, did I escape my own notice saying? What are gods and how do they arise? As men, but greater! Projections of ideals which the actual suggests, but seems to trample under foot! The sign-posts clearly point to the religious postulates and a track which here diverges from our own.

§ 31. For though it would be fascinating to trace the course of postulation to which religious conceptions owe their birth, we must follow the dry and dusty road of logical postulation by whose side the hardiest flowers of the boldest rhetoric can scarce contrive to blossom. A constant and unchanging self is needed not merely to satisfy what subsequently develops into the religious instinct, but also in order to yield a trustworthy standard of comparison for the purposes of everyday life. If Edwin likes his mammoth steak well done to-day and underdone to-morrow, no woman can live with him. A stable standard of reference in our judgments is an urgent practical need. Hence the ideal of absolute identity begins to dawn upon the logical horizon, and it is recognised that the possibility of meaning depends on its constancy, and that perfect constancy could be realised only by perfect knowledge.

And, not otherwise, recognition leads on to cognition, and cognition to the same postulate of conceptual identity or constancy. The process which took the recurrence of a similar presentation to mean that of the same individual, will bear extension to the resemblances of natural kinds. From recognising individuals we proceed to recognise species, a task made easier by the psychological carelessness which overlooks individual differences.¹ Now *every step in this process is a training in abstraction*. At first even Edwin could not recognise his Angelina without divesting her (in thought) of her enveloping differences.

¹ It is conceivable, indeed, that this process actually preceded in practical urgency, and therefore, in time, the recognition of individuality. But that would not impair the argument, for under some conditions the discrimination of individuals is unnecessary and all individuals are *practically the same*.

But by the time he can discern in their manifold disguises the surrounding objects that are useful or dangerous, he has a pretty sound working control of that weapon of analysis which we now call the principle of identity.

No doubt it still is, and long remains; an *ἐνυλον εἶδος*—pure logic not becoming needful so soon as pure mathematics—but sooner or later some one was sure to ask what was this universal ‘man’ which was so glibly predicated of white, black, yellow, and brown. And then of course the *ἕλη* would be in the fire, and a bloodless ballet of philosophers would commence to dance round the unearthly conflagration.

§ 32. I forgot to mention, by the way, that soon after recognising identity in Angelina, Edwin had (of course) invented language. As to why the expression of his emotions on that prehistoric occasion resulted in the euphonious sound of “Angelina,” he can indeed state nothing intelligible. But by association’s artful aid he got into the habit of venting this utterance whenever he saw her. And then one morning he not only said it, but meant it! Prodigious! the sound had become a symbol! It puzzled him very much, and he had that, until then, unheard-of thing, a nervous headache, for three days afterwards, which puzzled him still more. He put it down to dæmonic inspiration (a notable advance in theology!) and *went on thinking*. Then he proceeded to instruct Angelina, and after a painful process (to her!) got her to answer to her name. And, behold, when their children were born they all learned to talk, *i.e.* to apply similar and *identifiable* sounds to an indefinite plurality of similar objects. Which, of course, in those days was an immense advantage. And ever since the children of men have been the only anthropoids that could talk and impart ideas—whether they had them or not!

All this happened such a very long time ago that I cannot exactly tell you when, and have had (like Plato) to make a myth of it. Whether in so doing I have not condensed into a single myth what was really the gradual achievement of many generations of mortals it were

pedantic to inquire. The illustration serves, I hope, to bring out the main point, viz. that the affirmation of identity, without which there is neither thought nor judgment, is essentially an act of postulation (more or less consciously felt to be such) which presupposes as its psychological *conditio sine qua non* the feeling of the self-identity and 'unity' of consciousness.

§ 33. The derivation of identity I have sketched also goes some way, I think, to explain why in real life men so long enjoyed immunity from the ravages of the predication puzzle. Identity being a practical postulate, modelled on the immediacy of felt self-identity, the postulation of absolute conceptual identity developed very slowly, and there never was any practical danger lest the meaning of the postulate should be pressed into a form calculated to defeat its original purpose. The inherence of attributes in a substance, the relation of a thing to its qualities, are not as such practical problems, and the difficulties which the intellectual play of reflective idlers has discovered in them did not exist in practice. In practice the meaning of terms was defined by their use, and the will-o'-the-wisp of a 'truth' dissevered from utility had not yet been permitted to frustrate the very instinct of which it claimed to be the loftiest satisfaction, nor to eviscerate the conception of 'truth' of its real meaning.

And so tacit convention kept the identity postulated true to a sense that allowed of the possibility of predication.

Hence that S should be S and yet also P , nay that it could be P , just because it was primarily S , seemed no more remarkable than that the self which was glutted with beef yesterday should to-day be hungry, and just because of this identity, should prepare once more to assume the predicate of 'beef-eater.' It would be vain therefore to impose on the logic of postulation with bogies of an identity excluding differences; the calm reply would be that postulates need not, and must not, be pressed beyond the point at which they fulfil their

purpose. An interpretation of identity therefore which excluded predication would stultify our supreme purpose in reasoning as completely as a failure to identify, and would *therefore* be invalid.

And yet we should be equally stern in resisting the allurements to evade the difficulty by relaxing the strictness with which identity is postulated in every valid argument. To the objection that 'abstract identity' would be the death of predication, because if *A* were perfectly and unalterably *A* it could never become anything else, the answer is plain. Abstract identity is never found, but has always to be made. It is made, therefore, in whatever way and to whatever extent it is needed, and remains subservient to the purpose of its maker. It is a postulated ideal which works, though nature never quite conforms to it; before it could be fully realised, the need to which it ministers, the necessity of unceasing predication which is forced upon us by the Becoming of the world, would have had to pass away; and once we had transcended change, identity, together with the processes of discursive thinking which are built upon it, might safely be added to the weapons discarded by the spirit in its advance towards perfection. But as a matter of fact identity continues to be useful just because it continues to be a postulate which never is fully realised. It may therefore blandly be admitted that *A is A* is an impotent truism, so long as it is vividly realised that *A shall be A* is an active truth that remoulds the world.

§ 34. It is in its limitations, perhaps, that the postulatory nature of the principle of identity, and of the conceptual use of mental imagery based on it, appears most clearly. For, as has already been remarked, there ever remains a discrepancy between the identity of the real and the logical ideal, a discrepancy to which we have grown accustomed, a discrepancy on which the use of the concept depends, but which, indubitably, renders identity a postulate rather than a 'law.'

For in strict fact nothing ever *is*, everything *becomes*, and turns our most conscientious predications into false-

hoods. The real is here, there, and everywhere, until we stop breathless in our chase and *point*, gasping. The 'eternal truths,' unable to sustain the pace, have long ceased to reside with us—if indeed they ever gladdened us with theophanies even in the Golden Age of Plato—and have gone down or up (one really cannot be precise about astronomical directions in these Copernican days) into the *τόπος νοητός*, where it is possible to preserve one's dignity without doing any work. In their stead we have craftily devised conventions, such as that becoming *shall mean* being, and that *for our purposes* relative identity may, under the proper precautions, serve as well as absolute. But we stand unalterably committed to the postulate that identity there shall be, though everywhere we have to make it and by force to fit it on the facts. And so we get on very nicely with truths, as with dresses, that last only for the occasion or for a season, and console ourselves with visions that in the end Being will absorb Becoming and impermanence cease from troubling and predication be completely true and unchanging and perfect and categorical. If by that time we have outgrown the very need of predication, it does not matter to us now; for nothing of the sort is likely to happen to any of us for ever so long!

