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## The laws of nature and the nature of law

**Book Review:** *The Ecology of Law. Toward a Legal System in Tune with Nature and Community*, by Fritjof Capra, and Ugo Mattei, Berrett-Koheler Publishers, Oakland (CA) 2015

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In November 2014, environmental control, healthcare strategies and the justice system itself all suffered a defeat when the Italian Supreme Court overturned a previous 18-year prison sentence on Stephan Schmidheiny, the former owner of Eternit, a giant construction corporation whose activities had caused 3.000 deaths due to the use of asbestos in its plants in Italy<sup>1,2</sup>. In December 2014 there was a similar case in another trial concerning 250.000 tons of highly toxic substances that had been discovered in Bussi sul Tirino (Pescara), buried by Montedison, a former leader in the chemicals industry. The huge amount of poisons – the largest single example of abusive dumping of toxic wastes in Europe – heavily contaminated drinking water<sup>3</sup>. Nevertheless, for the Court nobody could be found guilty, since by Italian law the evidence for prosecuting Eternit and Montedison was statute-barred, because the statutory time limit had been exceeded in both cases. Eternit left Italy in 1986, some 30 years ago, and, according to investigators, the toxic dumping in Bussi sul Tirino took place in the same period, continuing up to the 1990s.

While some may argue that preserving the individual's right to time-limitation in certain legal prosecutions can produce justice today, it can clearly cause much greater injustice in the future. In the case of environmental crimes, there is a clear discrepancy between the time-scales of law and those of nature<sup>4</sup>. There are significant latency intervals for contaminants dispersed in the environment before they irretrievably pollute the soil, deep waters or the air, thereby causing the insurgence of degenerative diseases. Mesothelioma – a malignant cancer induced by asbestos – typically arises 20 to 50 years after exposure. It is extremely difficult to base a trial on evidence that emerges after such a long period of time. In the end, the largest-ever trial involving

asbestos-related deaths<sup>5</sup> led to a Court ruling that nullified some 30 years of legal battles, failing to bring justice for the rights of people who still die from asbestos even four decades after Eternit went bankrupt.

While ecological disasters (e.g. Casale Monferrato, Minamata Bay, Bhopal, Exxon-Valdez, the BP Gulf oil spill, the Niger Delta and many more) create media attention and may make legal history as regards the global environment<sup>6</sup>, they also represent a major weakness in Western jurisprudence since no means are available to remedy past errors and prevent their reiteration. It could be argued that in the light of such disasters a precautionary principle should be adopted<sup>7</sup> and that jurisprudence should be more concerned with the environment, since, as proponents of the *Anthropocene* sustain, mankind – or at least a part of it – now endangers all biological and physical systems on Earth and no species, lands, or water sinks are free from its impact<sup>8</sup>.

While recognising the importance of this perspective, Ugo Mattei warns of the risk of succumbing to Western capitalism's illusion of its own omnipotence. Humanity must realize that its grandiose analysis of the extent of its own agency is more fantasy than fact. The current state of ecological catastrophe would suggest following a path toward devolution rather than an insistence on even more human power and control<sup>9</sup>. Mattei is professor of law at the Universities of California (USA) and Turin (Italy) and co-authored with Fritjof Capra – the Viennese physicist and philosopher – *The Ecology of Law*, a book presenting jurisprudence as a discipline with a conceptual structure parallel to that of natural science. The volume comes out of years of dialogues and seminars

<sup>1</sup> *Procès Eternit: annulation de la condamnation de l'industriel suisse, Schmidheiny*, Le Soir (Belgique), online 19 novembre 2014.

<sup>2</sup> Eliane Patriarca, *Amiante : «Le déni du crime industriel»*, Liberation, 4 décembre 2014

<sup>3</sup> Peter Popham, *Toxic secret of Italy's 'unspoilt' region*, The Independent, 21 April 2007

<sup>4</sup> See Rob Nixon, *Slow Violence and the Environmentalism of the Poor*, Harvard University Press, 2013

<sup>5</sup> David Allen, Laurie Kazan-Allen (eds.), *Eternit and the Great Asbestos Trial*, The International Ban Asbestos Secretariat – IBAS, London 2012

<sup>6</sup> *Late lessons from early warnings: the precautionary principle 1896-2000*, Environmental issue report No 22/2001, 2002

<sup>7</sup> *Late lessons from early warnings: science, precaution, innovation*, EEA Report No 1/201, 2012

<sup>8</sup> Will Steffen, Paul J. Crutzen and John R. McNeill, *The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?*, *Ambio*, Vol. 36, No. 8, December 2007

<sup>9</sup> Ugo Mattei, *The new nature forum*, The Boston Review online, January 11th 2016  
<http://bostonreview.net/forum/new-nature/ugo-mattei-ugo-mattei-response-new-nature>

jointly held by the two authors who address the question of how to move “toward a legal system in tune with nature and community”, and it was the 2016 gold winner in the political/current events category of the Benjamin Franklin award, one of the highest honours for independent USA publishers.

