We say “time flies”. In fact, we experience time as flowing. But, does time exist? To place events and facts in a fluent time requires to adopt a certain temporal point of view. Fluent time depends on a perspective. Are the past, the present and the future no more than merely subjective epiphenomena? From a scientific perspective they “seem” to be so. Also, it is so from some highly speculative philosophical stances. However, can they “really” be so?

Fluent time performs a crucial structuring role in our epistemic and agentive relations with reality. It is a time with a clear direction: it involves a past, a present, and a future. It also has an essential instability: things that were future become present, and things that are present will become past. We experience that time in our life. And we explicitly embrace a temporal perspective in our plans and strategies for knowing and acting. The existence of such a fluent time is a non-questionable fact of our experience. However, such existence has been disputed both by philosophical and scientific reasons.

From the philosophical side, McTaggart’s arguments against the reality of a fluent time, what he called temporal A-series (events or facts ordered according to their “being past”, “being present”, or “being future”), occupy a central position in the relevant literature. And it is very difficult to articulate a completely satisfactory answer to his arguments. Very often in combination with some version of McTaggart’s arguments, that fluent time is also excluded from the scientific picture of reality. The “past”, the “present”, and the “future” have no clear place in the spatio-temporal continuum of fundamental physics. In the best case, the “present” is relativised to a reference-frame and time is reduced to a mere asymmetric relation between facts or events, what McTaggart’s described as B-series (in which the order is defined by the relations “before than”, “after than”, and “simultaneous to”), or it is even reduced to some kind of C-series (for instance, “to be included in”) having no essential connection with the temporal concepts of A-series. The final result is a time with no privileged direction (the “arrow of time”), a time lacking any sort of fluency (the “passage” of time), and a time in which the present (more in general, the “now”) has no distinguished position.
Those philosophical and scientific attacks have originated a deep tension between the subjective and the objective aspects of time. The fluent time we experience and the fluent time we consider in our temporal perspectives seems to be only an “epiphenomenon”, a merely subjective aspect of our points of view about reality and about ourselves. Facing that situation, this book tries to understand the relationships between the objective and the subjective aspects of time. And it tries to do it from the more basic notion of points of view, or perspectives. Through all the chapters of the book, the notion of points of view is taken to be a pivotal tool to deal with the connections between an external and objective time, for instance, the time conceptualised by science, and the internal, even subjective, time involved in our personal experience.

The emphasis in the notion of points of view is very important in our approach. Chapter 1 (*The Notion of Point of View*) and Chap. 2 (*Subjective and Objective Aspects of Points of View*) offer a detailed analysis of it. There are different ways of approaching the notion. One of them assumes as a model the structure of “propositional attitudes”. Another one focuses on the idea that points of view are “ways of having access” to reality, and to ourselves, from certain emplacements. A third one, proposed by Russell some years ago, with a clear Leibnizian inspiration, combines both approaches trying to make sense of the idea of a “space of perspectives”. A fourth approach, much more recent, uses the notions of “conceptual spaces” and “state function” to analyse the most prominent features of points of view. In any case, points of view reveal to be complex entities with a robust modal nature and a strongly relational mode of existence. Because of that, points of view turn out not easily reducible either to information, or to psychology, or to physics.

These first two chapters establish a very important distinction that, more or less explicitly, is present in all the rest of the book: the distinction between what is external to points of view and what is internal to points of view without being merely internal to the subjects having those points of view. What is internal to the points of view without being internal to the subjects displays a very important sort of objectivity and intersubjectivity different from the objectivity and intersubjectivity offered by science. This entails that points of view can also offer an internal time which is not a merely subjective time. To adopt temporal points of view about reality and about ourselves would consist in having in perspective such a time.