VI

§ 35. The myth of Edwin and Angelina has reminded me (perchance by *ἀνάμνησις*) of another of still more ancient date, and if I have obtained forgiveness for telling so much about them, I may venture to relate the story of another being whose name was *Grumps*. Or rather, that would have been his name, if names had then been invented. I cannot quite say who or what Grumps was, but he lived ever so long ago and was very stupid, *very nearly* as stupid as everybody else. He was so stupid that he did not know the difference between himself and other people, but still in his muddled way—he lived, I fancy, in the slime at the bottom of the sea—he wanted to be happy, though he did not know himself nor what

his happiness could be. But one day (or night—it does not really matter which it was,—because there was no light) he made a mistake and got outside a jagged flint stone which he could not digest. It hurt him very much and he nearly died. But ever after his agony Grumps knew the difference between himself and other people, and whenever anything hurt him or happened not to his liking (which was very often) he put it down to the other people. For he felt sure he would never hurt himself. And it made such a difference to his way of living that he grew very big and fat. But everybody else was too stupid to know why.

Which fable, being translated into the decent obscurity of technical language, means that the 'external' world is a postulate, made to extrude inharmonious elements from consciousness, *de jure* if not *de facto*, in order to avoid ascribing them to the nature of the self. Not of course, that this is at first consciously so argued, or that the segregation of the two poles of the experience-process into Self and Not-Self need be conceived as arising otherwise than *pari passu*. But we may conceive that it is the *felt unsatisfactoriness* of experience which suggests the differentiation of Subject and Object and postulation of the latter as an alien 'Other,' *causing* the unsatisfactoriness.

The advantage and the confirmation are obvious as before. And if any one will not believe me, let him go to bed and dream; he will find that there too he projects his dream world from himself and ascribes to it externality, just because, and in so far as, he is baffled by an experience he cannot control.

Contrariwise it may be conjectured that if we got to heaven (having forgotten our whole past) and found that everything took exactly the course desired, no sense of the 'otherness' of our experience could grow up. We should either suppose that we were almighty, that everything was what it was because we desired it, or we should cease to make the distinction between self and 'other,' *i.e.* should cease to be self-conscious.

§ 36. The postulatory aspect of other important axioms I must pass over lightly. The principle of Contradiction may be taken as simply the negative side of that of Identity ; in demanding that *A* shall be itself, we demand also that it shall be capable of excluding whatever threatens its identity. Applied to propositions, it demands that we shall be enabled to avoid the jar of incongruous judgments ; but the volitional nature of this demand is clearly attested by the frequency with which contradictions are *de facto* entertained by minds which either do not allow them to come into actual conflict, or actually enjoy the conflict. The Principle of Excluded Middle similarly, demands that it shall be possible to make distinctions sharp and disjunctions complete, in order that we may thereby tame the continuous flux of experiences. But in both these cases (as before) our postulates are not precise transcriptions of fact ; they are valid because they work, because nature can be made to conform to them, even though not wholly. They derive therefore their real meaning and true validity from the fact that they are applicable to experience, that incompatibles and strict alternatives are met with, that contrary and exclusive attributes are found.

§ 37. I may here call attention to the fact that in scientific research the postulatory procedure of our intelligence is displayed in the formation of *Hypotheses*. A hypothesis is a suggestion we assume and (however tentatively) *act on*, in order to see whether it will work. It always proceeds from some degree of psychological interest ; for about that in which no one is interested no one frames even the most fleeting hypothesis. A real hypothesis therefore is never gratuitous ; it is purposive and aims at the explanation of some subject. In other words it presupposes a desire for its explanation and is framed so as to satisfy that desire. The desire for an answer stimulates us to put the question to nature and nature to the question.¹ We assume, that is, that the hypothesis is true, because it would be satisfactory

¹ Or, as Lady Welby says, it is the *pressure of the answer* that puts the question.

if it were, and then we try and see whether it is workable. If it is not, we are more or less disappointed, but try again; if it is, it rapidly rises to be the theory of the phenomena under investigation, and may under favourable circumstances attain to axiomatic value for the purposes of the inquiry. A good example of this is afforded by the conception of Evolution. This originated as a wild hypothesis suggested by remote analogies; in the hands of Darwin it became a theory which correlated a vast number of facts; and now its usefulness is so universally recognised that it is accepted without discussion as a methodological axiom which guides research in all the sciences concerned with the history of events.

Now the fundamental part played by Hypothesis in the discovery of new truth is being more and more plainly admitted by logicians. Novelty neither arises by formal ratiocination *in vacuo*, as an apriorist logic seemed to imply, nor yet is it spontaneously generated by the mere congregation of facts, as logical empiricism strove to maintain. Facts must be interpreted by intelligence, but intelligence always operates upon the basis of previously established fact. The growth of knowledge is an *active assimilation* of the new by the old. Or in other words, our hypotheses are suggested by, and start from, the facts of already established knowledge, and then are tested by experience. We confront them with the new and dubious facts and try to work with them; and upon the results of this trial their ultimate fate depends.

Now this is exactly what we have seen to be our procedure in postulating. We must start from a psychical experience which suggests the postulate (= the previous fact suggesting the hypothesis); we must use the postulate (or hypothesis) as a means to an end which appears desirable; we must apply the postulate to experience (a postulate and a hypothesis not capable of and not intended for use are alike invalid); and the final validity of the postulate (or hypothesis) depends on the extent to which experience can be rendered congruous with it.

May we not infer that the use of Hypothesis in the

logic of induction confirms our assertion of the postulatory origin of axioms? Is it not the same process which now yields fresh truth which we supposed to have been active from the first and to have laid the foundations of knowledge? And if it can now establish the validity of the truths it elicits, why should it not first of all have established its own validity by establishing the validity of our fundamental axioms?

§ 38. The principle of Causation again is pretty plainly a postulate. Causation, as James says,¹ is an altar to an unknown god, a demand for something, we know not what, that shall enable us to break up and to control the given course of events. Now this demand may be satisfied in various ways at different times and for various purposes, in a manner which greatly conduces to the vitality of controversy. Historically, our original model for constructing the conception of cause is our immediate experience in moving our limbs, on the basis of which the far-famed 'necessary connection'—which at bottom is only the conceptual translation of the feeling of 'having to'—is postulated. This primitive conception of causation, however, does not prove adequate for all our later purposes, especially when, as is usually the case, it is misunderstood and mismanaged. So we proceed to other formulations of causality, which, however, are no less clearly dependent on our experiences and relative to our purposes. 'Cause' means identity when we wish to construct the equations of physics and mechanics; it means regular succession when we are content to view phenomena from without; it involves real agency when, as rarely occurs on the plane of the natural sciences,² we desire to grasp the motive forces of phenomena from within. Every event *shall have* a cause—in order that we may be able to produce it or to check its production. Similarly the principle of

¹ *Principles of Psychology*, ii. p. 671.

