CRAVING COMPUTATIONAL CLARITY

Introducing a Metatheory of the Rule of Law as an input for (AI) Modelling

Ph.D. Dissertation

THESES

(IN ENGLISH)

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PART I

The submitted work fits into my broadly conceived research goals, which could be summarised as taking a step towards a better understanding of the rule of law, from the side of theories, while keeping a core question in mind: how to gain conceptual clarity about the essence or core of the rule of law as a key for cutting-edge monitoring of the rule of law backslide on the fractured European legal landscape.

First, I intend to contribute to scientific dialogues about the rule of law via engaging in the ongoing polemics about its utter conceptual nature: what is the rule of law and what is it not?

Second, I look into theory's potential in envisioning corrective and restorative mechanisms of the rule of law (in case a backslide is detected), and map which layers of the rule of law should be taken into consideration when planning all-encompassing restoration.

Third, contributing to the long-standing scientific discussion of whether the concept of the rule of law allows for a unified grand theory, or whether the phenomenon is profoundly context-driven and paves the way for eternal theoretical divergence.

Fourth, trying to find the answer to the question whether the rule of law entails only formal requirements and if not, what are the substantive requirements strongly linked to it in the form of building blocks.

Fifth, trying to reach a conclusion of whether the rule of law is equal to formal legality or exceeds it (even contradicts it).

Considering the above, I intended to create a metatheory about the theories of the rule of law, where the metatheory is inspired by (computational) modelling.

PART II

HYPOTHESIS

My hypothesis is centred around the thought of whether utterly divergent theories of the rule of law can be mapped and restructured with the help of an innovative metatheory of the rule of law. This metatheory welcomes a great variety of rule of law theories, relies on ontological modelling, and narrates on what the embedded ontological cluster model at its heart depicts.

The ontological cluster model is a special modular inventory where conceptions of the rule of law are transformed into small, divergent models representing and recapturing the phenomenon of the rule of law with ontological building blocks linked to three pivotal concepts in three sets, namely actions or activities serving as input; beliefs or ideas that actors might pursue while striving for the rule of law; and outcomes which form a certain order as a result.

My doctoral thesis investigated whether such a modelling exercise could constitute a viable model, and, therefore, a metatheory that can successfully handle the vast and diverse rule of law tradition — without overlooking its implications for both theory and practice.

I argue that conceptual combinations — along with their clusters — anchored in the three sets are necessary and sufficient conditions for rethinking the layers of the rule of law better, and they offer contribution to the previously identified scientific discussions.

The thesis revolves around crafting a metatheory and an ontological cluster model that, in the current format, already enable novel findings. The model, however, entails suggestions for further (computational) inquiries as well.

METHODOLOGY

The present work embeds modelling into a metatheory which restructures conceptions of the rule of law by deconstructing them to their ontological building blocks. This shapes the scope and methodology of the research.

Metatheory: The thesis carries out metatheoretical investigations by analysing and restructuring theories of the rule of law by arranging them into novel clusters. The nature of the inquiry puts it above the level of theories, since it works with theories and contested conceptualisations of the rule of law. Furthermore, it offers a meta-framework and a meta-model for advanced conceptual deconstruction (and reconstruction) inspired by various purposes. This is why it is referred to as a metatheory.

The term itself: rule of law is a somewhat fuzzy and essentially contested concept. For the sake of conceptual clarity, the thesis seeks to indicate whether the rule of law is discussed by an author as the rule of law in stricto sensu, as a derivative of law, or in a generalised (merged) form combining the rule of law with the notion of Rechtsstaat or even rule by law. This also means that the clustering could and would include theories that address distinct qualities. This choice is deliberately deepening the pool of conceptions. The processed theories therefore are diverse and the modelling exercise welcomes succinct and vast (multi-layered) formulations, as well as negative and positive theories of the rule of law.

