

III.—THE INFINITE AND THE PERFECT.¹

BY PROF. J. S. MACKENZIE.

A CONTRAST has often been drawn between the customary attitude of the ancient Greek mind towards the Infinite and that of the Moderns. For the Greeks it is said, the Infinite tended to have a bad meaning; it implied something unformed, indefinite, negative: whereas for the Moderns in general it means what is most complete, most perfect, most real and positive. That this antithesis is in the main correct cannot certainly be gainsaid; and it may well lead us to inquire whether there is not some fundamental misconception involved in the idea of the Infinite as used either by the ancient Greeks or by modern thinkers, if not even in the usage of both. Such an inquiry has no doubt already been made, especially by Hegel, with results that are not a little fruitful; but I do not know that the significance of the Hegelian view on this point has ever been sufficiently emphasised in English²: and at any rate it has seemed to me that it might be worth while to make a fresh attempt to set it forth and bring out its value. I believe that all the points that I seek at present to urge are substantially Hegelian, but I have no desire to implicate either Hegel or any of his followers in the conclusions that I draw or the special applications that I make.

First, then, I think it may be well to illustrate very briefly the divergent views of the Infinite to which reference is here made, as being specially characteristic of the thought of the ancient Greeks, on the one hand, and of modern speculation on the other. In doing so my object is, of course, not that of elaborate historical research, but only that of indicating what appear to be the essential points.

¹ A paper read before the Philosophical Society, University College, Cardiff, October, 1903.

² Except in Dr. Hutchison Stirling's *Secret of Hegel*, which seems to be regarded as a sealed book by most English readers.

The earliest form in which such a conception appears would seem to be the *ἄπειρον* of Anaximander—translated by Prof. Burnet as “the Boundless”; and this is interesting, not only as the earliest conception of the kind, but also as being one in which the contrast between the Greek and the more modern notion may be regarded as still latent. The exact meaning of the “Boundless” of Anaximander is no doubt a matter on which there has been, and may well be, a considerable amount of controversy; but this much seems clear, that it had for him both a positive and a negative force. It was positive in so far as it was thought of as the primitive material, the *ἀρχή* out of which all things come, and into which they all return. It was negative in so far as it was the unformed material, in contrast with those particular determinations that become ‘separated out’ from it, and so was in itself little more than a bare potentiality of being. The subsequent development of Greek thought, however, went almost entirely in the direction of emphasising the more negative side of this conception.

The Pythagoreans probably represent the next important step. Here again the precise interpretation is a matter of some doubt; but it may be safely said that the general Pythagorean view was dualistic, and that their two elements were thought of as an unlimited material and a limit imposed upon it. Both seem to have been conceived as positive; but it is clear that for them all actual existence was found in the combination of the two, and consequently that the Infinite in itself was not thought of by them as effectively real. It was only an aspect of reality.

Now it is hardly too much to say that all serious metaphysical speculation among the Greeks was determined by the fundamental conception that thus emerges in Anaximander, and is developed by the Pythagoreans. The “Sphere” of Parmenides, though not directly related in a positive way with this conception, and perhaps even developed in opposition to it,¹ seems yet to be in reality a further working out of the same essential thought. The “Sphere” of Parmenides is regarded as that which is thoroughly real and perfect; and it seems clearly to be thought of by him as a determinate and limited whole. “It is not permitted,” he says, “to what is to be infinite; for it is in need of nothing; while, if it were infinite, it would stand in need of everything.”

The same view is in the main characteristic of the Eleatic School as a whole, Melissus having been apparently treated

¹ This is Burnet’s view; but it appears to be very problematical.

as something of a heretic.¹ With regard to Plato, again, it is obvious how largely his conception of the Ideal Types is based on the Eleatic doctrine of reality; and also how, when he seeks to apply his theory to the things of Nature, he at once makes use of the Pythagorean idea of an imposition of determinations. And the same idea is evidently at the root of Aristotle's doctrine of Form and Matter. Matter is the indefinite material to which Form gives determination. Even the Atoms and Void of Democritus may fairly be regarded as an offshoot from the same central conception.²

On the whole, it seems not unfair to say that all Greek metaphysics is dominated by the conception of Form; and that this Form is thought of as, in some way or other, giving determinateness to an indefinite, pre-existing material. Heraclitus is of course an exception to this; and it would be easy enough to point to other side-currents. But the main stream of thought is very decidedly in this direction.

The same fundamental idea meets us when we turn to the more ethical aspects of Greek speculation. The Pythagorean "Numbers" for instance, were evidently treated as determinations of moral relations as well as of those that are material. In Plato's writings, and especially in the "Philebus," the same idea of a determining Form is applied in the treatment of Ethics; and finally this conception is summed up, in its most systematic form, in the Aristotelian doctrine of the Mean. All this is too obvious to require any detailed expansion or enforcement.

Similarly, Greek Æsthetics is in the main dominated by the idea of the beauty of that which has a determinate form or embodies a definite type. "Greek Philosophy," as Dr. Bosanquet says, "is inclined to select mathematical form, ratio, or proportion as the pure and typical embodiment of beauty."

In short, over the whole of the most characteristically Greek speculation is inscribed the famous Platonic formula, *μηδεις ἀγεωμέτρητος εἰσίτω*; and geometry means for the Greeks the investigation of determinate forms.³

Curiously enough, the same inscription might be written over the whole of that line of speculation in which, more than in any other, the keynote of modern philosophical

¹ Burnet seeks to rehabilitate Melissus; but Aristotle is more likely to have known what his real value was.

² Burnet's treatment of the relation of the Atomists to the Eleatics seems to me very instructive.

