

Notes on the concept of law based on our seminar discussions

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In our seminar it became increasingly apparent that the concept of law is different in science and engineering. In both cases it is related to the need to accompany own practices with validly justified forms of description that meet accepted interpersonal standards. The rigor of such justifications already differs within the sphere of science – a physicist may form the difference of two divergent series and proclaim " $\pi/3$ " as the result, which makes a mathematician's hair stand on end. To a justification of this operation, which is inadmissible from a mathematical point of view, may be the physicist's answer, perfectly acceptable to his fellow physicists: "For physical reasons".

Petrov's distinction in (Petrov 2020) of *law* (necessary, essential, lasting, repeated phenomenon) and *regularities* (existence and development in accordance with laws) suggests a connection between elements of justification (law) and development through justified action. I understand the latter in such a way that engineering action in a cooperative context is connected with a requirement for justification that traces this action back to principles (i.e. laws) that are accepted in this context. Only in this way actions can be understood by third parties to make their own actions compatible.

With such an approach, we are in the context of a theory of knowledge such as that of (Berger/Luckmann 1966) who understands knowledge as "legitimate interpretations of meaning", but with the special emphasis on contextualization within cooperative contexts, such that these "legitimate interpretations of meaning" (as contextualized "laws") are stratified themselves: Interpretations of meaning recognized as legitimate within one context require a broader (or even different) legitimation and thus further justification in other contexts.

But this is precisely how the large corpus of justifications in (Goldovsky 1983) is constructed when read from back to front. A multi-layered universe of justification is built up in which the various "patterns" and "regularities" (term here according to Goldovsky) of technical development (sections 3-6) are embedded in contexts of justification that refer to "more general laws" in the sense of legitimate interpretations of meaning at a more general level, which in turn are embedded in contexts of justification in even more general contexts. The top level in (Goldovsky 1983) is formed by general laws of dialectics and the movement of matter, which are mentioned without further justification. The same applies to social laws, even if these are already partially justified among themselves.

In contrast to the "laws of (engineering) technical development", which appeared, like modern technical practices as their basis, only recently, those "general laws" that are not further substantiated have already been part of the discursive canon of justification for centuries and are thus also apparently discursively fixed, as a large number of monographs on the subject suggest. However, the question remains as to whether such requirements for justification continue to develop as human practices continue to evolve, and whether massive changes in basic technologies, such as those accompanying the digital transformation, also lead to upheavals in the institutionalised forms of these requirements for justification. The mere existence of (Goldovsky 1983) draws evidence of this further development of contexts of justification.

References

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