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FEDERICO PEDRINI
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Ebook. Usage guide

Science and law in the age of digitalization

This book is part of a series of initiatives aimed at consolidating the internationalization of the Department of Law of the University of Modena and Reggio Emilia. In particular, it was strongly desired by its Director, Prof. Elio Tavilla, who is its real creator. I figure as editor only thanks to his kindness, since, as the Department's research delegate, I materially followed the stages of the book.

In this stimulating process I have had the privilege of meeting distinguished foreign scholars and the pleasure of deepening relationships with many Italian colleagues, both from the University of Modena and from other prestigious universities. None of this would have been possible without the connections that for years our Department has been patiently cultivating with a now "global" scientific community.

The topic of digitalization immediately seemed to be the most suitable common ground for establishing a dialogue that went beyond the national boundaries of positive law. Indeed, it is one of those "cross-cutting" issues that are structurally interdisciplinary, and by their nature pose questions whose answers often lie beyond the regulatory capacities of the single State.

The digital innovations and their legal consequences with which this study deals are the most recent and significant page of an ancient problem. The problem is that of the relationship between law and science.

From this point of view the most interesting profiles are two, connected to each other in numerous ways. In the first profile science and/or certain technological applications are directly the subject of normative discipline. In the second profile, science is the "de facto" premise, which indirectly influences the production of new law and the interpretation and application of existing law.

The first aspect, relating to science as an object of legal discipline, is well summarized at the general level in the opening formula of Article 33 of the

Italian Constitution: "art and science are free and free is their teaching". Similar provisions can be found in many constitutional texts, such as Article 4 of the **Grundgesetz** or Articles 20 and 44 of the Spanish Constitution. It thus concerns the constitutional value of the autonomy of science over normative constraints that impose from outside on the scientist what to do or how to do it.

To work properly, science must be free. And this applies both to its pure dimension of theoretical research (and teaching) and to its practical dimension of technological applications. Of course, this does not mean that law cannot place limits on scientific research and/or its technological applications. However, such limits in contemporary constitutional States cannot be merely ethical in nature or freely selected by the legislature. Instead, these limits will have to find their justification in other constitutional goods. In other words, science is constitutionally free. Even if it remains possible to balance that freedom with other constitutional rights or goods that in practice are likely to be affected by the concrete exercise of that freedom.

In the second of the aforementioned relationships between law and science, the latter is no longer directly relevant as the object of legal discipline, but as a particular factual premise that, indirectly, can influence the application of other (not only constitutional) norms.

Indeed, the rise of new scientific discoveries and new technologies, while opening up new practical possibilities, can pose (and often concretely poses) new problems of legal qualification and regulation. It imposes the subsumption of new cases into already existing norms and sometimes, if this is not enough to achieve a desirable social arrangement, suggests the adoption of new norms.

Examples of such situations abound in every field, and not surprisingly are the beating heart of this volume. It sufficient to recall, among many others, the issues of big data and algorithms, new digital media, fake news and artificial intelligence. These are technologies that evidently make it possible to achieve desirable goals. At the same time, they raise dilemmas regarding both their greater or lesser appropriateness (**de jure condendo**) and the actual lawfulness (**de jure condito**) of certain conduct that has now become materially possible.

What kind of transformations affect the subjective rights of classical constitutionalism in the face of modern neurotechnology and computerized processing of personal data? Can the phenomena of information disorder that

now characterize the so-called digital information ecosystem be effectively countered? What are the systemic perspectives and implications with respect to the introduction of electronic voting in the national and supranational context?

What are the rights and duties that would result from a "European digital citizenship"? What contribution can modern digital technologies make to processes of participatory democracy and the reduction of social inequalities? What will be the impact of AI on the paradigms of tax and criminal law? What problems does the modern concept of "digital identity" pose for law? What are the prospects at the European level in terms of financial supervision and the dematerialization of public services linked to digital innovations?

These are just some of the questions to which this book tries to offer a framework and a first attempt at an answer, ranging over numerous fields of legal knowledge: from the philosophy of law to constitutional law and **ius publicum europaeum**, from administrative law to tax law, from criminal and commercial law to procedural and labor law, passing through comparative law. At the same time, there is an awareness that these are extremely fluid matters, susceptible to rapid and often unpredictable developments. In the background, of course, the fundamental question remains: will the technology of the present and the near future – whether it is the protection of privacy or the fight against climate change – be able to assert its positives or will it remain predominantly victim of its risks?

Needless to say, such a dilemma should not be approached fatalistically. Digitalization, at least for now, is a human product. Responsibility for its use, good or bad, should not be imagined abstractly, but remains with concrete people. It is on their intelligence, individual and collective, that depend – now more than ever – not only the type and quality, but the very existence of life on the planet. In such a venture it is inevitable that jurists are also called upon to make their contribution, and in our own small way this is what we have tried to do in this publication.

Federico Pedrini
Modena, January 2024