³ Burnet seems to be right in thinking that even the "Numbers" of the Pythagoreans were essentially geometrical.

thought was struck—that of the Cartesian school. But with the Cartesians the conception of Geometry has changed. Instead of dealing, as the Geometry of the Greeks in general did, with the properties of separate figures, it is rather the effort to connect different figures and different modes of mathematical relation with one another, and to bring them all into connexion with certain ultimate points of reference. This appears in the development of co-ordinate geometry and in the attempts to express geometrical determinations in algebraical form. From this point of view, the conception of the whole comes to be regarded as prior to that of the parts. The part is treated as being determined by its position in the whole. The whole is the most positive form of reality: the part is only a particular mode in which it is determined. This way of thinking permeates the whole Cartesian school, and is obviously connected in the most intimate manner with their fundamental view of the nature of geometrical science.¹

The influence of this way of thinking appears at the very outset of the speculations of Descartes. The thought of the finite and imperfect, he maintains, presupposes the thought of the infinite and perfect; and, as he advances in the working out of his system, this comes in the end to mean for him that the idea of God, as that of the infinite and absolutely perfect being, is to be regarded as logically prior to the consciousness of any mode of finite existence. The final outcome of this conception appears of course most definitely in the system of Spinoza, where the geometrical method is most consistently developed, and where the idea of the Infinite is without hesitation placed at the beginning. For him the Infinite is emphatically the positive; "determination is negation"; finite existence is only an aspect of the infinite whole.

Now there are few direct followers of Spinoza in the history of modern philosophy, just as perhaps there were few quite direct followers of Parmenides among the Greeks. But certainly all Greek philosophy after Parmenides was coloured by his central thought; and to understand modern constructive metaphysics it is necessary, as Hegel said, to bathe in the sea of Spinoza. There is a curious resemblance between the two writers. Both say, in effect, there is nothing real but the whole; and both say, in effect, that this whole

¹ This also is not a point that requires any elaboration. Descartes quite definitely bases his method on the mathematical analogy; and this is made still more explicit by Spinoza.

is to be conceived in at least a quasi-geometrical fashion.¹ But the great difference lies here. Parmenides says, the whole is a finite whole: Spinoza says, the whole is the absolutely infinite and perfect being. And this essential difference may be detected at almost every point in those currents of speculation which they respectively colour. Every ancient speaks with the accents of finitude: every modern who has breathed in a speculative atmosphere at all² has caught the tones of infinity.

The ethical significance of this doctrine of the Infinite can easily be traced in the writings of the various members of the Cartesian school. It has a double aspect, a positive and a negative. On the positive side, it shows itself in a lofty sense of the immeasurable value of a consciousness which is capable of grasping the Infinite. We see this in Descartes' idea of self-reverence, and still more clearly in Spinoza's "Intellectual Love of God". It is in this that Spinoza finally reaches the great object of his search—an attainable good which possesses a permanent and absolute value.³ The more negative side appears in the consciousness of the worthlessness of any good which has not this infinite completeness. We see this in Spinoza's own quest after perfection. The freedom which he seeks is contrasted with a state of bondage, in which most men are involved. But we see this more negative aspect of the Cartesian Ethics perhaps more definitely in the system of Geulincx, with whom humility is the chief of the virtues. This view may be contrasted with the characteristically Greek attitude represented by Aristotle's

¹ In the case of Spinoza it is of course only quasi-geometrical. Even his infinite extension can hardly be regarded as the space with which geometry deals—any more than his 'eternity' is to be conceived after the manner of the chronologist. How far the "Sphere" of Parmenides was actually intended to be spatial I do not undertake to determine. Prof. Burnet seems to take him a little too literally.

² Of course this has no application at all to Bacon, Hobbes, Locke, and the British school of thought in general. The statement about the Greeks would also require some qualification with respect to Plato and the Stoics, and has, of course, no application at all to the Neoplatonists. But I leave the sentence as it stands, as being broadly true.

³ Compare the beginning of the treatise on the *Improvement of the Understanding* with the end of the *Ethics*. "I finally resolved to inquire whether there might be some real good having power to communicate itself, which would affect the mind singly, to the exclusion of all else: whether, in fact, there might be anything of which the discovery and attainment would enable me to enjoy continuous, supreme and unending happiness." "From what has been said we clearly understand, wherein our salvation, or blessedness, or freedom, consists, namely in the constant and eternal love towards God, or in God's love towards men."

conception of the high-minded man, whose self-esteem is based on the realisation of certain forms of civic excellence, and who is entirely free from any consciousness of an infinite ideal.¹ The "wise man" of the Stoics is no doubt a nearer approximation to the Cartesian view; but even he attains his perfection rather by the suppression of his wants than by their complete satisfaction through an object of infinite worth. The "contemplative man" of Aristotle may be said to have reached a position very similar to that implied in Spinoza's "Love of God"; but he differs in this, that his contemplation is always supposed to be exercised on a definite and limited universe. Moreover, he is dependent for his high excellence (which is never thought of as infinitely high) on the organisation of the State and the presence of its practical virtues.

The two sides of the modern idea of the Infinite are seen again very clearly in the ethical writings of Kant, especially in his view of the moral life as involving an endless progress. On the one hand, it aims at a certain absolute completeness—perfect harmony with the moral law. On the other hand, being only the life of a finite creature after all, it cannot attain to any such completeness, and can only be thought of as continuously approximating to it, like an asymptote in Cartesian Geometry. This last illustration helps us to realise how thoroughly the whole conception is dependent upon a certain geometrical point of view. It was only Spinoza who definitely set himself to deal with human life as if he were dealing with circles and triangles; but most modern writers on Ethics have, more or less unconsciously, done the same.

For literary expressions of the view of life implied in these philosophical conceptions we have not far to seek. Take as an instance the well-known lines by Emily Brontë:—

O God within my breast,
Almighty, ever-present Deity,
Life that in me has rest,
As I—undying Life—have power in thee.

Or take Carlyle's *Shoeblack*—"Man's Unhappiness, as I construe, comes of his Greatness; it is because there is an Infinite in him, which with all his cunning he cannot quite bury under the Finite.—The *Shoeblack* also has a soul quite

¹ Compare also what Aristotle says about Shame—"A good man has no business with shame"—and contrast this with Wordsworth's "high instincts before which our mortal nature doth tremble like a guilty thing surprised".

other than his stomach ; and would require, if you consider it, for his permanent satisfaction and saturation, simply this allotment, no more, and no less ; *God's infinite Universe altogether to himself*, therein to enjoy infinitely, and fill every wish as fast as it rose." Or take even the more modest utterance of Tennyson :—

Speak to Him thou, for He hears, and Spirit with Spirit may meet—
Closer is He than breathing, and nearer than hands and feet.

