What Social Simulation Might Tell Us about How Law Works

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1. INTRODUCTION

This paper does not consider the important questions of “How is law made?”, “How is it applied in various cases?”, nor “Is Law X effective?”, but rather some underlying questions that are less often asked, namely: “How does law work?” and “Why does law work?”. It will not, in this brief discussion, come up with answers, but rather sketch how a certain technique might help in discovering the answers. That technique is agent-based social simulation – using computer simulations that trace out possible “histories” of interactions between social actors to help understand how social phenomena develop.

It may seem that the answers to the two questions are rather obvious. Law works by force: the state uses its power to either take control of situations it needs to, or punishes those that disobey its published rules. Law works because the state is more powerful than others. However, these explanations are simplistic, at best sketching the ultimate underpinning of complex social processes which include: habit, social norms, imitation, status, self-interest, opportunity, personal power, gossip, reputation, identity, group formation, contextual framing and simple habit. Law “bootstraps” itself upon different mixtures of these in different circumstances, almost never (at least in modern European countries) relying on force alone. Whilst one law (e.g. a road safety law) might rely on a mixture of self-interest, suggestion (via signs), habit and mild threats (fines) another (say a bankruptcy law) might rest upon considerations of reputation and potential loss of power (to easily borrow money in the future).

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Understanding how these different social aspects result in effective law is often mundane; we have an intuitive and common sense insight into the reasons and the processes (e.g. people drive on the right hand side of the road for their own and others’ safety). Our every-day knowledge is adequate to explain most of the circumstances of law abidance that we observe, and any exceptions analysed within a natural language discourse. However, it can also be mysterious when things get complicated, for example: when there is a complex mix of countervailing “forces”, when it involves many different groupings of actors, when underlying social conditions are changing, or when adherence to a law suddenly breaks down. In order to understand these kinds of situation we would need super-human abilities – being able to trace (or express) multi-dimensional complex and dynamic networks of interaction all at once. In other words, such social outcomes can not be sufficiently understood using thought and natural language alone due to their representational limitations and thus sometimes we are surprised at outcomes that we cannot adequately explain.

2. COMPUTER SIMULATION OF SOCIAL PHENOMENA

Computer simulation complements natural language in its affordances. Whilst natural language is semantically rich, good at abstraction (through the mechanism of analogy) and context-sensitive, computer simulation is precise, holding a mass of simultaneous detail in parallel, good at tracking complex networks of interactions and dynamic processes. This means that it can track complexes of dynamic interactions where the outcomes are not predictable from simple considerations of overall motivations, but rather comes out of the detailed building up of short-term meso-level societal structures\(^1\). Thus computer simulations that do track interactions down to individual social actors can reveal possible connections between the micro-level of individual actors and their interactions with the macro-level societal outcomes (such as the level of general compliance, or otherwise, to a law). It is possible to use ideas and analogies to explain an observed micro-macro connection but it is then almost possible to know if that is just a “gloss” that rationalises the connection or whether it captures something useful (e.g. something that can result in policy that broadly works). A computer simulation, however, produces precise (but complicated) accounts that show how