## **Timeless Progress**

## A further Hegelian Update of Platon's Ideas

Hardy Hanappi VIPER – Vienna Institute for Political Economy Research <u>Hanappi@gmail.com</u> <u>www.econ.tuwien.ac.at/hanappi/</u> Version 20-05-2019

## Abstract

The concept of 'time' lies at the heart of most strands of human theory construction. It is so ubiquitous and elementary that it usually escapes any thorough discussion and remains hidden under the visible technicalities of scientific language<sup>1</sup>. This paper sets out to investigate what time is. In doing so it explores how it assumed its special role in human societies, how it permeated our formal abilities. As seen in the science of theoretical physics, in particular since the development of quantum mechanics, the direct link between our apparatus of perception as used in everyday activities and the formalisms needed to describe our environment adequately is broken: The answers provided by formalisms of quantum mechanics are extremely counterintuitive. This phenomenon starts already when one considers the use of complex numbers. Tracing back the emergence of such strange number systems – starting with negative numbers and ending with non-commutative, non-associative octonions<sup>2</sup>, leads to the notion of contradictions, of creative contradictions and their roots in elementary properties of living systems. In a sense, this turn of the argument revives a classic debate of Greek philosophy, namely the debate on dialectics. From the eternal validity of Plato's five solids to Hegel's idea of the primacy of change, dialectic thought paved its way to the combination of these views in the formalism of quantum mechanics, the inseparability of position and momentum<sup>3</sup>, a unique progressing contradiction.

The second part of the paper tries to apply these findings for a radical enhancement of the formalisms used in political economy. The guiding contradiction in this field is that on the one hand human societies undoubtedly undergo change, show some kind of progress, while on the other hand our theories about this progress set out to find eternally valid laws that govern this progress. How contemporary theories plug-in timeless, usually reversible laws into 'blind' progress is briefly sketched. As a first step, it is proposed to use complex numbers to describe historical empirical knowledge and expectations in a single number - as necessary in political economy. This leads back to the notion of time as experienced as presence. Add the dialectics of local (individual) versus global (species) and a new formalism for evolutionary processes will emerge<sup>4</sup>.

<sup>&</sup>lt;sup>1</sup> Compare [Roveni, 2019].

<sup>&</sup>lt;sup>2</sup> Compare [Walchover, 2018].

<sup>&</sup>lt;sup>3</sup> See e.g. [Susskind and Friedman, 2015] for a detailed introduction to this idea.

<sup>&</sup>lt;sup>4</sup> A brief summary of these dialectics can be found in [Hanappi H., 2019, pp. 1-16], while a prosaic narrative for evolutionary processes that waits for formalisation is provided in [Hanappi H. and Scholz-Wäckerle M., 2017].

## References

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