All these imply a consciousness of the presence of the Infinite in man in a sense that would probably to any Greek have seemed mere *ὕψις*.¹ And, indeed, all through our modern literature and art—*e.g.* in the poetry of Whitman, the music of Wagner, the painting of Turner—there is a constant presence of the idea of the Infinite as something positive and valuable, in a way that, so far as one can see, would have been almost unintelligible to the Greek mind. I mean that in the highest forms of modern expressive art we seem to be constantly made aware of a certain suggestion of something not contained in the finite object before us—a suggestion that seems in the end to be intended to yield us that feeling which is no doubt most definitely set forth by Wordsworth, as that of

A presence that disturbs me with the joy
Of elevated thoughts ; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man :
A motion and a spirit that impels
All thinking things, all objects of all thought,
And rolls through all things.

This note of infinity is seldom long absent in the best modern art ; and it seems, on the whole, quite foreign to the spirit of the ancient Greeks.

Now what are we to make of this strange contrast ? Are we to accept the Greek or the modern view as correct ? Or are both to be rejected as erroneous ? Of course I have nothing at present to do with the historical origin of the antithesis. It would be easy to connect it with Oriental Pantheism and with the doctrine of human immortality diffused by the Christian faith. Both these tended to weaken the consciousness of limitation ; and other causes—such as the discovery of new worlds by astronomical science—may

¹ I have already indicated that I am aware of exceptions to this. But they do not appear to me to affect the main point.

have co-operated with them. Here it is only with the validity of the conceptions that I have to deal, not with the way in which they grew up.

Now one point, at any rate, may at once be noted in which the two contrasted conceptions touch. They are both, as we have seen, in their essence, spatial. And it may be added that, from this purely geometrical point of view, neither way of thinking appears to have any real justification. Geometrical figures are not properly to be regarded either as determinations given to an indefinite material or as limitations set upon an infinite whole. It seems preferable to treat them as ideal constructions made within an indefinitely extended but definitely qualified and homogeneous form. At any rate, if we desire to reach a clear understanding of the true significance of these contrasted ideas of the Infinite, it will probably be best to try to see what they mean in other than purely spatial applications. We may be helped to such an understanding by considering one of the most definite attempts that have been made to justify the peculiar use of the idea of the Infinite in modern speculation—I mean the attempt made by Descartes himself.

Unfortunately the statements of Descartes on this point are hardly characterised by his usual lucidity. He seems rather to slur the matter over as if he were dimly sensible of the insecurity of his position; so that, in the end, his conception is rather assumed than proved. Yet it is easy to see that it is the very keystone of his system. His proof of the reality of the material world turns on the existence and perfection of God; and every attempt that he makes to prove the existence of God depends on the presupposition that we have in our minds a definite and positive idea of the divine being, i.e., of a being absolutely infinite and perfect. Now the only ground for maintaining this is the one that is thus stated by Descartes in his third "Meditation": "I must not imagine that I do not apprehend the infinite by a true idea, but only by the negation of the finite, in the same way that I comprehend repose and darkness by the negation of motion and light: since, on the contrary, I clearly perceive that there is more reality in the infinite substance than in the finite, and therefore that in some way I possess the perception of the infinite before that of the finite, that is the perception of God before that of myself; for how could I know that I doubt, desire, or that something is wanting to me, and that I am not wholly perfect, if I possessed no idea of a being more perfect than myself, by comparison of which I knew the deficiencies of my nature?"

This argument is a little confused by its unfortunate introduction of the exploded Mediæval conception of "degrees of reality";¹ but its essential point is clear enough. The contention is simply that we are aware of ourselves as being finite and imperfect, and that the consciousness of this presupposes the consciousness of that which is infinite and perfect. Now if we ask how far this is valid, it very soon appears that a distinction must be drawn in this respect between the idea of the infinite and the idea of the perfect.

If we start with the conception of the infinite, and consider what it means with respect to purely mathematical relations, it seems clear that it is not a positive idea at all. It merely implies the absence of any definite possibility of fixing a limit. If we take the case of any geometrical figure—say, a circle or triangle—we readily see that it has definite limitations. It is one figure, and not another: it has a determinate shape, size, and position. This involves the idea of a space surrounding it; and it may fairly be argued that we cannot (in the abstract) assign any definite limits to the space that is thus conceived. But this is evidently a negative statement: it does not imply that we have any positive idea of an infinite space. Indeed, it seems certain that we cannot have any such idea. In like manner, if we think of numerical relations—say, between the numbers one, two, three—it is clear that any magnitude that is taken as a unit is thought of as limited in comparison with other units that may be regarded as added to it. It is clear also that there is no assignable limit to the additions that might thus conceivably be made. The series one, two, three, when simply regarded in the abstract, is capable of indefinite extension. But this also is essentially a negative statement. We have certainly no positive idea of an infinite number. And similar considerations apply to all other cases of infinity in the sense of an indefinitely extensible series. This is, of course, what Hegel means by the "bad infinite";² but it is no doubt the

¹ I refer to this idea as exploded, in spite of the re-introduction of the phrase in some recent philosophical systems. Mr. Bradley's "degrees of reality" seem to have very little in common with what was formerly understood by the term, and, indeed, do not appear to be rightly described by it. What seems to be meant is rather more or less adequacy of point of view.