Over ten chapters, Capra and Mattei connect conceptual changes in scientific knowledge with changes in society and analyse the relationship between science and law, exploring the evolution of Western thought from the ideas of the cosmos as a chaos, to the faith in the world as a collection of single entities resembling machines. In a similar fashion, the authors argue, seeing society as a collection of mechanisms, the evolution of Western jurisprudence has pursued a reductionist paradigm. The same has happened to natural resources that, from indivisible socialised commons, have been transformed into assets subject to financial capital (Ch. III: *From Commons to Capital*). According to the authors, this is the transformation of the environment caused by economics and the most dangerous legacy of modernity (Ch. IV: *The Great Transformation and the Legacy of Modernity*).

Nature’s lifecycles bring a series of periodic transformations sustained by the contribution of a few crucial inorganic substances and their cycles. Complex ecological principles rule all the ongoing changes of the environment, which in turn have generative rather than extractive features. By contrast, modernity has a dangerous commitment to speed, control and domination underlying the ideology of consumerism and the pretence that it is always possible to remedy the damage done to nature and society and fill in the extractive dynamic of industrialism. Capra and Mattei observe that science and jurisprudence mutually rely on notions of a world governed by rigid principles and in this sense tend to give support to the dominant Western worldview of perfectible human control. Western economy has accordingly used politics, law, and technology to exploit nature, leaving non-experts unaware of the short and long-term costs. Jurisprudence is thus just as responsible for the illusion of control as technology. Moreover, since modernity produced the materialistic and extractive attitude of the Industrial Age, both scientists and jurists share responsibility for today’s global crisis. However, even this perspective does not fully encompass the

ongoing transformation of science. Although the mechanistic trap still dominates jurisprudence and economics, even hard sciences have already produced a new vision. Quantum theory and relativity have shattered the dogmas of positivism by showing that the world can no longer only be broken down into independent, elementary units. Subatomic particles interact in ways such that the quantum state of each one cannot be described independently. “A subatomic particle is a set of relationships that reach outward to other things, which are themselves sets of relationships” (Ch. V: *From the Machine to the Network*). A shift in emphasis from the parts to the whole has followed in science, undermining the Cartesian-Newtonian paradigm. Gradually the idea of a connected-world has emerged, challenging the previous notion of a world made of machine-like entities. Unfortunately, an equivalent paradigm shift has not followed in the development of human laws and an involution of the human societies toward irreversible disorder seems unavoidable. However, human laws, like those of nature, are not ineluctably constrained within the mechanistic vision and Capra and Mattei make some proposals for change, embracing a vision of nature based on patterns of relationships, systemic thinking, and ecological community (Ch. VIII: *From Capital to Commons*).

A revolution able to introduce a systemic paradigm also within politics requires long-term strategies to move the focus within the social domain from the individual to relationships, promoting all sustainable behaviours. In order to re-generate relationships, institutional structures must avoid concentrating power and instead render it widespread throughout the community. It must also reject the accumulation and exploitation by few of resources belonging to all members of the community. The need for such a shift is urgent as for the first time a separation occurs in the Western thought between the laws of nature, which are self-sustaining and community-based, and human laws that support the extractive and exploitative together with individual gain.

A new ecological legal order should be based on natural literacy, a common defence of shared resources, and a concerted effort to limit anthropogenic impacts. Rather than demand that nature submit to human laws, we need a profound change in legal paradigms and an ecological adaptation of social rules. The ecology

of law shows that everyone can participate in resisting the positivist attitudes, which concentrate power and serve accumulation. Capra and Mattei observe that many attempts are already taking place worldwide for the emancipation of nature and society from the mechanistic view. They warn also that insurgencies without a vision are like the riots of

the desperate, easy to delegitimize and repress with the violent means inherent in the current legal and economic orders. However, the ecology of law is ready to endow these shared visions of change with a plan: allowing natural and complex laws to thrive and seeking to learn from them is better than making them the object of our ephemeral political projects.