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### ***Hundred Years After: How McTaggart Became a Thing of the Past***

It is a great honour for me to be the invited speaker in the History of Philosophy section of this major Analytic Philosophy conference. It is also, as I increasingly came to realize as the date of the conference approached, a great responsibility. What I particularly came to feel uneasy about was the choice of my topic. Was it important enough? Was it broad enough? Seeking reassurance, I turned, as so often before, to the writings of the man who had been my first mentor in philosophy, one who played a significant role in analytic philosophy from the late 1940s to the 1960s, and one who was renowned for his skill in exploiting the history of philosophy as the background against which to act out philosophical analysis: Wilfrid Sellars. And Sellars did reassure me. I hit on the passage in his "Autobiographical Reflections" where he describes his first serious encounter with philosophy. It happened at Ann Arbor, in 1931/32, when in a seminar in metaphysics he was introduced, as he reports, "to McTaggart's classic paper on the unreality of Time", and chose to write his term paper on the topic. He was soon "deep in the literature" and found himself "genuinely involved". As he puts it: "Philosophy was no longer a storehouse of alternatives to be explored and evaluated but, from that moment on, an unfinished dialogue in which I might have something to say. I soon became convinced that the problem of time was so intimately connected with other classical problems that it, like the mind-body problem, is one of the major proving grounds for philosophical systems."<sup>1</sup> Sellars continued to work on the topic of time, returning to it again and again; and defending, from the very beginning, "a substantialist ontology of change", that is, a position diametrically opposed to that of McTaggart. I will come back to Sellars on two occasions later in my talk; just now, let me give a summary outline of the same.

McTaggart's paper on "The Unreality of Time" was published in 1908, in the journal *Mind*. The argument of the paper is sufficiently elusive to stand in need of scrutiny before being subjected to criticism. Such scrutiny is what I will attempt to provide in the first section of my talk, under the heading "The McTaggart Motley". In the second section, under the heading "Refuted and Ridiculed", I shall summarize the devastating criticisms that, since the 1920s, C. D. Broad, and others in his wake, have been directing against McTaggart's position, asking, in the third section, how, in the face of such a series of convincing refutations, his argument could still gain, and does still gain, adherents. The answer is, as I will briefly show, that McTaggart's position has become mixed up with, and won undeserved respectability from, the Einstein–Minkowski conception of space-time, proclaimed in the very same year that McTaggart's paper was published. In the final section of my talk I shall sketch, under the heading "A Future for Time?", the rudiments of an alternative – admittedly adventurous – philosophical strategy, designed

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<sup>1</sup> Wilfrid Sellars, "Autobiographical Reflections", in H-N. Castaneda (ed.), *Action, Knowledge, and Reality: Critical Studies in Honor of Wilfrid Sellars*, Indianapolis: Bobbs-Merrill, 1975, p. 281.

to overcome the position represented by McTaggart, that is, to vindicate the common-sense view of the reality of time.

### 1. The McTaggart Motley

McTaggart's paper exists in two versions – or in two-plus-a-bit versions, if you like. The first one is the *Mind* version.<sup>2</sup> The second, bearing the title "Time", is the text making up chapter XXXIII in the second volume of McTaggart's *The Nature of Existence*, published in 1927. This was a posthumous publication. McTaggart died in 1925, leaving behind a semi-finished draft of the volume, half typescript, half manuscript, bequeathing to C. D. Broad, his successor at Trinity College, Cambridge, the task of preparing it for press. Bringing it into line with the first volume that had been published in 1921, Broad divided the text into numbered sections, constructed an analytical table of contents, but otherwise reports to have made only very minor editorial changes.<sup>3</sup> Perhaps he should have been more thorough. Chapter XXXIII was printed from the typescript part of the draft, but my impression is that the typescript had not been without flaws, with some resulting wordings even more confused than McTaggart's formulations usually were. Also, it is generally unrecognized that the textual differences between the 1908 paper and the *Nature of Existence* version are quite significant. Certainly the latter is not just a re-written text of the former. Rochelle's formula, according to which the "Unreality of Time" paper "[f]orms a substantial part" of *The Nature of Existence* chapter, is closer to the facts.<sup>4</sup> For instance, the so-called "C series", the discussion of which McTaggart clearly saw as playing an important role in the overall argument of the 1908 paper, is introduced only in the last paragraphs of the 1927 "Time" chapter, the topic then recurring, with embellishments, in later chapters of the volume. In the 1927 chapter, there is an extended analysis directed against Russell's treatment of time in his 1903 book *The Principles of Mathematics*, entirely missing in the 1908 paper. More importantly, the 1927 chapter contains a five-page discussion of the criticism C. D. Broad levelled, in his 1923 book *Scientific Thought*, at McTaggart's 1908 position. To mention one more example, while in the 1908 paper the hypothesis that "there might be several independent time-series in reality" is introduced as a possibility raised by Bradley, and the implication that under such conditions "no time would be *the* time – it would only be the time of a certain aspect of the universe" is rejected with reference to the fact that "the theory of a plurality of time-series is a mere hypothesis" and "no reason has ever been given why we should believe in their existence", in the 1927 chapter the name of Bradley is missing, and the observation that under the conditions discussed "no time would be *the* time – it would only be the time of a certain aspect of the universe" is not followed by the remark that no reason has ever been given for the hypothesis in question. Why the change? Might it not be Einstein, after all, who haunts McTaggart here? Might not, by the 1920s, the news about the special theory of relativity, against all the odds, have reached him? But I am

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<sup>2</sup> J. Ellis McTaggart, "The Unreality of Time", *Mind: A Quarterly Review of Psychology and Philosophy*, N.S., no. 68, October 1908, pp. 457–474.