Deconstruction: the thesis deconstructs the answers to the question of what the rule of law is or might be. It does it by reading and assessing existing theorisations of the rule of law, then by crafting a new cognitive framework where conceptions of the rule of law are viewed through a different lens. This lens intends to exceed the traditional labelling of the theories of the rule of law. The ontological building blocks and clusters point beyond formal–substantive, or criterial–realistic theories. These theories can be accommodated into the meta-framework, but labels of theoretical schools do not belong to the constructing principles.

Interdisciplinarity: the basic outline of conceptual clusters emerges on the basis of an interdisciplinary approach, which means that clustering relies on the input of history, cultural anthropology, philosophy, sociology, as well as legal and political science The inputs are filtered and arrive predominantly via tenets of legal and political theorists. Historical contingencies, along with philosophical and socio-political concerns help us to understand the concept of the rule of law better, therefore they are included into the process of knowledge representation, too. Furthermore, the clustering relies on reflections that can be merged into ontological building blocks, and it transforms definitions into directed graphs and sets where the specific arrangement of the building blocks enters the limelight. This is another aspect of interdisciplinarity (as well as future computational adaptability).

Structure-based logicalization: the applied method could be summarised as a guide through the actual construction of OCM entries, that is:

- identifying the relevant textual blocks that define the rule of law (by answering the question what it is)
- cutting and reformulating the texts by trying to answer the question: What is the activity that has to be carried out driven by a certain purpose that leads to the rule of law? This core question also entails further ones: what is the activity that is highlighted while bringing about the rule of law? [Q_1] What purpose/telos does inspire the actions? [Q_2] What has been brought about exactly? [Q_3]
- after settling the fragments in one – or more – respective sets, deconstructing them and looking for theoretical building blocks known from theory or jurisprudence.
- mapping the textual (and conceptual) neighbourhoods of these identified building blocks; defining their relations with each other. with basic logical operators
- check completeness of the chain and either creating a new cluster or adding the transformed chain to an existing one
- additionally, charts have been created based on the structured information

ANNEX I of the thesis incorporates the structured data set of the model with text fragments and logical operators (kept to a minimum for readability). The metatheory narrates on the clusters, while the inserted charts (relying on sets, directed graphs and

basic predicates) only illustrate the thought process of deconstructing and rebuilding. Chapter 3 hosts the clusters along with the respective descriptive – and critical – remarks.

Ontological building blocks: The metatheory intends to build a bridge between ontologies: it clusters philosophical ontological building blocks of the conceptions of the rule of law which can be further investigated with the help of future computational ontologies. The clusters and the building blocks preferably reflect upon the capacity of a conception to meet the requirements of nomothetic or idiographic reasoning. Since the rule of law is a complex social phenomenon, the thesis has been mindful of this challenge, but it considers this dichotomy of minor importance while looking for converging ontological building blocks.

PART III

The thesis extensively enumerated theories of the rule of law to create a 'pool' for modelling.

The first chapter went through theoretical labelling from a conceptual point of view, giving ample room to showcase classical and non-classical distinctions accompanied by some examples and critical remarks. It put focus on the distinction between criterial versus realistic theories of the rule of law, and also analysed the 'orthodox' trichotomy of formal–procedural–substantive theories with a special detour to the teleological and functional theories of the rule of law. After structuring the most important labels of theoretical thought, it reached the conclusion that we indeed have to avoid rendering reality flat, let alone, have to free ourselves from formal rule of law taxonomies, but relying on endless, all inclusive conceptualisations about the thousand small sanities of the rule of law is also dangerous, since it offers food for thought for autocrats and their extrapolated relativism while showcasing violations of the rule of law as a special flavour to it.

The second chapter provided a historic comparison about concepts of restricting arbitrariness in the form of "rule by law", "rule of law" or "rule under law". the thesis invokes the concept of the "rule by law" as well, gaining inspiration by the idea that law can be conceived as an institution capable of stabilising expectations about social

outcomes and transforming ‘absolute uncertainty’ into ‘organised uncertainty’ and rule by law – even though to a modest extent – also provides for this transformation. The second chapter created a thorough comparison of the three different traditions, generating valuable takeaways about their key differences which can also be utilised during modelling and crafting the metatheory of the rule of law.