² The possible exception is biology, in which the Darwinian method puts difficulties into the way of regarding organisms as automata whose psychic life may be neglected. For if psychic activity has no causal efficacy, why was it developed in a world controlled by the law of struggle for existence?

sufficient Reason demands that everything shall be capable of reasoned connection with all things—*i.e.* we decline to live among *dissecta membra* of a universe.

How intensely postulatory these axioms are, is best seen when we consider what is too often neglected, *viz.* the limits of their use. The unchanging is the uncaused; no reason is required for that which is 'self-evident.' But, psychologically, everything is self-evident which provokes no question, and what alone would be absolutely self-evident would be the absolutely satisfactory. Thus the only complete logical truth would be one which left no room for further questions by reason of its absolute psychological satisfactoriness. And conversely nothing arouses the questioning spirit more readily than the unsatisfactory. As has well been said, there is a problem of evil, but not of good. It is precisely in so far, therefore, as experience is unsatisfactory that we have need of a principle of Sufficient Reason. It has to be left, with so much of the panoply of practical life, at the gates of Heaven.

Comprehended as a postulate, therefore, the principle of Sufficient Reason no longer exercises an unsympathising tyranny of pure reason over reluctant desires; it does not drive us to seek for reasons that can never satisfy without end; it only enables us to assign a reason whenever we will, and the situation seems to us to need one.

The *λύσις* of the *ἀπορία* of the infinite regress of causes is similar. It means "you may go back as far as ever you will"; it does *not* mean "you must go back, whether you will or not." As for the unchanging (or what is taken to be such) the causal demand has no power over it; it has no cause because it has no changes with which it is practically necessary to grapple.

§ 39. Upon the assumption of the existence of universal laws of nature, otherwise known as the Uniformity of Nature, I may bestow a somewhat fuller treatment, for reasons which can perhaps be conjectured by those of my readers who have been engaged in philosophic instruction.

To primitive man—we may suppose ourselves to have got down to semi-historical times—nature inevitably still appears very chaotic and uncomfortable. He desires an explanation of the circumstances that oppress him, and is prepared to clutch at any straw. He partially gratifies this desire by projecting as the ‘causes’ of such happenings ‘spirits’ naturally and necessarily conceived *ex analogia hominis*, and wild and malevolent enough to account for the chaos and the discomfort.

But after all the chaos is not complete; it is interspersed with gleams of uniformity. Though under the promptings of misplaced paternal pride, Helios may conceivably entrust his chariot to the unpractised hands of Phaethon, yet within the memory of the oldest inhabitant the sun has risen and set with regularity. So too a number of organic rhythms, breathing, cardiac pumping, digestion, hunger, etc., have by this time reached a regularity which can hardly be overlooked. There is therefore no lack of psychical experience to *suggest* regularity, and the whole force of association, driving the mind into habitual courses, disposes it to expect a recurrence of the familiar.

Perfect regularity, therefore, can be postulated; and the temptation to do so is great. For while no amelioration of man’s miserable state can be expected from the scientific caution that dares not step beyond the narrow bounds of precedent, the postulation of universal laws is fraught with infinite possibilities of power. If nature is regular, it can be trusted; the future will resemble the past—at least enough to calculate it—and so our past experience will serve as guide to future conduct. There is, moreover, a glorious simplicity about calculating the future by the assumption that out of the hurly-burly of events in time and space may be extracted changeless formulas whose chaste abstraction soars above all reference to any ‘where’ or ‘when,’ and thereby renders them blank cheques to be filled up at our pleasure with any figures of the sort. The only question is—Will Nature honour the cheque? *Audentes Natura juvat*—let us take

our life in our hands and try! If we fail, our blood will be on our own heads (or, more probably, in some one else's stomach), but though we fail, we are in no worse case than those who dared not postulate: uncomprehended chaos will engulf both them and us. If we succeed, we have the clue to the labyrinth. Our assumption, therefore, is at least a methodological necessity; it may turn out to be (or be near) a fundamental fact in nature. We stand to lose nothing and to gain everything by making a postulate which is both a practical necessity and an obvious methodological assumption, pointing out a way of investigating a subject with which we must grapple, if we will to carry on the struggle which is life.

Quid plura? Experience has shown that Nature condones our audacity, and step by step our assumption has been confirmed. The 'reign of law' has turned out to be as absolute as ever we chose to make it, and our assumption has worked wherever we have chosen to apply it. Thus the speculations to which we were first driven in the hungry teeth of savage facts by the slender hope of profit, by the overpowering fear of the ruin which stared us in the face, have slowly ceased to be speculative and become the foundations of the ordinary everyday business of life. Our postulates have grown respectable, and are now entitled axioms.

§ 40. By way of a change I may pass to consider the function of the postulate in a very different region, viz. the construction of our conceptions of Space and Time, which since Kant it has become difficult not to treat of in analogous fashion. In Kant, of course, it will be remembered that they are treated as twin instances of 'pure' 'intuition' or 'perception' (*reine Anschauung*) giving rise to synthetic judgments *a priori* and needing to be systematically distinguished both from perceptions (*Wahrnehmung*) and from conceptions. Nevertheless it will hardly escape an unprejudiced observer that a 'pure intuition' is strangely intermediate between a perception and a conception.

Of this curious fact the explanation which I shall venture to suggest is that in reality the *reine Anschauung* is a hermaphrodite, *both* perceptual and conceptual, and that Kant's doctrine on the subject rests on a systematic confounding of these two aspects. He argues first that Space and Time cannot be perceptions by appealing to their conceptual nature, and then that they cannot be conceptions by appealing to their perceptual character. So he has to construct the pure intuition as a third thing which they may safely be, seeing that they can be neither percepts nor concepts. But he has overlooked the possible alternative that, as so often, the same word has to do duty both for percept and concept, and that by 'Space' and 'Time' we mean now the one and now the other. This ambiguity having escaped his notice,¹ the result is that the whole doctrine of the Transcendental *Æsthetic* is pervaded by a thorough-going confusion of psychology and logic.

As against Kant, I shall contend that the nature of Space and Time remains an inexhaustible source of paradox and perplexity, until it is recognised that in each case what has happened has been that certain psychological data have been made the basis of conceptual constructions by a course of methodological postulation.

§ 41. In the case of Space these psychological data consist of the inherent extension or spatiality of the perceptions of the senses of sight and 'touch' (= pressure + muscular contraction + articular motion), in consequence whereof we can no more *perceive* the unextended than (despite Kant) we can *perceive* empty Space. These perceptual spaces are fused by the necessities (needs) of practical life, which force us to correlate the visual and tactile images of objects, into a single perceptual or real space, in which we suppose ourselves and all objective realities to be immersed. Thus spatiality is a given attribute of the real world as empirical originally as its colour or its weight.

¹ The simplest and most flagrant proof of this is to be found in the fact that Kant does not distinguish between the problems of *pure* and *applied* geometry.