<sup>3</sup> Cf. the "Editor's Preface", p. v, in John McTaggart Ellis McTaggart, *The Nature of Existence*, vol. II, ed. by C. D. Broad, Cambridge: Cambridge University Press, 1927.

<sup>4</sup> Gerald Rochelle, *The Life and Philosophy of J. McT. E. McTaggart, 1966-1925*, Lewiston, NY: Edwin Mellen, 1991, p. 234.

getting ahead of myself. I said McTaggart's paper exists in two-plus-a-bit versions; I managed to list the first two; I am now coming to the plus-a-bit one. This is the reprint of "The Unreality of Time" in the volume *Philosophical Studies*, a 1934 collection of McTaggart's essays.<sup>5</sup> I am calling it a plus-a-bit version, because although it is indeed a reprint, it is supplemented by a number of notes by the editor S. V. Keeling, indicating the places where the *Nature of Existence* text contains significant additions to the 1908 one. Even if not conveying the full extent of the differences between the first two versions, these notes are interesting. Interesting, or rather, telling, is also the chapter "The Relation of Time and Eternity" in *Philosophical Studies*, following upon the "Unreality of Time" chapter. This is the text of a talk delivered by McTaggart before the Philosophical Union of the University of California on August 23, 1907. I am tempted to call it version zero of the 1908 *Mind* paper, giving a feel, as it were, of the *weltanschauung* behind the latter. As McTaggart here put it: "All existence which presents itself as part of our ordinary world of experience presents itself as temporal. But ... we have reason to believe that some reality which exists, exists timelessly – not merely in the sense that its existence endures through unending time, but in the deeper sense that it is not in time at all. ... I do see a possibility of showing that the timeless reality would be, I do not say unmixedly good, but very good, better than anything which we can now experience or even imagine. I do see a possibility of showing that all that hides this goodness from us – in so far as it is hidden – is the illusion of time."<sup>6</sup> This passage, glaringly mystical and devoid of analytic rigour, might give us a foretaste of McTaggart's arguments in "The Unreality of Time". It is an inventory of these arguments I now turn to.

I am speaking of "arguments" in the plural, since I believe that McTaggart's essay cannot be seen – contrary to what standard summaries take for granted – as proceeding along a single train of thought. It consists, rather, of a number of sometimes overlapping, sometimes frayed and only loosely connected, threads – stipulations, arguments, half-arguments, and asides. Attempting to take stock of them here, I cannot avoid repeatedly quoting McTaggart's text directly. Commenting on McTaggart's favourite formula that if an historical event is ever earlier than another, then it always was and will be earlier, Miss Cleugh in her 1937 book *Time and Its Importance in Modern Thought* says that this is "an unsatisfactory way of expressing" whatever McTaggart wishes to convey, "and one which is perilously near nonsense".<sup>7</sup> My impression is that McTaggart's wordings are almost always perilously near nonsense, not yielding to meaningful and yet faithful paraphrase; hence my preference for direct citations. Let me first quote the string of stipulations McTaggart begins his essay with. "Positions in time", writes McTaggart, "as time appears to us *prima facie*, are distinguished in two ways. Each position is Earlier than some, and Later than some, of the other positions. And each position is either Past, Present, or Future. The distinctions of the former class are permanent, while those of the latter are not. If M is ever earlier than N, it is always earlier. But an event, which is now present, was future and will be past." McTaggart then goes on to refer to "the series of positions running from the far past through the near past to the present, and then from the present to the near future and the far future, as the A series"; the "series of positions

<sup>5</sup> J. McTaggart Ellis McTaggart, *Philosophical Studies*, ed., with an introduction, by S. V. Keeling, London: Edward Arnold, 1934.

<sup>6</sup> *Ibid.*, p. 135.

<sup>7</sup> M. F. Cleugh, *Time and Its Importance in Modern Thought*, London: Methuen, 1937, p. 153.

which runs from earlier to later" he calls "the B series"; and he concludes the passage with the stipulations "[t]he contents of a position in time are called events", and "[a] position in time is called a moment".<sup>8</sup> With this passage – let me list it as THE A AND B SERIES STIPULATION – the stage is set; by accepting it as a point of departure, the reader accepts an idiosyncratic – namely *timeless* – way of speaking about temporal phenomena. McTaggart now continues by pressing the point that "the A series is essential to the nature of time". As he puts it, "a B series without an A series" will not suffice to "constitute time", and, consequently, if "the distinction of past, present and future" is an illusion, then *time* must be an illusion, too. He puts forward here what might be taken as his first attempted proof of the unreality of time – I am listing it as the EVENTS NEVER CHANGE argument. This is how it runs: "It would, I suppose, be universally admitted", writes McTaggart, "that time involves change. ... A universe in which nothing whatever changed ... would be a timeless universe. – If, then, a B series without an A series can constitute time, change must be possible without an A series. Let us suppose that the distinction of past, present and future does not apply to reality. Can change apply to reality? What is it that changes?" McTaggart insists that what *cannot* change are events. "An event", as he puts it, "can never cease to be an event. ... it will always be, and has always been, an event, and cannot begin or cease to be an event." On the other hand, indicates McTaggart, events change in the sense that future events become present events, and present events become past events. I am citing an oft-quoted passage: "Take any event – the death of Queen Anne, for example – and consider what change can take place in its characteristics. That it is a death, that it is the death of Anne Stuart, that it has such causes, that it has such effects – every characteristic of this sort never changes. ... in every respect but one it is ... devoid of change. But in one respect it does change. It began by being a future event. It became every moment an event in the nearer future. At last it was present. Then it became past, and will always remain so, though every moment it becomes further and further past." Now this kind of change, McTaggart tells us, can only be posited if we assume there to be an "A series". No time without change, and no change without the "A series".<sup>9</sup>