² Hegel's phrase '*das schlecht Unendliche*' is commonly translated in this way. Dr. Hutchison Stirling, however, is probably right (*Secret of Hegel*, p. 553) in holding that the more correct rendering is 'downright infinite'—or infinite pure and simple. But, as Dr. Stirling adds, "we have here the usual Hegelian irony; what here is downright to figurate conception or ordinary reflexion is *spurious* to Hegel".

most primary and obvious meaning of the term. In this sense, then, it seems clear that the contention of Descartes cannot be justified:—

The case is, however, very different when we take the idea of the Perfect, instead of that of the Infinite as thus conceived. There can be no doubt that to say that anything is imperfect implies some consciousness of a standard of perfection. When I say that a colour is not pure red, I imply that I have a more or less definite knowledge of the meaning of pure red. When I say that a rose is not perfectly formed, I imply that I know what the perfect form of a rose should be. Even here of course the argument must be used with caution. I may have a vague sense of defect which implies only a vague consciousness of a standard: merely to be aware that something is wanting does not involve any knowledge of the kind of object that would satisfy the want. But it may certainly be maintained that, in proportion to the definiteness of our consciousness of defect, our consciousness of a standard of perfection must in like manner be definite. This, however, has in itself nothing whatever to do with the consciousness of the infinite. Merely to know that red is one particular colour, separated off from others; or merely to know that the rose is one kind of flower, and not any other,—such mere knowledge of limitation does not imply any definite knowledge of other colours or flowers, still less any idea of a colour or flower that is unlimited and includes all others.

Now the conclusion to which we are thus led is that the Cartesian idea of perfection is in reality a teleological, and not a mathematical conception. It is only when we have some end in view that there is any scope for the recognition of defect. The end, of course, may be a purely intellectual one. It may be the attainment of complete knowledge about some object, or the removal of doubt with regard to some truth. When we have such an aim in view, we are aware of our ignorance or doubt as a falling off from perfection. Merely to be ignorant, or merely to be aware of ignorance, is not to have any real grasp of what is meant by knowledge; but to be aware of ignorance as a defect is to be conscious of knowledge as an ideal. The perfection, then, which is referred to by Descartes must be thought of as an end, aim, or ideal; and this is a point which the Cartesian school in general appears to have very imperfectly realised. With Spinoza, in particular, the effort is constantly to make the idea of the infinite purely geometrical in form,¹ and to elim-

¹ This is true, I think, in spite of the fact that Spinoza did, in a manner, draw the distinction between the true and the false infinity. He reaches

inate all its teleological implications. Of course he does not really succeed in this attempt: the idea of an end shines through at every point in spite of him. But it was Leibniz who first saw, with any distinctness, that the Cartesian point of view could be made intelligible only through the introduction of a teleological conception; and even with him the idea of an end is hardly seen to be of the essence of the position, but is rather imported into it from without—the fundamental ideas being still mathematical.

The significance of this distinction between a geometrical and a teleological idea of perfection may perhaps be made somewhat clearer by noticing its bearing upon the proofs that have been given of the being of God. If the view that has now been put forward is correct, it seems clear that the famous ontological argument is vicious. The essential point of this argument—at least as used by Descartes—is that a being that includes all reality cannot be conceived as non-existent; and the defect of the argument lies in the fact that it is not really possible to conceive of any such being at all.¹ To suppose that it is possible is to suppose that a mathematical idea of infinity can be completely formed. That a being, on the other hand, simply conceived as the ideal standard of perfection, might be non-existent, is clear—i.e., it is clear that the existence of such a being requires some other proof than the mere fact that it is conceived. What is wanted further is to show that the very fact that such an ideal is formed proves that it possesses objective validity. How this might be shown, I hope to consider later. I am not now urging that no valid ontological argument can be devised, but only that the form commonly given would require to be very considerably modified.

The confusion between the conception of the Infinite and that of the Perfect, to which I have been calling attention, is certainly not unnatural or surprising. It arises, as we have seen, from the attempt to view reality in a purely mathematical way—an attempt that has had great fascination for the scientific mind since the time of the Pythagoreans. From a mathematical point of view, differences of quality can only be expressed by the conception of infinity; and consequently any idea of a standard of perfection must take this form. I might illustrate this by

the infinite in the wrong way, though he afterwards tries to correct the error. If he had really grasped the more positive conception of the infinite, his geometrical method would have disappeared.

¹ Leibniz indicated this defect, but did not press his point.

referring to one of Carlyle's sayings about religion—"All religion was here to remind us, better or worse, of what we already know better or worse, of the quite *infinite* difference there is between a Good man and a Bad ; to bid us to love infinitely the one, abhor and avoid infinitely the other,—strive infinitely to *be* the one, and not to be the other". What exactly does "infinite" mean in such a statement as this? If it means anything, it is surely something that is rather qualitative than quantitative. There is an infinite difference between the good man and the bad in the sense that there is a qualitative difference between their attitudes towards life—a point that is fully recognised even in Aristotle's apparently quantitative doctrine of the Mean. In the same sense there is an infinite difference between a good picture and a bad—i.e., there is a difference which cannot be adequately expressed by any finite enumeration of specific points of difference. Similarly, to "love infinitely," to "strive infinitely," mean, I suppose, an uncalculating devotion—a devotion which does not aim simply at the realisation of certain measurable results, but rather at the achievement of a certain qualitative excellence. In this sense an infinite devotion may be found also in the soldier, in the artist, even in the man who aims at being a scholar or a gentleman. But if we call such devotion infinite, we should remember at least that it is very different from the infinite devotion of the millionaire, who seeks simply to amass money without assignable limit. In the latter case the infinity is purely quantitative, and has no assignable end ; and the same may be said to be true of the aim of the pure pleasure-seeker. It was precisely for this reason that the mere money-making life and the life of mere pleasure-seeking were regarded by the wisest of the Greeks as violent and unnatural.