But this real space is very far from being identical with the space of the geometers. Geometrical space is a conceptual construction founded upon space-perception and aiming at the simplest system of calculating the behaviour of bodies in real space—a matter obviously of the greatest practical importance. Hence it is built up by a series of postulates into an ideal structure which *at no point coincides with our perceptual space and in many respects is even antithetical to it.*

Thus it is commonly stated that 'Space' (conceptual) is one, empty, homogeneous, continuous, infinite, infinitely divisible, identical, and invariable. Now every one of these attributes is the product of an idealising construction the purpose of which is to facilitate the interpretation and manipulation of the movements of bodies in real (physical or perceptual) space, which stands in the sharpest contrast with our conceptual construction by being many, filled, heterogeneous, continuous only for perception (if atomism be true), probably finite,¹ *not* infinitely divisible (atoms again!) and variable.

And this is how and why we construct the qualities of our ideal geometrical space. We make it *one* and identical by correlating our sense-spaces, by fusing the multitude of fields of vision and by refusing to recognise the spaces of our dream experiences, in order that we may have a common standard to which we can refer all our space-perceptions. We make it empty and invariable by abstracting from that which fills it and changes in it, in order that nothing may distract us from the contemplation of its pure form. We make it infinite and infinitely divisible by carrying actual motions and divisions on *in thought*, because it is sweet to imagine that no limit exists beyond which we cannot penetrate. We make it continuous by idealising an (apparent) feature of perception, in order to confer upon it a mystic invulnerability. And lastly we make it homogeneous—structureless, and *therefore* able to receive any and every

¹ I should say 'certainly' myself, but I prefer to understate the case. Cf. *Riddles of the Sphinx*, ch. ix. § 2-11.

structure—in order to relieve our minds and practical forecasts of the utter and incalculable heterogeneity which renders the physical qualities of real space different at every point. And last of all we make perceptual and conceptual space share in the same name, because for practical purposes we want to identify the latter with the former and to affirm its validity, and are not concerned to save philosophers from confusion.

And yet when the philosopher has laboriously disentangled the varied threads that are woven into the texture of practical life, and questions us, we can realise the character of our constructions. We can see full well that all these attributes which conceptual space postulates are impossible in perceptual space; that is just the reason why we demand them. They are pure abstractions which idealise the actual and serve the purpose of enabling us to simplify and to calculate its behaviour. And so long as our assumptions come sufficiently near to reality for our practical purposes, we have no reason to emphasise the distinction between the two senses of 'Space' and indeed are interested rather in slurring over the divergence between pure and applied mathematics.

§ 42. Our assumption, then, of geometrical space is true because it works and in so far as it works. But does it work? In modern times ingenious attempts have been made to contest this assumption, and to reconstruct geometry 'on an empirical basis' or at least, to construct alternatives to the traditional 'geometry of Euclid.' These 'metageometrical' speculations have indulged in many crudities and extravagances and have not in all cases succeeded in freeing themselves from the very confusions they were destined to dissipate. But they have achieved a great work in stirring up philosophers out of their dogmatic trust in 'the certainty of mathematics,' and forcing them to realise the true nature of geometric postulates.

The chief philosophic results of the Non-Euclidian metageometry are briefly these. The Euclidian space-construction rests upon 'the postulate of Euclid' as to

parallel straight lines, which Euclid postulated in the innocency of his heart, because he wanted it, and the indemonstrableness of which had ever since been considered a disgrace to geometry. The simple explanation of this fact proffered by metageometry is that conceptual space is a generic conception capable of being construed in several specific ways, and that Euclid's postulate (or its equivalent, the equality of the angles of the triangle to two right angles) stated the specific differentia of the space Euclid proceeded to construct. But out of the same data of spatial perception other systems of conceptual geometry might have been constructed, whose distinctive postulates (as to the number of 'parallels' to be drawn through a given point or as to the sum of the angles of the 'triangle') diverged symmetrically from that of Euclid and would give rise to coherent, consistent and *necessary* geometries, logically on a par with Euclid's and differing from the latter only in the point of usefulness.

For, however much the new geometries of 'spherical' and 'pseudo-spherical' space¹ might claim to rival the logical perfections of the traditional geometry, they have not been able to contest its practical supremacy. Their assumptions are much less simple, and their consequences are much less calculable and much less easily applicable to the behaviour of objects in real space. It seems to be possible indeed to conceive experiences which would be most easily and conveniently interpreted on meta-geometrical assumptions, but it has had to be reluctantly acknowledged that so far no such experiences have fallen to our lot. Euclidian geometry is fully competent to do the work we demand of our geometrical constructions.

But that does not make it more *real* than its rivals. They are *all three* conceptual constructions which may or may not be *valid* and *useful*, but which are alike incompetent to claim *existence*. Hence the question which

¹ The alleged geometry of *four* dimensions seems to rest on a false analogy. The three dimensions of our space constructions are empirical and depend on the original data of our space-senses, which in their turn seem to depend on the triple analysis of motions by means of the semicircular canals of the ear, and the behaviour of the physical bodies to which they are adaptations.

has been so much debated in metageometrical controversy, viz. 'whether our space is Euclidian or not' is strictly nonsense. It is like asking whether the Sistine Madonna *is* the mother of Christ. To ask whether our space is Euclidian or Non-Euclidian is like disputing whether this assertion may be more truly made of the Sistine Madonna or of the Madonna della Sedia. For like Raphael's pictures all our conceptual geometries are ideal interpretations of a reality, which they surpass in beauty and symmetry, but upon which they ultimately depend, and it would be hard to adduce more eloquent testimony of the dependence of these theoretic structures on practical needs than the fact that from the first the conceptual interpretation of spatial experiences instinctively adopted by mankind should have been that which subsequent analysis has shown to be the simplest, easiest, and most manageable.

§ 43. For illustrative purposes the construction of the conception of Time is vastly inferior to that of Space. The conception of Time involves a much more arduous effort of abstraction and its lack of '*Anschaulichkeit*' is such that it can hardly be conceived, and certainly cannot be used, without an appeal to spatial metaphor. Hence I must confine myself to a few hints showing the close analogy of the method of its conceptual construction with that of Space, in the hope that they may prove *φωρὰντα συνηροίσιν*.

Nothing but misunderstanding of the nature of Time is possible unless it is recognised that the word covers *three* different things which may be distinguished as *subjective*, *objective*, and *conceptual* Time.

Of these subjective Time (or *times*, since every centre of experience possesses an indefinite plurality of his own, if we do not—as for practical purposes we always do—exclude the times of dreams, etc.) alone can claim to be a matter of immediate experience. It consists in the psychical facts of succession and memory, and its 'present time' always has duration. It forms the psychological basis of all time-constructions, but for practical purposes it is well nigh useless. Our subjective time estimates

vary too enormously for us to live by them. The time which to the philosopher may pass all too rapidly in metaphysical discussion, may bore the schoolboy to extinction; and conversely the philosopher might prefer extinction to listening for three hours a-day to a discussion of cricket matches or to a Parliamentary debate.