The next step to follow is the introduction of the "C series", a series that is "not temporal, for it involves no change, but only an order".<sup>10</sup> McTaggart puts forward an argument that purports to show that "the A series, together with the C series, is sufficient to give us time. ... It is", he writes, "when the A series, which gives change and direction, is combined with the C series, which gives permanence, that the B series can arise."<sup>11</sup> I do not wish to spend time on this argument here – let me call it the A PLUS C MAKE B argument – but let me just remark, however, that it is quite usual for commentaries not to take note of it, nor even of the "C series" as such. Alexander Gunn in his classic *The Problem of Time*<sup>12</sup> does not; Gregory Currie in his 1992 essay "McTaggart at the Movies"<sup>13</sup> does not; Runggaldier in his 2005 paper "Are There 'Tensed' Facts (A-Series)?"<sup>14</sup> does not;

<sup>8</sup> McTaggart, "The Unreality of Time", *Mind*, 1908, p. 458.

<sup>9</sup> *Ibid.*, pp. 458–461.

<sup>10</sup> *Ibid.*, p. 462.

<sup>11</sup> *Ibid.*, pp. 463 f.

<sup>12</sup> J. Alexander Gunn, *The Problem of Time: An Historical and Critical Study*, New York: Richard R. Smith, 1930, pp. 345–349.

<sup>13</sup> *Philosophy*, vol. 67, no. 261 (July 1992), pp. 343–355.

<sup>14</sup> In F. Stadler and M. Stöltzner (eds.), *Time and History*, Frankfurt/M.: ontos verlag, 2006, pp. 77–84.

Kanzian in his 2005 paper "Warum McTaggart's Beweis für die Unwirklichkeit der Zeit fehlschlägt"<sup>15</sup> does not; Katalin Farkas in her recent *Synthese* paper "Time, Tense, Truth"<sup>16</sup> does not; Richard Gale in *The Blackwell Guide to Metaphysics*<sup>17</sup> does not. Indeed Gale in his reader *The Philosophy of Time*<sup>18</sup> prints McTaggart's 1927 "Time" chapter with the last pages – the pages where the "C series" are introduced – left out. McTaggart might have believed that his arguments add up to a cohesive whole, but many of his commentators clearly thought otherwise. They were right. Upon the A PLUS C MAKE B argument there follows, in the 1908 text, the digression on the possible plurality of time-series<sup>19</sup> I have referred to above – let me list it as THE MULTIPLE TIMES ASIDE; then comes an entirely obscure passage which I shall christen THE A SERIES ARE RELATIONS OF EVENTS half-argument, and which McTaggart concludes with the words, "[t]he relations which form the A series ... must be relations of events and moments to something not itself in the time-series. What this something is might be difficult to say"<sup>20</sup>; and upon this half-argument then follows what might be regarded as the main argument of the essay "The Unreality of Time" – I will call it the IMPOSSIBILITY OF THE A SERIES argument.

Presenting this argument I must, again, quote McTaggart at some length. "Past, present, and future", he writes, "are incompatible determinations. Every event must be one or the other, but no event can be more than one. ... If M is past, it has been present and future. If it is future, it will be present and past. If it is present, it has been future and will be past. Thus all the three incompatible terms are predicable of each event, which is obviously inconsistent with their being incompatible..." Now it might be objected, McTaggart says, that this is only a seeming incompatibility. An adversary might point out that "our language has verb-forms for the past, present, and future, but no form that is common to all three. It is never true, the answer will run, that M *is* present, past and future. It *is* present, *will be* past, and *has been*, future. Or it *is* past, and *has been* future and present, or again *is* future and *will be* present and past. The characteristics are only incompatible when they are simultaneous, and there is no contradiction to this in the fact that each term has all of them successively."<sup>21</sup> McTaggart retorts, and purports to prove in some detail, that this objection involves a vicious circle – let me, then, list the passages involved as the VICIOUS CIRCLE argument. I must admit that I am unable to follow him here; that I am glad every time I encounter a commentary refuting the VICIOUS CIRCLE argument; but that, generally speaking, I am not able to follow those refutations either. However, I think I am able to follow, and I take pleasure in, the remaining two arguments, or semi-arguments, that the "Unreality of Time" essay offers. These are, first, the SPATIAL MOVEMENT METAPHOR FOOTNOTE, and, secondly, the SPECIOUS PRESENT argument.

<sup>15</sup> In F. Stadler and M. Stöltzner (eds.), *Time and History: Papers of the 28th International Wittgenstein Symposium*, Kirchberg am Wechsel: ALWS, 2005, pp. 131–133.

<sup>16</sup> *Synthese*, vol. 160, no. 2 (January 2008), pp. 269–284.

<sup>17</sup> Cf. Richard M. Gale, "Time, Temporality, and Paradox", in R. M. Gale (ed.), *The Blackwell Guide to Metaphysics*, Oxford: Blackwell Publishers, 2002, pp. 66–86.

<sup>18</sup> Richard M. Gale (ed.), *The Philosophy of Time: A Collection of Essays* (1967), London: Macmillan, 1968.