I believe we may trace a similar confusion in the common saying that genius means "an infinite capacity for taking pains". The "infinite capacity" here is on a par with the "infinite love" and "infinite striving" of the above quotation. It does not mean, as is sometimes thought, an endless plodding, but rather an absorbing devotion to some specific object—music, poetry, science, or whatever it may be—and the fixed determination to achieve a definite result, whatever it may cost. This is a qualitative excellence ; and to represent it as an infinite quantity means little more than that the man who is without it would require to be completely transformed in order to have it. In the same sense we may say that there is an infinite difference between a sound and a colour, between a rose and a violet, between

a dog and a horse, between a circle and a square. The meaning in such cases is simply that there is no real bridge from the one thing to the other; and consequently that the steps that would be necessary to lead us over could only be represented, from a quantitative point of view, as an infinite series.¹

It is an easy transition from such confusions to those that are connected with the idea of God. The common way of setting forth the perfection of the Divine Being is, or used to be, that of enumerating a variety of attributes supposed to be infinite. Thus it was said that God is omnipotent, omniscient, omnipresent, eternal; and these attributes were apt to be conceived—though no doubt the more speculative intellects have tried to guard against this—simply as an infinite extension of the corresponding qualities that we know in our finite world. A man, it was thought, occupies a definite portion of space: God fills it all. A man has a “span-long life”: God lives on without any limitation. A man is ignorant of many things, and is in doubt about many things: God knows them all, and is quite sure of them. A man can lift so many pounds’ weight: God could lift any number. Of course this is putting it very crudely; but does the ordinary conception amount to anything very different from this? Now no one who reflects on the matter at all can really suppose that the idea of a perfect being is to be reached in any such way as this. Genuine religious feeling sweeps it all aside at once, and says instead, ‘God is love,’ ‘God is our Father in Heaven,’ or something else that is expressive of a qualitative excellence. And it is not difficult to see that the purely quantitative conception is in reality meaningless. What meaning, for instance, can be given to omnipotence? Can there be an infinite force? It could only be expressed, I suppose, as an infinite possibility of motion; and what real meaning could be given to that? Nor, so far as I can see, could there be an infinite knowledge; for all knowledge is of something definite. Perhaps it may be thought, however, that there is some meaning in an infinite time and space; and that, in respect of these at least, we may think of God as infinite. This is a point that appears to require some further consideration.

It is no doubt in connexion with space and time that the

¹ Cf. *Stirling's Secret of Hegel*, p. 552—“The limitless externality which lies in the notion of Quantum or Quantity is qualitative; and therefore it is a cheap wonder that falls prostrate before the infinite quantities that can be conjured up in the quantitative progress; for with such *quality* such *quantity* is the turn of a hand”.

idea of the mathematical infinite most naturally arises ; and a short study of its significance with regard to these may help, more than anything else, to make our position clear. It certainly seems at first as if space and time, and the world of objects and events which they condition, could only be thought of as going on into infinity ; and it does not appear to be possible to avoid this conclusion by the Kantian distinction between phenomena and things in themselves. However phenomenal they may be, they are at least phenomena that demand this kind of completeness. Kant's statement of the antinomies is, however, quite enough to convince us that there are as great difficulties in thinking of the world in space and time as infinite as there are in thinking of it as finite. And, though Kant's negative solution of these antinomies (by the distinction between phenomena and things in themselves) is unsatisfactory, we may find more help in his positive solution of the difficulty. As stated by Kant himself, indeed, this is little more than an amplification of the negative solution ; but it is capable of being restated with a slight modification which entirely changes its meaning. This I must now endeavour briefly to bring out.

The positive solution, when reinterpreted, really amounts to this. Space and time, apart from the world of objects and events which they condition, are meaningless abstractions, and cannot properly be said to be either finite or infinite. The world that is conditioned by them, however, is limited both in space and time ; and consequently space and time themselves, so far as they have any actual existence, are limited, though (in the abstract) they may be regarded as indefinitely extensible. I think this must be understood as implying that both space and time are closed circles. That is to say, if any one were to go out into space in an easterly direction until he reached the extreme limit of the material world on that side, he would find himself also at the extreme limit on the western side. In other words, there is no extreme limit, but rather a closed sphere, as Parmenides affirmed. Similarly, if any one were to go forward in time till he reached the closing event in the drama of existence, he would find himself also at the opening of the first act ; and the universe would repeat itself, as in Virgil's *Eclogue*, or as in so many other ancient speculations.¹

¹ The idea of cycles of existence seems, in some form or other, to have been common to the doctrines of most of the early philosophers. As I have here introduced this theory in an exposition which purports to be largely Hegelian, it may be well to explain that I know of no ground

If we accept this solution, it is evident that we introduce a new meaning of infinity. A closed circle, however limited it may be in its content, is yet in a very real sense infinite. It has determinateness, but it has no end. Now, if the infinity of God in space and time be taken in the sense here indicated, no objection need be raised against it. Even the human consciousness is, in a manner, unlimited with respect to space and time. The mind of man is never fixed to the here and now, but is always ready to wander through eternity; and we can easily think of a completed consciousness, to which all time and space should appear as present. Such a consciousness would be infinite in a very real sense, but a sense utterly different from that in which a mathematical series is infinite. Its content would still be definite and limited, but it would also be perfect and complete.

Now this I take to be the essential point in the positive conception of infinity which Hegel seeks to substitute for what he describes as the "bad infinite". The true infinite is without end, not because it goes on indefinitely, but because, like a circle, it returns into itself. Such an infinite is evidently, in a sense, also finite;¹ and this is perhaps what Goethe meant to express in his famous epigram:—

Willst du ins Unendliche schreiten?
Geh nur im Endlichen nach allen Seiten.

The true infinite, in short, is a completely determined finite;

for attributing this conception to Hegel himself. It seems to me, however, to be quite in the spirit of his philosophy. Obviously, it cannot be satisfactory, from the Hegelian point of view, to say merely that space and time are conceptions that have to be transcended. What is transcended, in the Hegelian system, is not annulled; and an antinomy is not solved by simply saying that we have got above it. It seems correct to say that space and time, as used in our ordinary experience, cannot be accepted as ultimately valid conceptions. Nevertheless, they are conceptions by which the world of our experience is determined, and we must try to make them intelligible as such. This seems to be involved in Hegel's position; and consequently the attempt which is here made to apply the revised conception of infinity does not appear to be inappropriate.