Hence for the purposes of what Prof. Ward calls intersubjective intercourse it is necessary to devise or somehow to advance to a 'Time' which shall be more objective. *Objective* Time is what we live by, and what we read upon the faces of our 'time-pieces' (provided they 'keep time'!) correcting thereby our subjective estimates of the flow of successive experience. As this example shows, objective time depends upon constructions (including that of our watches) and motions, or more precisely, upon the *synchronism* of motions and the assumption of physical constants. But it remains wholly relative, and this enables the philosopher to deduce some curious and interesting consequences.¹

To reach absolute 'Newtonian' Time, flowing equably and immutably from a infinite and irrevocable Past, through a 'punctual' (*i.e.* durationless and infinitely divisible) and yet exclusively real Present, to an infinite Future, conceptual postulation has to be called into play. The absoluteness and equable flow are demands for a constancy which objective Time will not show; the construction of Past, Present, and Future results from the need to arrange the facts of memory; the infinity and infinite divisibility, as in the case of space, result from a thinking away of the contents and limits of the actual experience. But on the whole the usefulness of conceptual Time seems very limited, and is counterbalanced by troublesome antinomies as soon as it is separated from the experience it is intended to interpret.²

§ 44. I pass over the axiomatic postulates of arithmetic, the methodological postulates which are found in every

¹ Cf. *Riddles of the Sphinx*, ch. iii. § 6, and ix. § 11.

² The best illustration of this perhaps is that if conceptual Time were real, or 'Time' really had the attributes postulated for it, Achilles never could catch the Tortoise. Cf. *Riddles of the Sphinx*, ch. xii. § 11.

science and the metaphysical postulates involved in the conception of substance: the first, because I may refer to Prof. James's account of them in the *Principles of Psychology* (ii. p. 653 foll.) and have no desire to 'outdo the good man'; the second, because of their number and the amount of special knowledge which it requires to expound and appreciate them; the third, because in all its traditional forms I am sceptical as to the usefulness, and therefore as to the validity, of the conception of substance, and cannot stay to propound measures for its reform.¹

§ 45. On the other hand too much may be gleaned from the consideration of postulates which are not yet acknowledged to be axiomatic, nor indeed universally to be valid, for us to pass them over. I may mention in the first instance the assumption of Teleology.²

Teleology in one sense is an indubitable postulate of the highest significance. In the interpretation of nature, we must always assume a certain conformity between nature and human nature, in default of which the latter cannot understand the former. Thus human nature is the sole key to nature which we possess, and if it will not unlock the arcana, we must resign ourselves to sceptical despair. If, therefore, every attempt to know rests on the fundamental methodological postulate that the world is knowable, we must also postulate that it can be interpreted *ex analogia hominis* and anthropomorphically.³ And moreover *the closer* the correspond-

¹ The outcome of orthodox philosophic criticism of the substance-concept at present seems to be that substantiality cannot be legitimately affirmed of the psychical and must be reserved for the physical. Meanwhile the substantiality of the ultimate counters of physical speculation is becoming more and more shadowy, and its assumption more and more superfluous. The situation seems to me somewhat absurd. But *que faire* so long as those concerned prefer the fog and decline to clear the atmosphere? Cf. however my art. on the *Conception of 'Ερέπεια* (*Mind*, N.S., No. 36).

² By Teleology I do *not* mean, of course, the contemplation of parts in their relation to a whole, but what the word—until (by way of compromising with its enemies) it was attenuated to a futile shadow of itself—always meant, *viz.* the assertion of purposive intelligence as an agency in the world.

³ Cf. *Riddles of the Sphinx*, ch. v. § 6. As Dr. Julius Schultz well says in his stimulating book, *Die Psychologie der Axiome* (p. 99 and *passim*), to think is to anthropomorphise. Intellectualists will perhaps admit this eventually—shortly before their extinction!

ence between nature and human nature can be shown to be, *the more knowable* will the world be, and the more we shall feel at home in it. Hence, it is a methodological demand to anthropomorphise the world as far as ever we can.

Now human nature, in so far as it is 'rational,' is teleological—it pursues ends which appear to it reasonable and desirable, and tends to become more and more systematically purposive the more highly it develops. Of course, therefore, we must try to find this action for the sake of ends throughout nature, or if we fail, to find the most efficient approximation to it we can. Now, with regard to the actions of our fellowmen, and indeed in the case of all animal life, the full ascription of teleology is not only practicable but practically unavoidable. But with regard to the other departments of nature, and indeed nature as a whole, modern science has persuaded itself that teleological explanations are at present unworkable and therefore 'unscientific.' The ideal of scientific explanation is 'mechanical,' and this is taken to be anti-teleological.

So far, therefore, teleology *remains a postulate*, which it is not possible to carry through, and to render an axiom of biological or physical research. The situation is deplorable, but not desperate. For, in the first place, the antiteleological bias of natural science is largely due to the perverse use professing teleologists have made of their postulate. Instead of treating it as a method whereby to understand the complex relations of reality, they have made it into an *ἀργὸς λόγος* which shut off all further possibilities of investigation, by ascribing everything to a 'divine purpose,' and then, in order to shirk the laborious task of tracing the working of the divine intelligence in the world, adding the suicidal 'rider' that the divine purpose was *inscrutable*. Teleological explanation was thus rendered impossible, while the mechanical assumptions were found to be capable of working out into valuable results, it is true of a lower order of intelligibility. In the second place, although

the teleological postulate is not useful in the present stage of scientific development, that is not to say that it cannot be rendered useful hereafter. It is open to any one to adopt the method, and if he can show valuable results attained thereby, he will not find true scientists slow to recognise its validity. Hitherto indeed the method has failed, not so much because men could not use it, as because they would not, or at least would not use it properly. If, at any time, they should want to use it, they would probably find that it was useful far beyond the limits of its present application.

§ 46. But even these limits are in reality far wider than is ordinarily recognised. In another way from that which we have just been considering the validity of teleology is raised above the very possibility of question. What are these mechanical explanations which have so successfully preoccupied the fertile fields of science? They are devices of our own, *methods* which we have tried and found workable, ideals conceived by our *intelligence* to which we are coaxing reality to approximate; they are pervaded by human purposiveness through and through, and prove that, so far as we have tried, nature conforms to our thoughts and desires, and is *anthropomorphic enough to be mechanical*. In being mechanical it plays into our hands, as James says, and confesses itself to be intelligible and teleological *to that extent at least*. There is no intelligibility without conformity with human nature, and human nature is teleological. A mechanically law-abiding universe does conform to some of our demands and is so far intelligible. We must assume, therefore, that this conformity will extend further, that, if we try sincerely and pertinaciously and ingeniously enough, we can force nature to reveal itself as *wholly* conformable to our nature and our demands. Nothing less than that will content us, and nothing less than that need be assumed. Nay, any attempt to stop short at something less, *e.g.* at a world which was mechanically intelligible, or even intellectually intelligible, but ignored our moral and emotional demands, would seem to jeopardise all that the pertinacity

of our sciences has achieved. A world which can be 'fully explained,' but only in mechanical or barely intellectual terms, is *not* fully intelligible, is *not* fully explained. Nay, at bottom it involves the most abysmal unintelligibility of all, to my thinking. It lures us into thinking it rational, only to check our progress by insuperable barriers later on. Compared with the tantalising torment of this supposition, and the derisive doubt it reflects on all our earlier 'successes,' a scepticism which consistently assumes a fundamental incommensurability of man and his experience, and a consequent unknowableness of the world, and patiently endures their practical consequences, would seem more tolerable and dignified.