The third chapter is the main scientific contribution of the thesis by rearranging the introduced rule of law traditions according to a novel ontological clustering. The term ‘ontological cluster model’ (OCM) was coined by the author, because of the intended emphasis on the specific ontology-oriented modelling it incorporates. In sum, the OCM is an inventory and a meta-model of small dynamic chain models, which relies on modular building blocks connected by the help of logic and set theory. The OCM is capable of handling multi-layered concepts – even loop-phenomena – in order to be able to draw conclusions from re-thinking and re-reading the literature on the rule of law.

The metatheory of the rule of law narrates on what my method below points out: the rule of law theories could be conceived as conceptualisations that invoke certain activities, purposiveness and ordering patterns when thinking about the rule of law. Clusters are halfway between conceptual and logical mapping and they are accommodated in the large sets of the metatheory based on their building blocks that are further decomposed and restructured.

The metatheoretical analysis – after the first 2-3 rounds of transformations – led to the following evaluation:

Regarding the clusters of set A: findings are remarkable about possible convergence in the cluster of constraining activities, but they raise challenges like handling not only multi-layered, but loop-phenomena, embedding additional purposes, or invoking elements from clusters in other large sets, like in the case of the theory of M. Krygier and E.P. Thompson. Strong partial divergence was observed in the cluster of justifying based on underlying core differences.

Regarding the clusters of set O: cluster of 'association' is rather divergent, although certain items converge to 'order in a narrow sense' which contains the most loop-phenomena. The cluster of 'balanced relationship' shows promise for partial convergence while the cluster of 'supremacy of (general) law' is rather diverging.

Regarding the clusters of set P: there is a strong theoretical incoherence under the theories that call the rule of law as 'virtue'. For instance, the contrast is huge between various theorisations provided by J. Raz. there is a strong divergence in the cluster of 'substantive requirements', meanwhile the cluster of 'strategies' shows signs of strong partial convergence.

In sum, the metatheory – while looking at the models of OCM – can conclude about the clusters. Furthermore, it inquires about layers and loops emerging from certain conceptualisations. These are all thought–provoking findings from the mapping process (which consists of the aforementioned deconstructing and rearranging activities).

The small models foster critical thinking about divergent conceptions of the phenomenon at hand. They offer food for thought about the possibility of (partial) convergence, they create a common platform where these theories could be further discussed arguing or rebutting whether formal values all by themselves could lead us to a halt halfway. We might talk about a new theoretical framework for finding the core of the rule of law; a tool of predicting convergence; and a tool for helping our quest for argument mapping and conceptual clarity.

A future implication of my hypothesis would be the computational enhanceability of the applied framework and methodology, which per se already enables valid conclusions, but it can be further improved by items offered by the AI-toolkit. This aspect is not tested within the current limitations of the thesis, but it has to be stated that the present work paves the way for a future human–machine metatheory about the rule of law with practical implications for the rule of law monitoring.

Accordingly, there are envisioned scenarios for AI-experiments where basically the whole computational modelling would revolve around features of the OCM. The most convenient

approach would be to start with enhancing the model based on the findings of the metatheory. This way, innovative rethinking of theories would lead to building a bridge between ontologies, that is, guiding knowledge representation about the rule of law from philosophical ontology to computational ontologies. According to my underlying assumption, the rule of law could entail a strong, functionally isomorphic core which would foster a more apt and agile rule of law monitoring and would rebut relativistic arguments. This, however, can only be tested in the future.

PART IV

Relevant publications from the author:

Koncsik, A., 2025. *Rule of Law Red Herrings and Hijacked Identities*. In P. Popelier, C. Van de Heyning & T. van Hout, eds. *Trojan Horse Discourse: The Use and Abuse of Contemporary Constitutional Discourse*. Antwerp: Universiteit Antwerpen.

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