¹ Cf. Stirling's *Secret of Hegel*, p. 290—"The answer to the question, How the Infinite becomes Finite, is consequently this, that *there is* no such thing as an Infinite that is *first of all* Infinite and which is afterwards under a necessity to become finite, to go out into the Finite; but that it is *per se*—by and for its own self—already just as much finite as infinite. In that the question assumes that the Infinite is on one side *per se*, and that the Finite—which has gone out into separation from it, or which may have come from whencesoever it may—is, separated from it, truly *real*: here rather it were to be said, that this *separation* is *incomprehensible*. Neither such Finite nor such Infinite has truth."

and it may, therefore, be less misleading to call it the perfect, rather than the infinite, and to maintain that *all* infinities are "bad".

It is evident that, in this way, we come to side with the old Greek view of infinity, rather than with the more modern conception. We come to think, at any rate, that all good things are determinate, and that the sphere of Parmenides is in some respects nearer the truth than the absolutely infinite being of Spinoza. Nevertheless, we are far enough removed from the Greek idea of an infinite unformed material, on which a definite form is imposed. What we rather come into unison with is the Platonic conception of the Idea of the Good, as that which is most truly infinite and complete. And this is hardly a result that need surprise or pain us. Plato and Aristotle clearly represent the highest points in philosophic speculation; and the more nearly we approximate to them the more likely are we to be in touch with what is soundest in speculative thought.

But an objection naturally occurs to the modern mind. Surely, it will be urged, the positive idea of perfection must itself involve something of the nature of a mathematical infinite, since it implies at least an unattainable ideal, to which there can only be an asymptotic approach. To this I answer that it only appears so when we think of the perfect in a purely abstract fashion. The Cartesian school of thought has accustomed the modern mind to think of that which is perfect as an impossible jumble of all manner of conceivable and inconceivable realities. If we mean by the perfect this incredible compound—if we think that what is perfect must be a perfect sound and a perfect colour, a perfect rose and a perfect horse, a perfect man and a perfect woman, a perfect circle and a perfect square—then no doubt the conception involves a mathematical infinity. But once we start on this line of thought, we may as well carry it farther, and demand that what is perfect should be a perfect fool, and a perfect devil. Such an idea of perfection can lead us to nothing but perfect nonsense. The perfect that we are really in search of is something very different from this. It is something definite, concrete, and intelligible—not something that shall include the whole of existence, but rather something through which the whole of existence shall be seen to have meaning.

Perhaps an illustration taken directly from human life may help to make the point clearer. Each of us is, I suppose, painfully aware at times that he is something in particular, and not something else. This is felt even by those who are freest from any special limitations. Indeed,

he who was probably of all men the freest from them has yet expressed the feeling perhaps more adequately than any one else:—

When in disgrace with fortune and men's eyes,
I all alone beweep my outcast state,
And trouble deaf heaven with my bootless cries,
And look upon myself, and curse my fate,
Wishing me like to one more rich in hope,
Featured like him, like him with friends possessed,
Desiring this man's art, and that man's scope,
With what I most enjoy contented least.

Here Shakespeare speaks as if he were no better than Carlyle's Shoeblick, fooled by a "bad" infinity. Woe is me! I am this; I am not also that! But Shakespeare points (what Carlyle does not) to the true way of escape from this sense of limitation—viz., by self-identification with the other:—¹

Yet in these thoughts myself almost despising,
Haply I think of thee,—and then my state
(Like to the lark at break of day arising
From sullen earth) sings hymns at heaven's gate;
For thy sweet love remembered, such wealth brings,
That then I scorn to change my state with Kings.

And we see still more adequately in his plays how he escaped from his individual limitations by the appropriation to himself of the universe of human life. Can we think of perfection in any other way? If we try even to picture to ourselves the perfection of a Divine Being, in what other way can we do it than by thinking of Him as knowing and loving a universe, in which He finds Himself expressed? The perfect being is surely not to be thought, as the Cartesians imagined, in the form of the universe as a whole, but rather in the form of the spirit which grasps the universe as one, and which is more than the universe through the return from it as another.²

¹ Cf. Stirling's *Secret of Hegel*, p. 553—"The One is always One, the immediate; so the non-immediate is its non-being, the negation of itself: thus it is caught (*befangen*) in the spurious Infinite, the *Sollen* of all kinds, and is '*das unglückliche Bewusstsein*,' the unhappy consciousness that cannot find *itself*, but is for ever lost in its *other*. All this disappears before the simple consideration that the *other* is just the condition, the presupposition of *itself*: that the other is *for* it; that *it* is through the *other*, that it is One just because it is One, One, One; that *it* is the *other*, and the *other* is *it*."

² Cf. Stirling's *Secret of Hegel*, p. 453—"Ideality may be named the quality of infinitude; for is not infinitude just that in which the whole wealth of the finite is ideally held? . . . Sublating the finite, and sublating, in this same act, its own self as an only abstract infinite, it is a return, as it were with both, into its own self."

This may help us to realise the ethical significance of the idea of a finite infinite. The modern mind, when at all of a speculative cast, is too prone to lose itself in a vague and empty mysticism. We admire nothing heartily unless it is vast, mysterious, unfathomable, illimitable, unspeakable. We heap Pelion upon Ossa, and think to scale heaven by a confusion of tongues. It is in contrast with this that the Greek view of life appeals to us with such a tranquil beauty—infinite through its limitations, eternal from its absorption in the moment. For them it is not the unfathomable that is admired, but that which is completely known and understood: it is not the illimitable that is great, but that whose definite restrictions give perfection of form. We too, if we are ever to attain to any completeness of excellence, must learn, I think, something of this free constraint. It is not the vague aspirations of the mind that give it worth and dignity:—

Not that, admiring stars,
It yearns, "Nor Jove, nor Mars;
Mine be some figured flame which blends, transcends them all".

That way madness lies: that only leads us to the "bad infinite". The true infinite is found rather in the performance of some definite action that is wisely planned, and whose drudgery is made divine through its being done in the spirit of the whole; in thorough insight into some intelligible object, which mirrors in itself both God and man; or in the enjoyment of some limited thing that has nobility and power through its place in the system of the universe. The treasures of the spirit are not hidden away in caverns of the earth or in the remote heavens: we find them rather most completely by the appropriation of our "station and its duties"—by acting, feeling, and thinking adequately with regard to what is immediately around us, "rich in the simple beauty of a day."