We must, therefore, assume all or nothing—we have some (unless we choose to lose it by lack of faith); we must hope and strive for all. Shall we then, in face of all the successes of our sciences, infer that all intelligence (our own included) is a fond delusion for which there is no room *vis-à-vis* of true reality? *O miseris hominum mentes, o pectora cæca!* Can it really be that they *cannot* see that every triumph of the most rabidly 'anti-teleological' mechanical method is, from the 'synoptic' standpoint of philosophy, so much more welcome testimony to the power of the human mind and will to grapple with its experience, and confirms the validity of its teleological assumptions? At all events such blindness, whether it be involuntary or voluntary, is not possible to one who has grasped the truth that theoretic truths are the children of postulation. His eyes are opened, and the question whether teleology is valid is finally closed. For is not his whole theory one continuous and overwhelming illustration of the doctrine that without purposive activity there would be no knowledge, no order, no rational experience, nothing to explain, and no means of explaining anything? What, in a word, is his whole account of mental organisation but a demonstration of the *teleology of axioms*?

§ 47. I must pass over with a mere mention sundry postulates of a religious character, whose position has

been rendered still more dubious than that of teleology by the prevailing misconceptions as to the validity of postulation. An intelligent reader will perhaps gather from what has been said in the last section why the Personality of God should be esteemed an indispensable postulate. The fact again that the goodness of God is a methodological postulate¹ will be found to throw much light on the rationality of all religions, just as the pitifully inadequate way in which it has actually been carried out illustrates the irrationality which unfortunately ever clings even to the best of them.

Is Immortality a postulate, as Kant maintained? If so, in what sense and to what extent? These are questions well worthy of being pondered, not without a cautious discrimination between immortality in Heaven and in Hell. But at present we are too profoundly ignorant as to what men actually desire in the matter, and why, and how, to decide what they ought to desire. Hence, pending the publication of the results of a statistical inquiry undertaken by the American Branch of Society for Psychical Research, which I hope will yield copious and valuable data, profitable discussion of these questions must be postponed.²

VII

§ 48. Having in the above sections exemplified the method by which the postulatory nature of representative axioms may be displayed, I may proceed to round off my essay with some concluding reflections.

I will begin with a couple of cautions. In the first

¹ Even devil-worshippers must assume that their god is susceptible to flattery and capable of being propitiated, *i. e.* is good to them; a thorough fiend would paralyse all religious activity. As for a non-moral 'deity,' it cannot be worshipped and may with impunity be ignored. Wherefore, *q. e. d.*

² It seems probable that the result will be to show that though immortality may be (logically) a postulate it is not (psychologically) postulated, or at least not postulated with scientific intent. If so the anomalous condition of the doctrine is due to the fact that the great majority do not desire to have a future life proved, do not attempt to prove it, and thwart the few who do attempt this. Hence the state of our knowledge remains commensurate with that of our desire, and the 'postulate' remains a mere postulate without developing into a source of knowledge.

place in default of a knowledge of the historical details of the psychological development of our earlier postulates, I have had to content myself with schematic derivations in logical order. The real procedure was probably far more complicated, casual, and gradual, and far less conscious than I have represented it. In fact I see little reason to suppose that any of the makers of the early postulates had any consciousness of the logical import of their procedure or knew why they made them. We know this often to have been the case, that, *e.g.* the logical and geometrical postulates were used long before they were reflected on scientifically, and still longer before they were *understood*. But this is no real difficulty, and we can study the psychological processes involved by observing any one who is persuading himself of the truth of what he would like and would find it convenient to believe, *e.g.* that he loves where money is, or that being in love his mistress is perfection. It is only for the cold-blooded analysis of an unconcerned observer that logical chasms yawn in such processes; the agent himself in the heat of action is wafted over them unawares by the impetuous flow of instinctive feeling, and would doubtless reject our analysis of his motives with the sincerest indignation.

For to an unreflective and uncritical mind whatever looks likely to gratify desire presents itself with an inevitableness and æsthetic self-evidence which precludes all doubt. And we are all unreflective and uncritical enough to accept the self-evidence also of the devices we denominate 'truth,' until at least the doubt as to their real character has been forced upon us.

It should be clear from this how I should conceive the logical question with regard to postulation to be related to the psychological, and how I should reply to an objector who was willing to grant that postulation is the method whereby we come by our axioms psychologically, but denied that this affected the logical problem of their justification.

To this we should reply that we also distinguish between the motives which assume and the trials which

justify an axiom. A postulate does not become axiomatic until it has been found to be workable and in proportion as it is so. But we deny that the two questions can be separated and logic be cut adrift from psychology and dissipated in the ether of the unintelligible. Psychological processes are the vehicles of truth, and logical value must be found in psychological fact *or nowhere*. Before a principle can have its logical validity determined, it must be tried; and it can be tried only if some one can be induced to postulate it. Logical possibilities (or even 'necessities') are nothing until they have somehow become psychologically actual and active. A 'truth' which no one ever conceives is nothing. It is certainly no truth.

Hence it is impossible to treat the logical question of axioms without reference to the actual processes whereby they are established, and their actual functioning in minds which entertain the logical in close connection with their other ideals. If therefore it is by postulation that we *do know*, we cannot but base on postulation our theory of how we *ought to know*. Here, as elsewhere, the ideals of the normative science must be developed out of the facts of the descriptive science. Regarded from the standpoint of the higher *purpose* of the former,¹ the psychological processes must be purged of the hesitations, inconsistencies and irrelevancies which clog them in their actual occurrence, and when this evaluation is completed, it yields the norms which *ought to be*, but as yet *are only in part*. Thus (as must indeed have become obvious to a careful reader of the preceding sections) the logical account of Postulation is an idealised version of the course of actual postulating. But for this very reason it has a guiding power over the actual processes, which the fancy processes of an abstracted logic, legislating vainly in the void, can never claim.

§ 49. Secondly, I am of course aware that in applying to the problem of knowledge the *method of origins* I am debarred in one sense from giving a *complete* explanation.

¹ Which of course is itself a psychological fact.

For granting that I have succeeded in connecting our cognitive apparatus with the earlier functions of consciousness by means of the principle of the postulate, it is open to any one to demand the reason why we should be capable of feeling and volition, and so gradually to drive me back into the formless, mindless, undifferentiated void which is conceived to precede all evolution. That this difficulty should occur in *all* theories is no answer, and a poor consolation.

The true answer is that the method of origins is of relative validity and that in the end we *never* find out 'what a thing really is' by asking 'what it was in the beginning.' Nor does the true value of the method reside in the (illusory) starting-point to which it goes back, but in the knowledge it acquires on the way. The true nature of a thing is to be found in its validity—which, however, must be *connected* rather than *contrasted* with its origin. 'What a thing really is' appears from what it *does*, and so we must study its whole career. We study its past to forecast its future, and to find out what it is really 'driving at.' Any complete explanation, therefore, is by final causes, and implies a knowledge of ends and aims which we can often only imperfectly detect.

