ALGORITHMIC NEGOTIATION AND PARTIES WILL

Main topic areas: Contracts;Law and Finance.

Social sciences have found theirselves having to face challenging issues that have emerged from customary practice because they require recognition and regulation. In these cases, the first reaction of legal experts is to force new issues to fit into the theoretical categories well-known by the legal system.This attitude can help their analysis and, as a consequence, the achievement of the protection requests from individual interests. A similar dynamic can be observed with regard to the new mechanisms used to reach a contract agreement and/or to perform economic procedures that in the social-economic system have been expanding exponentially in recent years. The reference is to the phenomenon of “Smart contract” (or algorithmic negotiation), a heterogeneous category that collects not only contracts, but also some executive phases of contracts previously stipulated, such as the framework contracts and the application forms (consider, for example, the *High Frequency Trading*, the implementations of *Smart contract* in the insurance field or in the real estate field too). The automatic obligation of the parties to the effects they preset is the instrument that allows them to remove almost all insecurities caused by any event, like breach of contract, consent revocation, etc. the Algorithm has been designed and developed to lessen any uncertainty that could affect the balance of the judicial relationship.

The immediate consequence of automatic effects is a relevant reduction of costs and time of negotiations. Those features, together with the predictability of unexpected contingencies, caused the spread of this model both in the field of *b2c* relationships and in those between companies (*b2b*).

If we look at the logic at the base of the functioning of Smart contracts we can notice that some debated matters concern the will of negotiation parties. According to the doctrine, the reason for the strong debate is that, at a first look at least, it seems that in the automatic negotiation or in some of its phases, technology replaces the parties’ volition. Therefore, from this point

of view it is necessary to understand if it is true, or rather if in algorithmic negotiations there is always the intention of the parties that overlooks automatic negotiations or, quite the opposite, there are cases where the building and the execution of negotiations disregards human volitions.
It is a fact that the functioning of digital inner working represents a result of a set prearranged programming, modulated by those who decided to assign the setting of their relationship to a software agent. However, the technology component could be recessive or prevalent depending on the variety of digital negotiations. Among cases where the machine operates just in the phase of execution (contracts have been stipulated in a traditional way), there are insurance contracts. The latter are stipulated according to the scheme designed by article 1882 of the Italian civil code, but some clauses can be executed by the binary code "if this/than that" typical of *Smart contracts*. Other applications of *Smart contracts* could be improved in the field of holiday insurance policies for lost baggage. In this case, the algorithm could work for the cross-check of baggage data and flight data, so when something goes wrong the traveler can immediately obtain the reimbursement on his account without having to ask for it. Besides, applications of algorithmic technology are possible also in the manufacturing area. In the case of a sudden machinery arrest it could ensure the automatic reimbursement for the company: thanks to a system of sensors malfunctions could be noticed and used to measure the drop of production value so the company can obtain the correct reimbursement. Moreover, the data could be shared among all the parties involved in the production thanks to an unalterable distributed ledger technology (Blockchain).
In other cases, technology element is prevalent, as for example in the *High frequency trading*. In these types of negotiations algorithms carry out negotiations and decide whether and when to stipulate a contract, and under what kind of conditions. Well, also in circumstances where operations happen in a split second and they are controlled only by the algorithmic component it seems hard to completely exclude human will. The functioning of the automatic system always depends on the input from human will. The software can only translate in its binary code all the human orders about the management program, about if and when to carry out negotiations, about

how many party interests have to be settled. So *Smart contracts* can already be read as a human-centered phenomenon.
The work will examine the role of the voluntary element in algorithmic negotiations, in particular if there are differences between the role of volition in the technologic contracts and the roleplayed by the will in traditional contracts, without disregard to thinking about the link between the will conceived as a deep determination and the negotiation carried out by parties by technological means. [Erica Adamo]