

behaviour of agents can be more easily represented. In the future, the representation of law should not be limited to an ontological representation of textual knowledge of rules but give a comprehensive view, with proper lifting of the veil on the creation and application of legal knowledge.

15 Looking to the future

Looking back over twenty five years of AI and Law enables us to see a great deal of development both in techniques and understanding, and in the technology and the role played by AI and Law. With respect to the latter, the changes since 1987 could not have been imagined (by me at least) at the first ICAI. The development of the World Wide Web, the enormous reduction in the cost of data storage and the enormous increase in computational power have combined to change the nature of AI and Law applications completely, both in availability and scope. On the technical side, various relationships between cases and statutes and rules, between legal knowledge and common sense knowledge, and between formal and informal approaches have provided a consistent source of inspiration and definite progress has been made in understanding these relationships better.

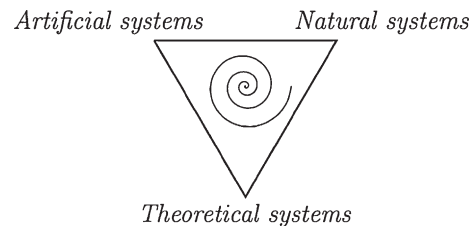
The story of AI and Law and ICAIL is not finished: ICAIL 2013 is planned for Rome. The concluding remarks will be given over to the Programme Chair of that conference who will offer some general reflections on the field and on the relationship between Law and AI in general and AI and Law in specific.

15.1 Towards ICAIL 2013 in Rome: the start of the next 25 years of the research program AI and Law: *Bart Verheij*

The first ICAIL of the next 25 years, the fourteenth in its existence, is planned to be held in Rome, June 10–14, 2013. Where ICAIL started its journey in Boston in 1987 in one of the capitals of the new world, we will continue our journey in a capital of the old world. In this way, we have traveled from the archetypal modern and optimistic country where the early methods of AI were created in the 1950s, and now return to the origins of the influential classic roots of the methods of law, as they were developed in ancient Rome.

It is not a coincidence that the fields of AI and Law have crossed paths, as the two fields share method and subject matter. As method, both AI and Law show the powers of what may be called *semi-formal modeling*. Where the semi-formal models of law take for instance the form of binding precedents and statutory rules, those of AI range from logical representations to robot vehicles visiting Mars. Both AI and Law know that modeling can never be purely formal nor purely informal. Modeling is always a task of finding the right balance between the order of the formal and the chaos of the informal. In law, rules have exceptions, reasons are weighed, and principles are guiding. In AI, reasoning is uncertain, knowledge is context-dependent, and behavior is adaptive.

Fig. 3 Synergy between the kinds of systems investigated



This interest in the necessary balancing of order and chaos that is at the heart of both AI and Law points to the common subject matter that underlies the two fields: the *coordination of human behavior*. In AI, such coordination is steered by the elusive tool of intelligence, and, in law, the equally intangible technique of the rule of law is the primary coordination device. Where AI focuses for instance on the roles of knowledge, reasoning, action and interaction in coordination, the law addresses how contracts, punishment, compensation and authorities can guide human society and its inhabitants in doing the right thing.

By their shared method and subject matter, both AI and Law can be regarded as developing a *science of hermeneutic pragmatics*, which to many outside AI or law—and perhaps even to many within these fields—will sound like a *contradictio in terminis*. We, in the field of AI and Law, know that it is not. Each element in the term has to be there. ‘Pragmatics’ reflects the concrete goal of behavior coordination, which requires the understanding and interpretation covered by the term ‘hermeneutic’, of which the notoriety—partly deserved and partly undeserved—is tempered by the emphasis on ‘science’. Also both AI and Law are *engineering sciences*, stressing the need to not only develop new understanding, but also build new things hands-on; whether new law or new artifices.

As a thoroughly interdisciplinary field, AI and Law is in the unique position to integrate insights from what in the Netherlands are commonly referred to as the alpha, beta and gamma sides of the sciences, roughly corresponding to the humanities, the empirical sciences, and the social sciences, respectively. Also by the nature of the field, AI and Law benefits from the synergy between the different kinds of systems investigated: *theoretical systems*, such as mathematics and legal theory, are used to learn about *artificial systems*, such as software and statutes, while remaining grounded by the perspective on *natural systems*, such as human intelligence and the practices of law (cf. Fig. 3).

Reading between the lines in this issue celebrating the first 25 years of AI and Law’s main conference, it is obvious how stimulating it is to work in the field. The problems are hard, they are important, and they are far from solved. I believe—and I am not alone—that a better understanding of AI’s problems can benefit law, and that a better understanding of law’s problems can benefit AI. What better place than Rome could have been chosen to emphasise the promises of bringing together the more than two-and-a-half-millennia of expertise in law with the lessons of AI’s half century of existence? Let us meet in Rome to extend what is possible. Perhaps not all roads lead there, but sufficiently many do.