All this of course applies also to the case of knowledge. Knowledge cannot be derived out of something other and more primitive; even if the feat were feasible, it would only explain *ignotum per ignotius*. Hence to analyse it into 'elements' and 'primary forms' is in a manner illusory; so long as its structure is not completed, the final significance of its forms cannot be clearly mirrored in its structure. Ultimately, therefore, it is impossible to explain the higher by the lower, the living organism of growing truth by its dissected members. If we desire completeness, we must look not to the $\delta\lambda\eta$, as in different ways our theories of knowledge all have done,¹ but to the

¹ For both the apriorist and the empiricist accounts add this to the catalogue of their shortcomings. Both explain the system of actual concrete knowledge which is growing to completion in the cosmic process, by a reference to the beggarly elements out of which it has arisen, composed of the abhorrent skeleton

τέλος. And to claim definitive finality for any present theory of knowledge would seem to crave no slight equipment with the panoply of ignorance.

But is the end in sight? Can we infer from what knowledge has been, and now is, what it should be, and God willing, will be? We can of course (as explained in the last section) construct, to some extent, the ideal on the basis of our knowledge of the actual. But though therefore an answer is not perhaps wholly inconceivable even to this question, an exploration of the seventh Heaven is hardly germane to the present inquiry.

§ 50. I cannot more fitly close this rough sketch of a great subject than by adding a few words as to the probable effect on philosophy of a more general adoption of the principle I have advocated. It may, I think, reasonably be anticipated that it will have a reviving and most invigorating influence upon an invaluable constituent of human culture which too often has been betrayed by the professing champions who were bound and paid to sustain its banner against the attacks of fools and Philistines. Philosophy is once again, as so often in its history, 'the sick man' among the sciences: it has suffered unspeakable things at the hands of a multitude of its doctors, whose chief idea of a proper regimen for the philosophic spirit has been to starve it upon a lowering diet of logic-chopped conundrums, to cut it off from all communication with real life and action, to seclude it in arid and inaccessible wastes whence there is an easy descent to the House of Hades, and by constant blood-letting to thrust it down into the gloomy limbo where a pallid horde of useless, half-hypostasised abstractions vainly essays to mimic the wealth and variety, the strength and beauty of reality. That philosophy has not perished out of the land under such treatment testifies with no uncertain voice to its divine destiny and to the glow of ambrosial fire that courses in its veins. We may expect, therefore, a marvellous

of the *a priori* necessities of thought in the one case, and the crude mass of chaotic experiences in the other. But from the standpoint of the τέλος what knowledge has become is truer, because more valuable, than what it has become out of.

recovery once it has by the might of postulation shaken off the twofold curse under which it has for so long laboured, the curse of intellectualism and the curse of a will that does not know itself, and in its self-diremption turns against itself, to postulate the conflicting and incongruous.

Intellectualism, to which it has already several times been necessary to refer in unappreciative terms, is naturally the besetting sin of philosophers, and a perennial idol of the academic theatre. Intellect being the distinguishing characteristic of the philosopher and the indispensable means of holding a mirror up to nature, he exhibits a constant tendency to substitute the part for the whole and to exalt it into the sole and only true reality. His infatuation is such that it seems to him to matter not one whit, that it proves patently and pitiably unequal to its rôle; that to maintain itself in the false position into which it has been forced, it has to devastate reality and call it truth; that it has to pervert the empty *schemata* of 'universal' abstractions from their legitimate *use as means* to classification, and erecting them into *ends*, to substitute them for the living reals; that even when it has been permitted to cut and carve the Real at its pleasure, and to impose on us two-dimensional images in lieu of the solid fact, it has in the end to confess that the details and individuality of the Real elude its grasp.

But when, for the sake of bolstering up an inhuman and incompetent, and impracticable intellectualism, an attempt is made to cut down the scope of philosophy to an attenuated shred which intellectualism can contemplate without dismay, when we are required to believe that philosophy need aim only at understanding,¹ and at understanding in general, without either condescending to the particular, or considering that which 'passeth all understanding,' it is high time to protest. It is the individual concrete experience in all its fulness which

¹ The thing is of course really impossible. A mere 'understanding' which excludes any aspect of the given reality is not even understanding in the end, and would only aggravate our sense of the burden of an unintelligible world. Cf. § 46.

every man worthy of the name wants philosophy to interpret for him; and a philosophy which fails to do this is for him false. Intellectualism is necessarily false because it only operates with conceptions, whose purpose and essential construction incapacitate them from accounting for the individuality from which they have abstracted. It reduces the philosopher to an impotent spectator of a *supra-rational* universe which he can interpret only as *irrational*.

+ And in this case the on-looker sees nothing of the game, because he sees a game which he does not understand, and cannot understand unless he has tried to play it. It is a false abstraction of intellectualism to divorce thinking from doing, and to imagine that we can think the world truly without acting in it rightly. But in reality this is quite impossible. 'Pure' thought which is not tested by action and correlated with experience, means nothing, and in the end turns out mere pseudo-thought. Genuine thinking must issue from and guide action, must remain immanent in the life in which it moves and has its being. Action, conversely, must not be opposed to thought, nor supposed to be effective without thought; it needs thought, and elaborates it; it is not a "red mist of doing" which obscures the truth, but the radiance which illumines it.

In Lebensfluten, im Thatensturm,
 Wallt es auf und ab . . .
 So schafft es am sausenenden Webstuhl der Zeit
 Und wirkt der *Menschheit* lebendiges Kleid.

Faust, Act i. Scene 1 (with the
 necessary variations).

To trace, therefore, to their root in the postulations of personal need the arrogant pretensions of 'pure thought,' and thus to get rid of the haunting shadow of intellectualism, reopens the way to a philosophy which remains in touch with life, and strenuously participates in the solution of its problems.

§ 51. Such practical success in its completeness is, of course, a sufficiently remote contingency; but there

is a further reason for the expectation that it will be greatly facilitated by the proof of the volitional foundations of our intelligence. For it disposes also of another serious and inveterate source of philosophic confusion, and constant stimulus to philosophic despair, viz. the notion that philosophic difficulties arise out of the *incompetence of the reason*. Now there is some foundation for this notion. A certain class of philosophic problems, to wit, those which have no earthly concern with practical life (like, e.g. the Absolute and its habits), and so cannot be tested by action, are really *ultra vires* of an intelligence which was devised and developed to harmonise experience. But then we have all along contended that such problems are not real problems at all, but miasmatic exhalations of a false intellectualism, which has misconstrued its own nature and powers. Such problems are insoluble, because in the end they are unmeaning. But there are other cases where the intellect seems to fail us in questions of the most pressing practical importance. Hence so long as the dogma of the primacy of the intellect prevails, it seems hard to acquit the human reason of the charge of being infected with fundamental disabilities and insoluble antinomies. For is it not easy to draw up a formidable array of incompatible assertions and to provide each with a 'proof' in logically unexceptionable terms?

But of these 'difficulties' it now seems possible to propound a profounder explanation. The real root of the trouble may be found to lie in the will rather than in the reason, whose innocent amiability is always ready to provide an intellectual formulation for the most discordant aims and the most obscure desires. Let us, therefore, insist that before the reason is condemned untried, and philosophy is finally reduced to a trivial game which may amuse but can never really satisfy, it is necessary to inquire whether the 'antinomies' do not arise rather from volitional discord than from intellectual defect, whether the contradictions of the reason are not forced upon it by an indecision which knows not what

it wills, a division of the will which insists on willing incompatibles, or a lack of courage and endurance which fails to follow out what it wills.

