

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 of 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,¹ 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 dialectic² 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).

¹Variety of organizational forms and different uses; from Greek νομος (*nomos*): law.

²From Greek διαλεκτικός, *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 *time* or *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 *time* or *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 *time* and *physical space* actually are.
- Unknown nature. Neither the nature of *time*, nor the nature of *physical space* are described in scientific and philosophical works (most of which are devoted to *time* rather than *physical space*).
- Unidentified properties; Experiments and observations do not bring to light any physical properties of *time* and *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 of *time* have been neither recorded, nor described. There is no trace of any consequence induced by *time*.
- Phenomenology is considered as implicit but has never been established. No phenomenon can be attributed to *time*. The etiology³ of *aging* will shed a decisive light on the alleged role of *time*.
- *Physical space* is the cause of no identified phenomenon. The possible materiality of *space* has been neither observed nor experimented, even with relativistic covariance (*infra* Ch. 8.4).
- Existence is treated as a principle, but is never proven. It is legitimate to question the physical existence of *time* and *space*. Yet, the specific existence of *time* and *space* is merely postulated, not proven.

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

³From the Greek αἰτιολογία, *aitiologia*: study of causes; αἴτια, *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

1. Cuvillier, A. (1955). *Petit Vocabulaire de la Langue Philosophique* (basic vocabulary of the philosophical language). Paris: Librairie Armand Colin.
2. *Télérama*. (2000). (Paris, April 12, 2000).
3. Bergson, H. (1859–1941). (1947). *L'Évolution Créatrice* (1907). Paris: P.U.F.
4. Heidegger, M. (1889–1976). *Sein und Zeit* (1927) (*Being and time*, Translation from German into French, foreword and notes by E. Martineau). Digital publishing, off trade.
5. Nietzsche, F. (1844–1900). (2009). *Morgenröte* (1881)—(*Aurora*, cited in *Lire*, February 2009).
6. Freud, S. (1856–1939). (1949). *Vorlesungen zur Einführung in die Psychoanalyse* (1916) (*Introduction to psychoanalysis*, Translation from German into French by Dr. S. Jankélévitch). Paris: Payot.

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

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