<sup>19</sup> "The Unreality of Time", p. 466.

<sup>20</sup> *Ibid.*, p. 468.

<sup>21</sup> *Ibid.*

In the SPATIAL MOVEMENT METAPHOR FOOTNOTE, there are unmistakable echoes of Bradley. One is reminded of the *Principles of Logic* passage, "the present is no time[;] ... it is a point we take within the flow of change";<sup>22</sup> or of the *Appearance and Reality* passages, "[i]t is usual to consider time under a spatial form. It is taken as a stream, and past and future are regarded as parts of it... It is natural to set up a point in the future towards which all events run, or from which they arrive, or which may seem to serve in some other way to give direction to the stream. ... We think forward, one may say, on the same principle on which fish feed with their heads pointing up the stream."<sup>23</sup> This is how the SPATIAL MOVEMENT METAPHOR FOOTNOTE runs, and I am not quoting the passage in full: "It is very usual to present Time under the metaphor of a spatial movement. But is it to be a movement from past to future, or from future to past? ... If the events are taken as moving by a fixed point of presentness, the movement is from future to past, since the future events are those which have not yet passed the point, and the past are those which have. If presentness is taken as a moving point successively related to each of a series of events, the movement is from past to future. Thus we say that events come out of the future, but we say that we ourselves move towards the future. For each man identifies himself especially with his present state, as against his future or his past, since the present is the only one of which he has direct experience. And thus the self, if it is pictured as moving at all, is pictured as moving with the point of presentness along the stream of events from past to future."<sup>24</sup> I take the SPATIAL MOVEMENT METAPHOR FOOTNOTE to be understood by McTaggart as a third proof of the unreality of time, further supporting, as it were, the IMPOSSIBILITY OF THE A SERIES argument and the VICIOUS CIRCLE argument. If the passage of time were real, McTaggart must have thought, the direction of time's flow would be unambiguously given. The fact that time appears to us as a movement both "from past to future" and "from future to past" proves that that movement is, indeed, mere appearance. However, I might think of a second, rather more interesting, reading of the SPATIAL MOVEMENT METAPHOR FOOTNOTE. On this reading, Bradley, and subsequently McTaggart, have discovered what later, in the 1980s, became one of the important findings of conceptual metaphor theory, namely that there are two related, but apparently different, ways to conceptualize time: the "time-moving" and the "ego-moving" metaphors. As I will attempt to show in the last section of my talk, this finding could play a significant role in a philosophical strategy designed to demonstrate the *reality* of time. Just now, however, by way of concluding the present section, let me discuss, very briefly, McTaggart's SPECIOUS PRESENT argument.

The term "specious present" was coined by E. R. Clay in 1882, and made more precise by William James in his *The Principles of Psychology*, published in 1890. As James in an oft-cited passage puts it, "the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a *duration*..."<sup>25</sup> To express it in a nutshell, the notion of the specious present is the empirically supported alternative to the age-old speculative notion of the present as a fleeting, momentary boundary between the future and the past. McTaggart of course can-

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<sup>22</sup> F. H. Bradley, *The Principles of Logic*, London: Oxford University Press, 1883, Bk. I, p. 53.

<sup>23</sup> F. H. Bradley, *Appearance and Reality*, London: Swan Sonnenschein, 1893, pp. 39 and 214.

<sup>24</sup> "The Unreality of Time", p. 470.

<sup>25</sup> William James, *The Principles of Psychology*, New York: Henry Holt, 1890, vol. I, p. 609.

not accept this latter notion, since he does not believe either in the future or in the past; while he does accept the experience of the specious present as an empirical fact. However, as he points out, "the 'specious present' varies in length according to circumstances, and may be different for two people at the same period. The event M may be simultaneous both with X's perception Q and Y's perception R. At a certain moment Q may have ceased to be part of X's specious present. M, therefore, will at that moment be past. But at the same moment R may still be part of Y's specious present. And, therefore, M will be present, at the same moment at which it is past. This", McTaggart says, "is impossible."<sup>26</sup> What the phenomenon of the specious present according to McTaggart demonstrates is, precisely, that time is illusory; accepting the reality of time, he tells us again by way of conclusion, leads to paradoxical results.

## 2. Refuted and Ridiculed

At the very beginning of his 1908 paper, McTaggart has some lines explaining that the doctrine of the unreality of time is not at all an unheard-of one; in fact "in all ages" it has been "singularly attractive" – or "singularly persistent", as he puts it in the 1927 version, in which these lines are repeated with some slight changes only. McTaggart refers to the philosophy, religion, theology and the mysticism of the East and West; mentioning, in particular, the philosophers Spinoza, Kant, Hegel, Schopenhauer, and Bradley. He could also have referred to, say, Parmenides, Zeno of Elea, Augustine, or, among the moderns, Leibniz. In fact, the view that time is somehow real has always been a minority position in philosophy,<sup>27</sup> defended, with reservations, by Aristotle, and postulated, rather than demonstrated, by Newton. Time was real, indeed it was the ultimate reality, for Henri Bergson, writing at the turn of the nineteenth and twentieth centuries; but Bergson had, for understandable reasons, almost no impact on analytically minded philosophers. Russell even wrote a pamphlet against him in 1914. But he did influence C. D. Broad; and William James of course adored him. Be that as it may, McTaggart might well have been unaware of Bergson in 1908, and even in later years. And he was entirely right when depicting the doctrine of the unreality of time as a mainstream one. Also, he was right in maintaining that his own arguments – or his own "reasons", as he puts it<sup>28</sup> – for the denial of the reality of time were different from those employed by other philosophers. But he was mistaken in believing that his arguments were sound. I am now coming to the criticism that C. D. Broad, in the 1920s and 1930s, has levelled at McTaggart.

