ARTIFICIAL INTELLIGENCE AND REDRESS FOR DAMAGES.

ABSTRACT

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Artificial intelligence has innumerable applications in society nowadays. Many of them, in fact, are very common and are present in every industry. If AI is used for programming of robots, it may perform physical tasks. Current AI algorithms are not limited to performing tasks based on pre-defined and permanent rules. They are capable of collecting data (so-called data mining) and self-learning. In particular, algorithms may improve automatically through experience and become able to make predictions and decisions they were not explicitly programmed for.

AI algorithms may have a certain degree of autonomy in their functioning. Therefore, their "behaviour" evolves over time (and will do it much more in the next future) on the basis of the information and feed-back gathered and processed by thousands of different shared sources (so-called "machine learning" and "deep learning"). In fact, it may be said that algorithms do not only perform activities, they also *learn* how to perform them over time.

In this field, therefore, the relationship of cause and effect, as regards causation of damages, may be not linear as we are used to believe since the way causation operates is not "Aristotelian" anymore. As the EU Expert Group on Liability and New Technologies put it, AI makes it questionable adequacy of existing liability rules based on "anthropocentric and monocausal model of inflicting harm".

Results of AI activity, therefore, may be unpredictable despite no flaw in design or implementation. This implies that algorithms may *err* in their "decision making". Such a widening of the area of "unknown", which escapes from what is capable of prevision under our current scientific methods, requires careful consideration of which civil liability regime should apply to damages caused by AI operation.

Many proposals were made in this respect. Some suggest application of fault rules to producers and/or programmers of AI algorithms; others of strict liability regimes, sometimes pleading extension of the rules on defective products or on animals under the custody of humans. Many propose provisions

on mandatory insurance. In order to combine these liability regimes with the need not to impose unforeseeable liability onto producers and programmers of artificial intelligence devices, it was also proposed to recognise "legal personality" to robots, in order to ascribe liability to the sole robot. Consideration of robots as *Haftungssubjekte* represents, in short, a solution to solve the problem of a "fair and efficient allocation of loss" evidenced by the EU Expert Group on Liability and New Technologies.

I believe these proposals would not solve the problem mentioned above.

My proposal is grounded on the ideas that *(i)* overall benefits of artificial intelligence evolution outweigh costs deriving therefrom, so that it should be encouraged or, at least, not hindered; *(ii)* "traditional" civil liability rules (either based on fault or strict liability) are traditionally understood as indirect market regulation, since the risk of incurring liability for damages gives incentives to invest in safety. Such an approach, however, is inappropriate in the markets of artificial intelligence devices since, as noted above, it would not be useful to impose the obligation to pay such compensation to AI producers and programmers. Therefore, this may provide a negative incentive toward such evolution, insofar as they may impose the obligation to pay redress onto producers and programmers of AI devices despite no flaw in design or implementation.

Therefore, no-fault redress schemes could be an interesting and worthy regulatory strategy to this end, in order to allow an evolution of the matter from an issue of civil liability into one of financial management of losses. Of course, such schemes should apply only in cases where there is no evidence that producers and programmers acted in conditions of negligence, imprudence or unskillfulness and their activity appropriately complied with scientifically validated standards. In other cases, traditional civil liability rules would play a sound function of deterrence.

Therefore, with reference to AI markets, evolution toward a "no-fault" system should not repeal the traditional civil liability paradigm rooted on deterrence. Instead, both of them should coexist as independent and alternative techniques of redress (a sort of "double track" legislation on redress for damages), in order to take advantage of the benefits brought by each of them, narrowing their flaws by their reciprocal interplay.