That this should be the case need not arouse surprise. We are all sufficiently aware that systematic thinking, clearly conscious of its aim, is a somewhat infrequent phenomenon, and that in myriad ways intellectual confusion renders possible the co-existence of inconsistent doctrines in the same mind. But the intellectualist phrasing of our terminology renders us slow to recognise that *infirmity of purpose* is a no less rampant affliction, that numbers of really intelligent persons are addicted to the retention of incompatible desires, and either do not know what they will, or cannot 'make up their minds' to will consistently. Indeed it is probably true to say that 'confusion of will' is a better description of a very common psychic condition than 'confusion of thought,' and that most of what passes for the latter is more properly ascribed to the former. For all such volitional indecision, whereof a desire both to eat one's cake and to have it is by no means the least venial form, masks itself in intellectual vestments, and so contributes to cast doubt upon the faith that, with patience and proper treatment, our minds are adequate instruments to cope with the practical problems of our experience.

In illustration of this doctrine a single very common and glaring instance may, on the principle *exemplo ab uno disce omnes*, suffice. The insolubility of the 'mystery of evil' arises simply and solely out of the fact that people will neither abandon the practice of passing moral judgments on events, nor the dogmas which render all ethical valuation ultimate foolishness. As soon as they make up their distracted 'minds' (*wills*) which of the incompatible alternatives they will choose to abide by, whether they prefer to vindicate the supreme validity of moral distinctions, or the 'infinity of God' and the absolute 'unity of the universe,' the mystery disappears. For Evil visibly arises from certain limitations, performs certain functions, subserves certain purposes, is connected

with certain conditions, in the economy of the universe, all of which admit of being empirically determined or conjectured. All that is required, therefore, to bring the existence of Evil into accord with the postulated goodness of God is that we should conceive (as we easily can) a deity subject to the limitations, working under the conditions, aiming at the purposes, which we believe ourselves to have discovered. Similarly, if we deny that moral attributes can fitly be applied to the deity or the universe, Evil is simply a natural fact like any other. Of course, if we refuse to do either of these things, and insist on maintaining *both* these positions, we manufacture a mystery which is as insoluble as we have made it. It is insoluble because we *will not either* live in (or with) a non-moral universe, *or* give up indulging a perverted taste that revels in infinities. Thus it is not our 'reason' which is to blame, but our 'will.' For neither reason nor revelation compels us to frustrate the belief in God's goodness by that in His infinity.

And even in cases where a modicum of genuine intellectual confusion has entered into the composition of an antinomy of the reason, it is impossible to deny the complicity, and ultimate responsibility, of the 'will.' Intellectual confusion is most frequently the product of habitual thoughtlessness, carelessness, inattention and laziness, and even where it is due to sheer stupidity,¹ the obstinacy which adheres to an antinomy after its solution has been clearly displayed is a volitional quality—of a reprehensible kind.

We may infer then that there are no theoretically insoluble problems, or at all events that we have no right

¹ The moral valuation of stupidity is much too high; perhaps in consequence the prevalence of an intellectualism which, by divorcing knowledge and action, encourages people to bestow moral admiration upon what is intellectually contemptible. Stupidity is commonly supposed to have an intrinsic affinity with virtue, or at least to be a quality of which no man or woman need be morally ashamed. In reality, however, it may be questioned whether it is ever found without moral guilt, either in its possessors or in their social medium. Hence, as well as for the purpose of evincing the sincerity of their rejection of intellectualism, it would be well if philosophers devoted some of their surplus ingenuity to inverting their ancient paradox that 'vice is ignorance' and expounding in its stead the profounder and more salutary dictum that 'ignorance is vice.'

to assume so, but are methodologically bound to assume the opposite.¹

§ 52. But, it may be urged, how does all this, even if true, help Philosophy? Is it not just as bad, nay worse, that men should hug intellectual contradictions to their bosoms, and cherish absurdities with an affectionate devotion, than that they should believe themselves their reluctant victims?

I think not, for three reasons which I will set down.

(1) The man who realises that he is inconsistent, deliberately and of malice prepense, can more easily be made to feel the responsibility for his mental condition than he who imagines that the very constitution of his mind brings him to his wretched pass. Moreover in most cases, the desires which attach him to one or other of the incompatible beliefs are not such as he really respects, and would easily faint from shame or wither with publicity.

(2) Confusion of will may be remedied, like confusion of thought, by attention and reconsideration. Many who have hitherto proceeded unchallenged in blissful ignorance of their motives, who have lacked a clear consciousness of what they will and why, once they had their attention called to it would set to work to clear away the confusion.

(3) There is hope from the young, even though the old generation should obstinately cling to its inveterate errors. Errors as a rule are not renounced; they die out. In this particular case the prospect is perhaps a little brighter than usual, because not all who now believe in their speculative impotence really enjoy their position. And the young are in a different case: their natural sympathies are rather with a philosophy that makes the blood run warm than with one that congeals the natural flow of thought by the chilling vacuity of its abstractions. And they have little or no inducement to adopt the gratuitous and uncomfortable perplexities of their seniors. And besides errors clearly seen to arise from perverse

¹ I am already inclined to deny that, despite the utmost efforts of sceptics, theologians, and Mr. Bradley, there exist any theoretical antinomies which can be pronounced insoluble in principle—unless indeed the 'eternal cussedness' of man be esteemed such.

attitudes of will are no longer so readily communicable as while they were disguised as theoretic dogmas. Nor should it be forgotten that intellectualism is intrinsically duller, less inspiring, and more difficult to follow than voluntarism, which appeals more directly to the hopefulness, courage and enterprise which are the precious heritage of youth.

So that on the whole we need not despair of Philosophy. Nay, we may gradually hope to see substituted for the disheartening and slothful twaddle (*pace* all the distinguished persons who have repeated it) about the infirmities of the human reason and its impotence to break through the adamantine barriers of an alien world, exhortations bidding us be of good cheer and go forth to seek, if we would find, urging us to act if we would know, and to learn if we would act, and assuring us that if insuperable limits exist to the development and progression of the human spirit, man has not as yet taken pains enough to discover them, while it is the part of a cur and a craven to assume them without need.

And so we must essay to weld together thought and deed, or rather, to resist the forces that insidiously sever them and pit the intellect against the will in meaningless abstraction. For by a philosophy that seriously strives to comprehend the whole of experience, the unity of the agent is never forgotten in the multiplicity of his pursuits, but is emphatically affirmed in the principle of postulation, which pervades all theoretic activity, generates all axioms, initiates all experiment, and sustains all effort. For ever before the eyes of him whose wisdom *dares* to postulate will float, in clearer or obscurer outline, the beatific vision of that perfect harmony of all experience which he in all his strenuous struggles is striving to attain. And instead of immolating his whole life to the enervating sophism that it is all an 'appearance' to be transcended by an unattainable 'reality,' let him hold rather that there can be for him no reality but that to which he wins his way through and by means of the appearances which are its presage.