In his "Intellectual Autobiography", Broad recalls his student days at Cambridge, roughly at the time McTaggart published his *Mind* essay. McTaggart was one of the teachers "from whose lectures and personal instruction [he] gained most". However, apparently it was easier to venerate McTaggart than to build on his work. As Broad writes: "No one could fail to be impressed by his extraordinary dialectical power, his wit, and his amazing quickness in discussion; but, though he had many admirers, he had hardly any disciples. For all practical purposes Moore and Russell held the philosophical field and

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<sup>26</sup> "The Unreality of Time", p. 472.

<sup>27</sup> Cf. the section "A Nutshell History of the Philosophy of Time", in my paper "Time and the Mobile Order", in Kristóf Nyíri (ed.), *Mobile Studies: Paradigms and Perspectives*, Vienna: Passagen Verlag, 2007, pp. 103–105.

<sup>28</sup> "The Unreality of Time", p. 457.

continued to do so for many years."<sup>29</sup> After teaching at St. Andrews, Dundee, and Bristol, Broad became McTaggart's successor at Trinity College in 1923. The same year, he published his book *Scientific Thought*. In this book, he takes up "the alleged difficulty that every event is past, present, and future; that these characteristics are incompatible; and that there is no way of reconciling them which does not either involve an infinite regress, in which the same difficulty recurs at every stage, or a vicious circle. This argument", Broad writes, "has been used by Dr McTaggart as a ground for denying the reality of Time. It is certainly the best of the arguments which have been used for this purpose; since it really does turn on features which are peculiar to Time, and not, like most of the others, on difficulties about continuity and infinity which vanish with a knowledge of the relevant mathematical work on the subject."<sup>30</sup> May I just interject, though the issue has no direct bearing on our present topic, that Broad is here victim to a widespread error; as Whitrow in his magnificent book *The Natural Philosophy of Time* explains, Cantor did not solve Zeno's problem.<sup>31</sup> But back to McTaggart. Broad goes on by referring to the EVENTS NEVER CHANGE argument, citing the "example of the death of Queen Anne, as an event which is supposed to combine the incompatible characteristics of pastness, presentness, and futurity". Broad's comment is momentous. "[F]uturity", he says, "is not and never has been literally a characteristic of the event which is characterised as the death of Queen Anne. Before Anne died, there was no such event as Anne's death, and 'nothing' can have no characteristics."<sup>32</sup> The criticism levelled at McTaggart, as Broad here advances it, must be seen against the background of the latter's own philosophy of time and change. According to this philosophy, it of course makes sense to speak of the changes of *things*, but not of the changes of events.<sup>33</sup> "When an event, which was present, becomes past", writes Broad, "it does not change or lose any of the relations which it had before; in simply acquires in addition new relations which it *could* not have before, because the terms to which it now has these relations were then simply non-entities. – It will be observed", Broad continues, "that such a theory as this accepts the reality of the present and the past, but holds that the future is simply nothing at all. Nothing has happened to the present by becoming past except that fresh slices of existence have been added to the total history of the world." This increase in "the sum total of existence" is what Broad calls *becoming*.<sup>34</sup> "[T]he laws of logic", Broad maintains, "apply to a fixed universe of discourse... But the universe of actual fact is continually increasing through the becoming of fresh events; and changes in truth, which are mere increases in the *number of truths* through this cause, are logically unobjectionable." Contrary to what McTaggart believed, Broad says, "no event ever does have the characteristic of futurity", and it is because of this that the law of the excluded middle does not apply to future events.<sup>35</sup>

Broad repeats these same critical observations in greater detail, and in rather harsher terms, in the second volume of his book *Examination of McTaggart's Philosophy*,

<sup>29</sup> In *The Philosophy of C. D. Broad*, ed. by P. A. Schilpp, New York: Tudor Publishing, 1959, p. 50.

<sup>30</sup> C. D. Broad, *Scientific Thought*, London: Kegan Paul, Trench, Trubner & Co., 1923, p. 79.

<sup>31</sup> G. J. Whitrow, *The Natural Philosophy of Time*, London: Thomas Nelson, 1961, pp. 135 and 145–148.

<sup>32</sup> Broad, *Scientific Thought*, pp. 79 f.

<sup>33</sup> *Ibid.*, pp. 62 ff.

<sup>34</sup> *Ibid.*, pp. 66 f. Any "complete analysis of the qualitative changes of things", Broad here points out, "is found to involve the coming into existence of events" (*ibid.*, p. 67).

<sup>35</sup> *Ibid.*, pp. 83 and 81.



published in 1938.<sup>36</sup> The text he there analyzes, in the chapter "Ostensible Temporality", is the 1927 version of McTaggart's paper; but his remarks fully apply to the 1908 version, too. He dwells at some length on McTaggart's attempt to replace all temporal copulas by a single non-temporal one. Referring to the EVENTS NEVER CHANGE argument, and to the McTaggartian formula that if an historical event *ever* precedes another historical event by a given interval, than it *always* precedes the latter by exactly that interval, Broad says that "[n]o one but a philosopher doing philosophy" would use the verb "precedes" in this seemingly non-temporal sense. "Such phraseology", points out Broad, "would suggest that the two events are particulars which (a) somehow *coexist* either timelessly or simultaneously, and yet (b) stand timelessly or sempiternally in a certain *temporal* relation of precedence. This must be nonsense, and it is most undesirable to use phrases which inevitably suggest such nonsense. I cannot help suspecting", writes Broad, "that there is some muddle of this kind at the back of McTaggart's mind when he says that events cannot be annihilated or generated because this would be incompatible with the fact that they *always* stand in the determinate temporal relation in which they do stand to each other."<sup>37</sup> Coming to the end of the chapter "Ostensible Temporality", Broad sums up McTaggart's main argument against the reality of time as nothing but "a philosophical 'howler'" – a logical blunder "of the same kind as the Ontological Argument for the Existence of God".<sup>38</sup>