"That strain I heard was of a higher mood."—The attempt to set forth the ethical significance of the conception has carried me away a little from the main point, and may perhaps seem somewhat irrelevant. But I make no apology for the digression. It has been a good deal the fashion of late to maintain that all reality worthy of the name is "beyond Good and Evil," and that the trivial point of view of Ethics has no right to obtrude itself in Metaphysics. But if the conception of the perfect here put forward is correct, such an attitude is entirely mistaken. The modern Absolute is, in truth,—at least in many of its phases—a lineal descendant of the being absolutely in-

finite of Spinoza, and has inherited some of the most fatal diseases of its stock. Indeed, there is even a blot in its scutcheon: it is, in some respects, little better than a bastard issue of Kant's thing in itself. This soulless Absolute,¹ which can never really be known or understood, springs, I believe, from the attempt to think of the whole of reality as a single and indivisible being. Against this I would seek to maintain that the only kind of Absolute that is worth considering is not an unknown thing in itself or a being absolutely infinite, or any compound of these or cross between them, but rather a perfectly determinate idea of the Good, which gives meaning to our world, and which shows itself perhaps more adequately in the moral, æsthetic, and religious consciousness than in any other way. But I have probably said enough for the present on this aspect of the subject, and I now turn to some other points.

I have tried to show how the idea of the finite infinite can be applied in dealing with space and time, regarded as completed wholes. It may be thought that its application to the indefinite divisibility of portions of space and time should also be brought out. In short, having dealt with the infinitely great, we may now be called upon to deal with the infinitely little. But it is hardly necessary to spend many words on this. From a metaphysical point of view, it can only be regarded as one of the Cartesian futilities—the one for which Leibniz is specially responsible. It seems clear that the infinitely little is a purely mathematical conception, just as the infinitely great is, and that it has no real ontological significance. Any thing or event is divisible into parts or moments up to a certain point; but that any one should be divisible without limit seems obviously absurd. Of course it may be said that the ultimate constituents of material things—whatever they may be—are ideally resolvable into still smaller parts. But this is only to say that they are in space; and that space, as a pure form, contains an indefinite possibility of subdivision. This indefinite subdivision is only a naked possibility; and, as we know, “a naked possibility is nothing”. The same consideration ap-

¹ I am perhaps a little hard on the Absolute here. I am aware that its many friends—and especially their leader, Mr. Bradley,—have made a very valiant effort to cure its diseases, but only, I am afraid, with a very partial success. On this point, however, I cannot here enlarge further. I may, however, quote the saying of Hegel (lessor *Logic*, Wallace's trans., p. 50)—“Common fancy puts the Absolute far away in a world beyond. The Absolute is rather directly before us, so present that so long as we think, we must, though without express consciousness of it, always carry it with us and always use it.”

plies to the indefinite subdivision of time. There is, it would seem, a smallest possible experience of change ; but within that experience of change there may no doubt be said to be the naked possibility of any amount of further resolution. This only means that we know of no reason for stopping at that particular point except the bare fact that we are brought to a stand. Such a mere unrealised possibility of further division is a pure abstraction, and has no ontological significance. This is really all that need be said on that subject. There is no problem requiring solution.

There is, however, one other way of thinking of the infinite which seems to demand a few words of comment—that, namely, which has recently been brought forward with so much ingenuity and force by Prof. Royce. Of course it would not be possible here to go into any detailed examination of the extremely interesting applications that he makes of his conception. For the simple understanding of its meaning and speculative value it is enough to take some of the crudest illustrations, which bring out the essential point of it quite as well as any others. Let us take the instances of the continuous map and the pair of mirrors.

A complete map of a country, in which every detail is fully shown, would contain among other things, it is urged, a map of the map itself. That map of the map, being also a complete map of the country, would again contain a map of the map ; and so on without end. There is a weakness in this illustration ; since, at the time when the map is being planned, it would not itself be one of the things contained in the country.¹ There is also the further weakness, that it may be held to be of the very essence of a map, that unimportant details should be omitted. The illustration of the pair of mirrors is more satisfactory. When two mirrors face one another, the mirror A contains the image of the mirror B : in that image there is contained the image of the mirror A, with the image of the mirror B within it ; and so on to infinity. The point of these illustrations is that they appear to supply us with cases in which an infinite series is demanded by the conditions of the problem and not merely brought out by subsequent reflexion. If we are to have such a map as is described, it can only be constructed by going through an infinite series ; and if two mirrors are to go on reflecting one another there is no end to the images that must be formed.

¹ Cf. A. E. Taylor, *Elements of Metaphysics*, p. 150, where the whole subject is discussed in an extremely instructive way.

I am afraid, however, that these cases are not in reality any better than that of the indefinite subdivision of a finite object. We are still only concerned with the "bad infinite". There is no such infinite map, nor are there any such infinite reflexions. As regards the map, indeed, it may very well be classed with the old Greek puzzle about the man who says he is lying, or the head that can never become bald. I have already pointed out some of the weaknesses of the illustration; but its fatal defect is that no such map can possibly be conceived. The illustration of the mirrors is much more plausible. Mirrors do actually go on reflecting one another to an indefinite extent. At least the extent of the reflexion is indefinite for one who has not made an exact study of the properties of light, and of the conditions in which the mirrors are placed. For one who knew these circumstances with complete accuracy, it would, I suppose, be quite possible to calculate the exact point at which the image would cease to be reproduced. At any rate, it may be taken as quite certain that there is such a point. The indefinite going on is only a "naked possibility," i.e., it is an abstract possibility—a possibility for one who does not know, or who deliberately leaves out, some of the essential conditions of the problem. And this is just what gives rise to the "bad infinite" in all cases: we are lured on simply because we see no reason for stopping. But it is not a mark of excellence in anything that it should contain no ground for stopping. Whatever is incoherent may go on indefinitely. There is no particular reason why Shakespeare's "Sonnets" should ever come to an end. The play of "Othello," on the other hand, being a coherent work of art, has its inevitable close.