Chapter 3 (*Temporal Aspects of Points of View*) and Chap. 4 (*Fluent Time, Minds, and Points of View*) are specially devoted to the connections between points of view and time. The first one discusses in depth McTaggart’s arguments against the reality of a fluent time and also the claim that fluent time is merely a subjective epiphenomenon. The second one argues that the existence of a fluent time, i.e. a time with a past, a present, and a future, is linked to the existence of experiential points of view with non-conceptual contents. Fluent time would be internal to some experiential points of view without being internal to the subjects having those experiences. In this chapter, it is also argued that statements, or thoughts, about the past and about the future can have truth-makers in the present. In one way or another, both chapters continue analysing the notion of temporal points of view.
Chapter 5 (Branching Time Structures and Points of View) and Chap. 6 (Change, Event, and Temporal Points of View) have a logical character. They suggest different ways in which time can be formalised. The first one focuses on ways to formalise a branching, indeterminist, sometimes called Ockhamist, time. A Priorian way of seeing time is adopted. And the need to use multimodal and bi-dimensional logical strategies is defended. Moreover, the need of “hybridising” our systems extending the basic logic with mechanisms capable of referring to concrete points in time is suggested. The second one uses a “conceptual spaces” framework to define the notion of temporal points of view. The framework of conceptual spaces is powerful and with direct technical applications. In this chapter, a continuous and processual time is formalised and a logic for such a time is sketched. The temporal element is introduced by adding a time variable to state functions that map entities into conceptual spaces. That way, states may have some permanency or stability around time instances. Following Aristotle’s intuitions, changes and events will not be necessarily instant phenomena. They can be processual and interval dependent.

Chapter 7 (Grounding Qualitative Dimensions) also makes use of the framework of “conceptual spaces”. This time, the focus is the conception of points of view as ways of having access to the world. Points of view always involve a choice among different qualitative dimensions. Moreover, the distinction determinable/determinate is applied inside each dimension to generate different perspectives. It is claimed that we can assume all of that without embracing relativist conclusions.

The last three chapters of the book address particular topics. Chapter 8 (Kinds, Laws and Perspectives) is about the notion of “natural kinds”, a very important issue in metaphysics and philosophy of science. The three main approaches to natural kinds are analysed: the essentialist, the constructivist, and the causal. It is argued that the third is the most adequate one. The distinction between causal laws and useful generalisations is highly perspective. But this would not be an unsurmountable obstacle for the objectivity of the identifications of natural kinds. Chapter 9 (Synchronic and Diachronic Luck) is about “luck attributions”, a particular topic that has come to have great relevance in epistemology and theory of action. It is argued that luck attributions always have a perspectival character. Moreover, they depend on the either synchronic or diachronic temporal perspective adopted. It is argued that no such temporal point of view enjoys any kind of logical priority, or metaphysical privilege, with independence from all perspectives. Finally, Chap. 10 (Presentism, Non-Presentism and the Possibility of Time Travel) discusses time travel paradoxes. It is argued that a realistic notion of time is capable of accepting the possibility of time travel in such a way that “the grandfather paradox” does not arise. It is distinguished between changing the past by subtraction and changing the past by addition. The first sort of change is impossible: what has happened cannot be changed. But the second sort of change is possible. It is possible to open new causal lines anytime that someone travels in time, to the future as well as to the past, which allows the occurrence of different and new facts.

The need to integrate representations of an internal, but not merely subjective, fluent time with representations of other more objective and more external time is
relevant in many fields. One of them is the field of modelling and simulation of complex behaviours involving time. Another one is the analysis of reasonings involving different temporal perspectives. With respect to them, the discussions and analyses contained in the book can offer suggestive insights.

Points of view can make sense of the objective and subjective aspects of time because points of view have, themselves, a strong bipolar character. Points of view are ways of having access to objective reality. But, crucially, they also involve our subjectivity. We have to assume that points of view are parts of the objective reality they display before us. However, points of view also have features that do not find a comfortable place in the objective world described by science. And it is plausible to claim that not all of these features can be discarded as being merely subjective.

The book contains very detailed discussions of current issues about points of view and time. The results are tentative, but the problems under discussion are really important. Because of that, the book is also appropriate for use in graduate and upper-level undergraduate courses. Moreover, it would be of interest for people approaching these issues for the first time.

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The topics taken up here by no means exhaust the field. In fact, the field is an open field. And much further work has to be done.

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