Chapter 2
The Main Issues

Abstract The lack of differentiation between practice, dialectic, and theory is problematic. The question of practice concerns the way time and space are used; it seems to have developed to the detriment of the theory. Dialectic is a rigorous form of reasoning: it is what we think. But the dialectics of time and space are bogged down by practice, and suffer interference from everyday language usage. The stringent requirements of theory are no longer respected. A theory is intended to enrich and organize knowledge: it is what we know. Nevertheless time and space are not theorized: they are not defined, their nature is unknown, their properties are not identified, and their existence is not clarified. There is every reason to think that this lack of theory may lead to a gradual accumulation of difficulties for any research involving time and/or space, mainly in the mathematical modeling of phenomena and in philosophical conceptions of the world.

Despite Dante’s warning, philosophy treats time and physical space as primordial categories of understanding, although it does not explain what time and space are. For the Greek philosopher Aristotle (384–322), time and place were two his ten categories of understanding [1]. The German philosopher Emmanuel Kant (1724–1804) considered time and space as two out of twelve categories [1]: Kant asserted that time and space were pure intuitions, cognizable by intellect. Since then, anthropologists have discovered people without time and/or without space, showing that time and space are not intuitions (infra Ch. 10.2.8). Ethologists have shown that living things have certain practices of temporality and spatiality, with an astonishing acuity in higher mammals, although they can sometimes be misled by certain field effects, just as we can (infra Ch. 4.5).

For its part, physics has never attempted to describe time: according to Etienne Klein, physics is less interested in the nature of time than in the best way to represent it [2]. However, the lack of definitions for duration, time, length, and physical space is a serious concern. Time and physical space are aporias: then involve irresolvable logical difficulties, favoring nescience, which is the ignorance of what one is unable to learn (from nescius: ignorant), and favoring also psittacism.
or parroting, i.e., the repetition of words or phrases whose meaning is unknown (from psittacinus: parrot).

The confusion between practice, dialectic, and theory, seems to be the cause of the observed semantic reductions and indeed the main cause of the difficulties in evaluating time and physical space, which raise so many pressing questions.

2.1 **Time and Space in Everyday Life**

The appearance of temporality and spatiality in our everyday lives is highly fragmented, concerning usage, use, applications, utilizations, measurements, mythologies, and symbolisms. These things are familiar to the general public and described by the humanities and sciences.

However, a generally agreed dialectic, which is blinded by the success of time and physical space, and confused by their bewildering polynomy, cannot enrich any theoretical corpus: the theory of time and the theory of space are stricken by ignorance, and so are still excluded from the realm of academic knowledge.

Of course, these practices should not be neglected: indeed, their study—through archaeology, literature, history, philosophy, biology, chemistry, physics, technology, anthropology, psychology, statistics, art, mathematics—provides a fruitful contribution to the theory of time and also to the theory of physical space.

2.2 **Dialectics of Time and Dialectics of Space**

The dialectic of time is powerless: at best, it is axiomatic, at worst, it is indigent, because it is bogged down in the problem of practices, the comfort of consensus, and conventional ways of talking. And as far as physical space is concerned, its dialectic just doesn’t exist.

Asserting that time has a course and an arrow according to physics, that it flows and that it causes aging according to popular belief, that it is a category of thought according to philosophy, that it is a flux and a strength for Bergson [3], that it is being for Heidegger in *Sein und Zeit* [4], that it keeps dividing itself into before and after with the motion of the instant according to Deleuze, just does not teach us anything about time, about its nature and its properties. By endlessly repeating that space surrounds us, or that objects occupy space, or that things are in space, we do not learn anything about physical space.

Ovid observed: *One believes easily what one desires* (Ch. 1, 6: Book III).

1 Variety of organizational forms and different uses; from Greek νομος (nomos): law.
2 From Greek διαλεκτικος, *dialektikos*: art of conversing.
2.3 The Lack of Theory

The aim of a theory is to provide understanding and to structure our knowledge, excluding beliefs, opinions, and convictions. Nietzsche considered convictions to be detrimental in the search for truth \[5\]. Freud stigmatized simplifications made to the detriment of truth; and when he was teaching psychoanalysis at the Faculty of Medicine of Vienna in 1916, he warned his students not to give into sympathy or antipathy in their scientific arbitrations \[6\]. Any theory of \textit{time} or \textit{physical space} must be consistent with practice; in other words, practice must verify and confirm theory.

There is no information available about any theories of \textit{time} or \textit{physical space}:

- **Lack of definition.** Definition is one of the primary requirements for knowledge. To define something is to say what it is. However, dictionaries and encyclopedias provide only default definitions, which do not explain what \textit{time} and \textit{physical space} actually are.
- **Unknown nature.** Neither the nature of \textit{time}, nor the nature of \textit{physical space} are described in scientific and philosophical works (most of which are devoted to \textit{time} rather than \textit{physical space}).
- **Unidentified properties.** Experiments and observations do not bring to light any physical properties of \textit{time} and \textit{physical space}, although, such properties are indisputable conditions for their specific physical existence. The notion of “property” is crucial, because it allows scientists to have a common view of reality and phenomena: indeed the perception of an object or the analysis of a phenomenon must not depend on the culture or the psyche of the researcher.
- **Specific actions.** Specific actions of \textit{time} have been neither recorded, nor described. There is no trace of any consequence induced by \textit{time}.
- **Phenomenology.** Phenomenology is considered as implicit but has never been established. No phenomenon can be attributed to \textit{time}. The etiology\(^3\) of \textit{aging} will shed a decisive light on the alleged role of \textit{time}.
- **Physical space.** Physical space is the cause of no identified phenomenon. The possible materiality of \textit{space} has been neither observed nor experimented, even with relativistic covariance (\textit{infra} Ch. 8.4).
- **Existence.** Existence is treated as a principle, but is never proven. It is legitimate to question the physical existence of \textit{time} and \textit{space}. Yet, the specific existence of \textit{time} and \textit{space} is merely postulated, not proven.

Furthermore, all sciences are based on models in which \textit{time} and \textit{space} occupy a hegemonic place, even though none of these sciences can describe the nature of \textit{time} and \textit{physical space}.

\(^3\text{From the Greek \textit{aitiology}, aïtio\logia: study of causes; aïtia, aitia: cause.}\)
2.4 The Problem Situation

The physical issue of *time* and the physical issue of *space* remain unexplored. Does *time* have some kind of constitutive element which activates phenomena such as *aging*? Does the Universe produce *time*? Are clocks activated by *time*? Do they generate *time*? Are *time* and *space* measurable or observable as such? Does *physical space* have materiality? Can we carry out experiments on objects whose nature is unknown? Do the alleged experiments provide information about the nature and properties of *time* and *space*? When were *temporality* and *spatiality* observed for the first time in human history? Were they discovered or invented? Finally, why is *time* a protected topic, a reserved field of study, a sensitive issue controlled by a kind of ochlocracy⁴?

Answering these questions will remove much of the shadow cast over *time* and *physical space*. But first it will be useful to ask why dialectic has failed in this instance.

Bibliography


⁴Power exerted by a *crowd* (from the Greek ὀκήλος, *okhlos*).
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