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Society Rules

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Abstract: Our society is full of rules: rules authorize us to achieve our goals by endowing us with legitimation, they provide the necessary structure to understand the chaos of conflicting indications or tell-tales of a situation, and oftentimes they legitimate our actions. But rules in society are different than logical rules suggest to be: they are not as unshakable, continuously renegotiated, often even accepted to be wrong but still used, and used as inspiration in the situated context rather than universal truth. Based on theories about the role of technology in society, this talk will first try to convey the role of rules in social science theory. Extending these insights, it will draw on examples to illustrate how they might be transferred to computer science or artificial intelligence to derive systems that are attuned to the role of rules in social environments and adhere to social rules in the environment in which they are used.

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Society Rules

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Abstract. Our society is full of rules: rules authorize us to achieve our goals by endowing us with legitimation, they provide the necessary structure to understand the chaos of conflicting indications or tell-tales of a situation, and oftentimes they legitimate our actions. But rules in society are different than logical rules suggest to be: they are not as unshakable, continuously renegotiated, often even accepted to be wrong but still used, and used as inspiration in the situated context rather than universal truth.

Based on theories about the role of technology in society, this talk will first try to convey the role of rules in social science theory. Extending these insights, it will draw on examples to illustrate how they might be transferred to computer science or artificial intelligence to derive systems that are attuned to the role of rules in social environments and adhere to social rules in the environment in which they are used.

Keywords: Rules in the Social Realm, Non-standard reasoning, Adaptive Workflows, Specificity Frontier, Process Recombination, Cultural Adaptivity, Diverse and Accurate Recommendations

1 Rules in Society

Our Society gets governed by rules. Some are written explicitly such as laws; others are tacit and maintained by processes such as socialization or rites of passage [4]. Many of these rules are used very differently than in the canonical model often-times prescribed by logical rules. They change and evolve during actions [1], are only taken as indications rather than prescriptions for action [10], or are even completely ignored.

Despite this mismatch, the formalization of rules has led to incredible gains: Enterprise Resource Planning Systems (ERPs) such as SAP enable the running of corporations, automated trading systems manage billions, fraud detection systems ensure the stability of our financial transactions. Some of these systems' properties have, however, prevented innovation, caused rigidity, and prevented adaptiveness due to an inability to deal with exceptions or lack of flexibility. In some cases, they may have even led to disasters, as they found themselves in situations that were not foreseen during design and implementation.

2 Social Rules in Systems

Taking inspiration in social science theory about the role of rules and norms in society [6], this talks will explore examples of the loose interpretation of rules as the means for supporting the social rules, norms, or conventions. Each approach presented leverages the use of loosely or statistically specified and interpreted rules in the attempt of finding the sweet-spot between the efficiency of automated interpretation and flexibility of human activity.

The first example will explore an alternative view to process support or workflow management systems that provide flexibility. Based on a concept called the Specificity Frontier [2], it suggests that the relevant rules should be able to change during execution. This has recently lead to a system that interleaves the orchestration of crowds with auto-experimentation to determine the most appropriate process for a given task [3].

The second example will explore the elusive nature of cultural norms—another special set of societal rules—and how they can be leveraged to improve user interactions. Specifically, we show how a rule-based system paired with a very generalizing interpretation of insights from cultural anthropology allow to generate user interfaces that automatically adapt the users’ cultural background. These generated user interfaces are shown to increase both the efficiency and effectiveness of users’ interactions with the system [7–9].

Time permitting, the third example will take us to the realm of recommending TV shows, where we will see that also statistical reasoning needs to be “bent” to the social rules that govern this specific setting by foregoing recommendation accuracy in favor of diversity and speed [5].

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