Broad's criticism of McTaggart has been very influential. It is exploited in Alexander Gunn's 1930 monograph, with its references to "the reality of changing objects", and to that "fundamental becoming" of the universe which "brings new events into being";<sup>39</sup> and its impact is still, or again, fully there in John Perry's paper "How Real Are Future Events?", given at the 2005 *Time and History* Kirchberg symposium.<sup>40</sup> Also, I would like to single out specifically the influence Broad had on Sellars. Recalling his time in Oxford in the mid-thirties, Sellars comes to compare G. E. Moore with Broad. "I had long felt", he tells us, "that, although C. D. Broad might not be clearer than Moore, nevertheless he had a more adequate grasp of the problems they shared. I now think", Sellars says, "that this can be traced to Broad's awareness of, and technical competence in, the scientific background of these problems."<sup>41</sup> My impression is that, to some measure at least, it was under Broad's influence that Sellars developed his substantialist ontology of change, opposing the view that "when *S* changes from being  $\phi$  to being  $\psi$ , *S* must *really* consist of an event which is  $\phi$  and an event which is  $\psi$  to be the terms for the relation *earlier than*". As Sellars saw the matter, "[t]hings couldn't *consist* of events, because events were the changes of things".<sup>42</sup>

Let me conclude this section by briefly referring to an overlapping, but somewhat different, variety of anti-McTaggart argumentation – the ordinary-language variety – rather well represented by David Pears' 1956 essay "Time, Truth, and Inference". As

<sup>36</sup> Cambridge: Cambridge University Press, 1938. The first volume appeared in 1933.

<sup>37</sup> Broad's "Ostensible Temporality" chapter I am here quoting from Richard M. Gale (ed.), *The Philosophy of Time*, p. 131.

<sup>38</sup> *Ibid.*, p. 142.

<sup>39</sup> Gunn, *The Problem of Time*, pp. 346 f.

<sup>40</sup> John Perry, "How Real Are Future Events?", in F. Stadler and M. Stöltzner (eds.), *Time and History / Zeit und Geschichte*, Frankfurt/M.: ontos verlag, 2006, pp. 13–30.

<sup>41</sup> Wilfrid Sellars, "Autobiographical Reflections", p. 284.

<sup>42</sup> *Ibid.*, pp. 281 f.

Pears sees the matter, the paradoxes to which McTaggart's way of thinking about time leads are "the revenge which time takes on philosophers who deprive it of its proper means of expression, temporal verbs".<sup>43</sup> Focussing on the death of Queen Anne example, Pears discusses the EVENTS NEVER CHANGE argument, finding that what McTaggart actually does is to turn, as it were, "the timeless shadows of the future (and the past) into contemporary things". McTaggart achieves this by making the timeless present tense, as Pears puts it, "refer to any time when really it refers to no time".<sup>44</sup> McTaggart's move relies on the misconception of *the eternity of truth*, a bizarre misconception which, Pears believes, might perhaps be psychologically explained by "a strong desire to know the future",<sup>45</sup> but is, nonetheless, logically untenable. There are no eternal truths, and there are no non-temporal facts. McTaggart was unable, or unwilling, to realize that "temporal predicates are unlike nontemporal predicates and that events are unlike things";<sup>46</sup> he was unwilling to yield to "the natural tendency of ordinary people to use temporal verbs". Had he done so, writes Pears, "his conclusion would have been not the unreality of time, but the unreality of timelessness".<sup>47</sup>

### 3. Spurious Respectability

As Broad wrote, and indeed as Wittgenstein again and again lamented, philosophers, when doing philosophy, tend to be attracted to phoney language. Even so, the magic of McTaggart's systematically skewed syntax by itself can hardly explain the continuing influence his position exerts. As I suggested by way of introduction, the explanation is, rather, that this position has become systematically conflated with the Einstein–Minkowski conception of space-time, winning, thereby, undeserved esteem. There are innumerable places where McTaggart on the one hand, and relativity theory on the other, are mentioned in one breath; let me single out just a few. In the Einstein volume in the series *The Library of Living Philosophers*, published in 1949, the chapter by Kurt Gödel begins with a note referring to McTaggart's *Mind* paper. Peter Geach in his 1965 essay "Some Problems about Time" feels it his task to indicate that there is no *real* parallel between, on the one hand, the metaphysical genius McTaggart's conviction that time is an illusion, and on the other, the "view of time that is now widely held in one form or another. In its crudest form, this view makes time out to be simply one of the dimensions in which bodies are extended; bodies have not three dimensions but four. ... Since Einstein", Geach adds, "this sort of view has been very popular with philosophers who try to understand physics and physicists who try to do philosophy."<sup>48</sup> Again, Hugh Mellor in his 1998 book *Real Time II* finds it necessary to argue against, as he puts it, the often-voiced falsehood that McTaggart's so-called "*B*-theory explains, and may even be entailed by, a key implication of Einstein's special theory of relativity, namely that the four dimensions of space-

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<sup>43</sup> David F. Pears, "Time, Truth, and Inference", in Antony Flew (ed.), *Essays in Conceptual Analysis*, London: Macmillan, 1956, p. 228.