We have now perhaps sufficiently considered the incidental points that arise in connexion with this subject; and it remains only to complete our sketch by attempting to deal with the final problem which it suggests. The final problem is simply this—How far can we claim for the idea of perfection or infinity that has now been explained that it has any ultimate objective validity? This is of course simply another way of stating the old question with regard to the proofs of the being of God; for I suppose there can be no doubt that the ideal of perfection is what men ultimately mean by the thought of God. The question, then, is this—Can we show that the ideal of perfection has a definite meaning, and that it is a principle by which the world that we know is conditioned and explained?

That it has a definite meaning ought, I think, to be apparent from what has been already stated. The perfect

or infinite, it would seem, is to be interpreted as meaning that which is not limited by anything else; and this implies, not that it contains all possible reality within itself—which is absurd—but rather that in all that is other than itself it finds *its* other, and so is not really restricted by it. What is other than itself is recognised as its necessary counterpart. From this point of view, self-sufficiency, so far from being the mark of perfection, is the sign of finitude. The rose is imperfect, not because it is other than the lily; but because it does not appreciate the lily; but the poet, who sees the beauty of both, is free from this imperfection, not because he is the lily and the rose, but because he is able to appropriate their peculiar excellence. Now, this meaning of perfection or infinity not only seems to be quite definite and intelligible, but may clearly be said to be realised wherever there is knowledge and love. To know anything or to love anything is to be infinite with regard to that.¹

We get in this way at least a partial answer to the problem that has been suggested. When it is asked whether the infinite is real, a simple answer is that it is realised in every act of knowledge and love. God is Love; and we might argue, after the manner of Descartes—I think, hence I am; I love, hence God is. More definitely, we might urge that the existence of God is proved by the existence of moral and intellectual genius. The comprehensive insight of a Shakespeare shows the existence of the infinite on a large scale; and it might be maintained that we see it even more completely in the depth of heart of a Christ or Buddha. From this point of view, therefore, it might be affirmed that there can be no doubt that God exists: the only question is—How much is there of Him? How far can He be regarded as the essential condition and secret of the universe?

This question, however, at once suggests to us that the answer that has now been given is unsatisfactory. It is not

¹ Cf. Hegel's lesser *Logic* (Wallace's trans., p. 62)—"It is, speaking rightly, the very essence of thought to be infinite. The nominal explanation of calling a thing finite is that it has an end, that it exists up to a certain point only, where it comes into contact with, and is limited by, its other. The finite therefore subsists in reference to its other, which is its negation and presents itself as its limit. Now thought is always in its own sphere; its relations are with itself, and it is its own object. In having a thought for object, I am at home with myself. The thinking power, the 'I,' is therefore infinite, because, when it thinks, it is in relation to an object which is itself. . . . And so infinity is not, as most frequently happens, to be conceived as an abstract away and away for ever and ever, but in the simple manner that has just been indicated."

enough that we should find actual instances of the infinite or perfect, so long as it is at least equally easy to point to instances of the finite. We mean by the idea of God not merely the idea of a being who is infinite, but that of a being who is completely infinite, and who is the key to the universe. In short, the argument that has been suggested has the same defect as the argument of Descartes for the being of self. "I think" only tells us of the existence of the self in a momentary act of apprehension: "I love" only tells us of the existence of something divine in a similar momentary act. How are we to remove this deficiency? Now I think we may best arrive at a solution of this problem by asking how we arrive at the solution of the corresponding problem with regard to self.

How do I really know that I exist? Not assuredly by murmuring to myself at intervals—"I think, hence I am". Rather, I know that I am, by knowing *what* I am—sometimes no doubt through the painful consciousness of deficiency, but sometimes also through the more joyful one of certain forms of achievement. I know that I am, in short, not from the mere abstract fact of thinking, but from the concrete building up of a particular content of experience.

Now, in like manner, it may be said that, for the proof of the being of God, the elementary abstract material before us is the simple fact "I love" or "I know"; but it is not by brooding upon this that we establish the doctrine. The establishment of the truth must rest rather, in this case also, on a certain concrete totality of experience. Every time I really know anything, or find (what is pretty nearly the same thing) that I am able to love anything, I am made aware that the world of my experience is not something alien and unintelligible, but something that I can actually appropriate as the counterpart of myself; and this inspires me with an ever increasing confidence that the world is in its essence knowable and lovable. We thus, in a manner, prove the being of God through our consciousness of ourselves; but in a manner very different from that supposed by Descartes. We reach the idea of God, not through the consciousness of our deficiency and weakness, but rather through the sense of our own perfection. It is because our eyes are like the sun, that we see the light¹: it is because we are aware of our own freedom and infinity, that we believe the universe

¹ Wäre nicht das Auge sonnenhaft,
Wie konnte es das Licht erblicken?
Wohnte nicht in uns des Gottes eigne Kraft,
Wie könnte uns das Göttliche entzücken?

to be infinite and free.¹ And this idea, we may further maintain, is proved to be real—so far as it can be proved at all—by the mere fact that we believe it. This is a revised form of the ontological argument. The idea of God proves itself to be a reality by the fact that it survives in the struggle for existence—that it continues to present itself to us as the only possible key to our experience. That it can hold itself there, is the best evidence that it is valid: it must be valid, because it is vital.

It is here, as I think, that we find the element of truth in that idea which has created so much stir in recent years under the name of "The Will to Believe". With much that passes under that title I have the smallest possible sympathy. I do not find in myself that mysterious faculty of willing, which some are so ready to claim; nor do I discover any peculiar dignity in the simple act of choice. I consider, moreover, that all true belief must rest on an intellectual, rather than on a purely volitional basis. But I think it is true that our most ultimate beliefs, and especially the belief in the being of God, may be regarded as involving an act of faith. It is the faith, however, I should say, on which our intellectual, no less than our more distinctively ethical activities depend—the faith that the universe is a thing that can be appropriated, a thing that can be known and loved. This faith certainly seems to me to be the essence of all religion; but is it not also the essence of all science, of all poetry, and of all morality? It is the salt, I think, by which alone, both in our thought and action, we are saved.

¹ Freedom, from the point of view here explained, is almost synonymous with infinity.