<sup>44</sup> *Ibid.*, p. 232.

<sup>45</sup> *Ibid.*

<sup>46</sup> *Ibid.*, p. 230.

<sup>47</sup> *Ibid.*, p. 235.

<sup>48</sup> P. T. Geach, "Some Problems about Time", in P. F. Strawson (ed.), *Studies in the Philosophy of Thought and Action*, London: Oxford University Press, 1968, pp. 175 f.

time are in reality all alike".<sup>49</sup> Physicist Julian Barbour in his book *The End of Time*, published in 2000, aimed at demonstrating that time is but an illusion, notes that some ideas in McTaggart match his own thinking, although of course the latter's arguments "are purely logical and make no appeal to physics".<sup>50</sup> Very telling is the way Sider begins his 2001 book, bearing the subtitle *An Ontology of Persistence and Time*, by announcing that it "articulates and defends four-dimensionalism: an ontology of the material world according to which objects have temporal as well as spatial parts. ... The philosophy of time defended is the B-theory, the so-called 'tenseless theory of time'. ... The advent of Minkowski spacetime", writes Sider, "seems to have inspired much interest in [four-dimensionalism], although some versions of the doctrine predate Minkowski spacetime."<sup>51</sup> And to name a very recent publication: Sattig in his book *The Language and Reality of Time* opens by introducing in immediate succession first the McTaggartian notions of "A series" and "B series", and secondly the Minkowski–Einstein idea of spacetime.<sup>52</sup>

It is an historical coincidence that McTaggart's paper on "The Unreality of Time", published in the October 1908 issue of *Mind*, followed so closely upon Minkowski's famous *Raum und Zeit* talk, given at Cologne on September 21, 1908. But it is no more than a coincidence, having neither symbolic, nor indeed factual import. In his book *The Life and Philosophy of McTaggart*, Gerald Rochelle suggests that Einstein was aware of McTaggart's work.<sup>53</sup> This might easily be true, since Einstein probably had a look at Gödel's chapter in the volume I mentioned some two-three minutes ago. But Rochelle also suggests that McTaggart kept himself "in touch with major scientific thinking", and "was most interested in Einstein's work on relativity"<sup>54</sup>. Rochelle offers no evidence for this, and I find it hard to believe. Rather, it is Broad who convinces me. This is what he writes in the 1933 "Preface" of his *Examination of McTaggart's Philosophy*: "I am inclined to think that McTaggart's complete lack of acquaintance with contemporary natural science was in certain respects a great advantage to him as a philosopher. The recent advances in physical theory have been so important and spectacular that they have only too obviously 'gone to the heads' of some eminent physicists, and have encouraged them and the public to believe that their pronouncements on technical philosophical problems, for which they have no special training or aptitude, are deserving of serious attention."

So the alleged McTaggart–Einstein connection is spurious. McTaggart's own logic is spurious. I think it is time for us to realize that McTaggart has, indeed, become a thing of the past. When did he become that? If I had the courage of my convictions, I would say that this happened as early as 1908, when he formulated, in the first passages of his *Mind* paper, THE A AND B SERIES STIPULATION. But certainly it happened by 1923 at the latest, when Broad's *Scientific Thought* saw the light of day. Or if you think that is still too harsh, then let us say it happened in 2005, when several papers at the Kirchberg *Time and History* symposium, most notably the neo-Broadian one given by John Perry,

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<sup>49</sup> D. H. Mellor, *Real Time II* (1998), London: Routledge, 2006, p. 47.

<sup>50</sup> Julian Barbour, *The End of Time: The Next Revolution in Our Understanding of the Universe* (1999), London: Phoenix, 2000, p. 343.

<sup>51</sup> Theodore Sider, *Four-Dimensionalism: An Ontology of Persistence and Time*, Oxford: Clarendon Press, 2001, pp. xiii and 3.

<sup>52</sup> Thomas Sattig, *The Language and Reality of Time*, Oxford: Clarendon Press, 2006, pp. 19–22.

<sup>53</sup> Rochelle, *The Life and Philosophy of J. McT. E. McTaggart*, p. xi.

<sup>54</sup> *Ibid.*, p. 186.

offered some decisive criticisms of McTaggart's position. And if you think I am too partisan, then let us look again, but this time from a different angle, at our much-discussed parallel, between McTaggart on the one hand, and Einstein–Minkowski on the other.

Wilfrid Sellars, in his 1962 paper "Time and the World Order", made the following remark: "The non-perspectival structure which, as realists, we conceive to underlie and support perspectival temporal discourse is, as yet, a partially covered promissory note the cash for which is to be provided not by metaphysics (McTaggart's C-series), but by the advance of science (physical theory of time)".<sup>55</sup> May I here make three comments. First, I do not think physics by itself can give us a theory of time; metaphysics, or more broadly, philosophy, will always play a role in synthesizing the concepts with which science grasps reality. Secondly, major discoveries in science evidently influence the way philosophers think: should the notion of time become really superfluous in science, the philosophy of time would clearly not remain unaffected. Thirdly, the "partially covered promissory note" Sellars refers to, today looks increasingly unlikely to be cashed; the scientific proof of a non-temporal universe does not seem to be forthcoming. The subject of physics, forgive me the pun, is indeed a dark matter today. *Time* may yet have a future.

#### 4. A Future for Time?

Leaving physics aside, but not losing sight of the metaphysical issue, let me now, by way of conclusion, enter the field of psychology, or, rather, of cognitive science.<sup>56</sup> Doubt as to the reality of time can arise because, in contrast to our sense of vision, hearing, touch, and so on, we do not seem to have a *sense of time*. A magisterial presentation of the issue was provided by William James in his *The Principles of Psychology*. "Let one sit with closed eyes", he wrote, "and, abstracting entirely from the outer world, attend exclusively to the passage of time". What do we perceive? Not, as it were, a "pure series of durations", but "[o]ur heart-beats, our breathing, the pulses of our attention, fragments of words and sentences that pass through our imagination".<sup>57</sup> Now heartbeats, breathing, attention, etc. all involve, as James learnt from Hugo Münsterberg in 1889, the play of muscular tension and relaxation. According to Münsterberg, it is feelings in the muscles of the eye, the ear, and also muscles in the head, neck, etc., by which we estimate lengths of time. These perceptions of tension, "triggered off by real muscular contractions or by memories of the same", amount to a *direct sense of time*<sup>58</sup> – a physical encounter with time, we might say. As James puts it, "muscular feelings can give us the object 'time' as well as its measure".<sup>59</sup>

There exists a substantial research tradition which has demonstrated that to muscular sensations there correspond images of one's posture – schematic bodily images.

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<sup>55</sup> Wilfrid Sellars, "Time and the World Order", in *Minnesota Studies in the Philosophy of Science*, vol. III: *Scientific Explanation, Space, and Time*, ed. by Herbert Feigl and Grover Maxwell, Minneapolis: University of Minnesota Press, 1962, p. 593.

<sup>56</sup> For a more detailed presentation of the argument of the present section see my paper "Film, Metaphor, and the Reality of Time" (2008), *New Review of Film and Television Studies*, vol. 7, no. 2 (June 2009), pp. 109–118.

<sup>57</sup> James, *The Principles of Psychology*, vol. I, pp. 619 f.

<sup>58</sup> Hugo Münsterberg, *Beiträge zur experimentellen Psychologie*, Heft 2: *Zeitsinn – Schwankungen der Aufmerksamkeit – Augenmass – Raumsinn des Ohres*, 1889, p. 20.

<sup>59</sup> James, *op. cit.*, p. 637.

And since the 1980s conceptual metaphor theory invites ever more detailed descriptions of how kinesthetic experiences give rise to so-called *image schemas*. An image schema, as Mark Johnson defines it, is "a recurring, dynamic pattern of our perceptual interactions and motor programs".<sup>60</sup> Now it is image schemata that give rise to a great number of fundamental metaphors. Recall that according to conceptual metaphor theory, metaphor is only incidentally "a device of poetic imagination and the rhetorical flourish", its essence consists in "*understanding and experiencing one kind of thing in terms of another*"<sup>61</sup>. Time is a much-discussed topic in conceptual metaphor theory. The essential finding is that "[m]ost of our understanding of time is a metaphorical version of our understanding of motion in space".<sup>62</sup> Earlier in my talk I have referred to the "time-moving" and "ego-moving" metaphors. As Lakoff and Johnson point out, these metaphors are "*figure-ground reversals of one another*".<sup>63</sup> *Figure-ground reversal*: this brings us to gestalt psychology – and to film theory. In the 1930s, German-born psychologist Karl Duncker made the following discovery with respect to "figure" and "ground" in moving visual gestalts: the "figure" tends to move, the "ground" to stand still. When observers, say, stand on a bridge and look at the moving water, their perceptions will be veridical; but when they fixate the bridge, they and the bridge may be seen as moving along the river. Duncker explained the phenomenon by pointing out that "the object fixated assumes the character of the 'figure', whereas the nonfixated part of the field tends to become ground".<sup>64</sup> Film theorist Rudolf Arnheim exploits this explanation to come to terms with a trivially well-known phenomenon in film. "[T]he setting photographed by the traveling camera", Arnheim points out, "is seen as moving across the screen, mostly because the viewer receives the kinesthetic information that his body is at rest. Only in extreme cases, e.g., when enough of the entire environment is seen as moving, will the visual input overrule the kinesthetic." Normally however, when our "muscular experiences" tell us that we are at rest, it is "the street [that] is seen as moving. It appears to be actively encountering the spectator as well as the characters in the film, and assumes the role of an actor among actors."<sup>65</sup>

There is a very clear analogy here between, on the one hand, the time-moving metaphor and film's moving road, and, on the other, the ego-moving metaphor and the spectator's perception of moving along in the film's environment. Thinking of time as passing, and seeing the road pass by on the screen, appear to have the same motor background. And the perception of time passing is no more of an illusion than the perception of the road moving towards us, or receding behind us, on film. Our everyday metaphors of the flow of time are grounded in kinesthetic image schemata depicting reality. Contrary to what McTaggart believed, the common-sense view of the reality of time can be vindicated.

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<sup>60</sup> Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*, Chicago: The University of Chicago Press, 1987, p. xiv.

<sup>61</sup> George Lakoff and Mark Johnson, *Metaphors We Live By*, Chicago: University of Chicago Press, 1980, pp. 3 and 5.

<sup>62</sup> George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, New York: Basic Books, 1999, p. 139.

<sup>63</sup> *Ibid.*, p. 149.

<sup>64</sup> I am here quoting Duncker from Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye* (1954), exp. and rev. ed., Berkeley: University of California Press, 1974, p. 380.

<sup>65</sup> *Ibid.*, pp. 379 and 381.