Part I:
European impulses – local action: actors and drivers of change

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Introduction: Change and transformation the EU way

Impulses from Brussels, national interpretations and supplements, manifold local implementations and variations

A. Europe, Academia and Administration

Dealing with public administration is not necessarily the central interest of most social sciences, law or economics. The academically relevant subject, administrative science, leads a rather marginalised existence at most universities. Not infrequently, it is even outsourced to special administrative universities, such as those in Germany, for example, in Speyer or at the Federal University of Applied Administrative Sciences. The entire field of administration is often regarded as dusty, backward and not very innovative.

At the same time, there is no human organisation that is so diverse and wide-ranging in its range of tasks. Government and administration, i.e. the

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administrative apparatus of a country, are now responsible for almost all the tasks of modern life. Regulations have to be found for the coexistence of people on a large scale (defence policy, monetary policy, digital policy) as well as on a very small scale (designation of residential areas, construction of hospitals).

The relationship between the academic world and public administration is also difficult. On the one hand, speeches often emphasise how much modern society is a scientific society. On the other hand, it is often noted that ministries or local administrations rarely show an active interest in updating their knowledge and integrating academic research into their day-to-day business. Cooperation between academia, industry and administration in funded special projects, which the European Union wanted to promote for a while under the slogan of the triple helix, works a bit better. However, there is much room for improvement. The continued, relative lack of dialogue between the three is actually a surprising finding, considering that Richard Florida's Creative City ideas are already another 20 years old and that in numerous European countries more should be done to network academia, administration and the population as part of so-called PUSH Initiatives (Public Understanding of Science and Humanities), which have also been running for two decades and longer. Especially as both academia and administration are repeatedly identified as key drivers of economic and social transformation towards a more ecological and sustainable society. Incidentally, this is precisely what is reaffirmed many times in this book.

Something else will become clear in this book: the special role of the European Union. The aforementioned issues of cooperation between academia and administration, as well as the issue of digital and sustainable transformation, which will be addressed in the next paragraph, are of concern to almost all societies around the world. In Europe, however, a state entity sui generis has emerged in the form of the European Union. A microcosm of its own that functions differently to all political systems in the world. Over decades, a political centre with two engines has emerged. One engine has developed a European life of its own (European Parliament, European Commission, European Court of Justice), the second engine runs somewhat differently and consists of national governments that nevertheless collaborate on a European level (Council of the EU). This unique entity, powered by two engines at times pulling into different directions, sets the economic, political and legal framework for more and more policy areas for roundabout 500 million people. A framework which, however, is often filled with life and put into political practice in a highly variable way at national and even more so at municipal level.

B. Transformation: sustainable and digital

Transformation towards more sustainability is perhaps the current social buzzword par excellence. Everything seems to be under pressure to transform. Energy generation is to be decarbonised; this requires a transformation in the way we heat our homes (heat pumps instead of oil and gas); how we generate electricity (renewables instead of fossil fuel power plants); how we power our transport (electric instead of fossil fuels). This transformation process is - at least here all economic researchers seem to agree - an expensive process that must therefore be organised in a socially just manner and should be based on the principle of 'energy democracy'. It is also a risky process, because new financial burdens - for example, additional taxes on fossil energy production - make Europe's products more expensive in the world and European undertakings less competitive compared to companies in Asia, for example.

The digital transformation is also causing lawmakers and judges a lot of headaches. Artificial intelligence, as the newest "hype" in digitalization, is emerging at breathtaking speed, with opportunities and chances we can only guess. Is, after centuries, a slave-owning society returning - with machines that work for us, while we can muse all day long? With digital tools that help us to solve the problem of sustainability (as some of the essays in this book will discuss)? Or do we have to learn to work together with machines? Or will it even ultimately be the machines that set the tone and we will have to submit or disappear? So, is this not a beautiful utopia at all, but a dark dystopia? One that has to be prevented by tight regulation now – while we still can?

When dealing with these transformation tasks, the EU's political system should not be thought of as the administration of a unitary state with a strong top-down approach. Instead, the EU 'engines' tend to first negotiate either a uniform piece of legislation (in the shape of a Regulation, at times now called an 'Act', like the AI Act) or a framework legislation (in the shape of an EU Directive) in a complicated legislative process between the Commission, Council and Parliament (similar to the legislative process in a federal state like Germany, securing Member State control over EU legislation by the requirement of Council consent by at least a qualified majority, as well as the European Parliament's consent). Where the form of a Directive is used, this framework is then transposed into national law - and here it is up to the national legislators to make the choice of form and methods of transposition, whilst being bound as to the result to be achieved. In doing so, they may include their own legislative wishes in their legislation transposing the Directive. How these requirements are then implemented

by the administrations at national and sub-national level, whether strictly or laxly, is yet another open question, occasionally leading to a case before the European Court of Justice if this amounts to a persistent breach of the EU Directive.

Last but not least, the perspective of the respective discipline always plays a major role in the evaluation of transformation efforts by the academic community. Law, for example, approaches the topic of the use of artificial intelligence in administrative action differently to that of business management.

The more you think about it, the more the aspects of sustainability and digitalisation become a kaleidoscope: Which scientific perspective is taken? Which government level is being addressed? Which stakeholders are being considered? Which political topic area and which strategic approaches are involved? (see Table 1).

Table 1: Complex Perspectives

<table>
<tr><td>Perspective of academic disciplines</td><td colspan="4">Levels und Actors</td></tr>
<tr><td rowspan="6">Social sciences (i.e. Economics, Sociology) or Humanities (i.e. Law)</td><td>Level</td><td>European Union</td><td>Member state</td><td>Sub-state level</td></tr>
<tr><td rowspan="3">Actors (state, non-governmental)</td><td>Commission, Parliament, European Court of Justice</td><td>Governments, Parliaments, Courts</td><td rowspan="2">Municipal Governments</td></tr>
<tr><td colspan="2">Council</td></tr>
<tr><td colspan="3">Undertakings, Citizens</td></tr>
<tr><td colspan="3">NGOs</td></tr>
<tr><td colspan="4">Topics and Strategies</td></tr>
<tr><td colspan="2">Topics (i.e. economic policy, environmental policy, transport policy, social policy)</td><td colspan="2">Strategies (i.e. Digitalisation for more sustainability, financial instruments as leverage, legal framework)</td></tr>
</table>

All in all, we can speak of an ‘EU-style’ change that cannot be found in the rich economic nations of Asia, the USA or Canada. It is always multi-layered, often confusing, sometimes controlled, sometimes chaotic, at times even self-contradictory. This book is an attempt to trace aspects of transformation on the one hand and its connection with administration and science on the other in 15 articles. The articles are written on the extended basis of papers given at a conference that took place on 31 August and 1 September 2023 at the House of Science in Bremen (Germany).

C. Structure of the book

This book is divided into three parts:

The **first part** is primarily concerned with the question of **actors** as drivers of transformations. Since many of us come from the field of administration, law or administrative sciences, a special focus is placed here on the smallest level of government, the municipalities. This is because it is not only in Germany that municipal administrations are often the decisive backbone of the state authority apparatus.

Silvia Ručinská, Miroslav Fečko and Ondrej Mita present the results of an Erasmus-funded research project, which was carried out in a network of scientific institutions from Slovakia, Italy, Austria and Romania under the leadership of the Pavol Jozef Šafárik University of Košice. The study highlights how cities and local authorities are often at the centre of a digital and green transition.

Lydia Scholz, on the one hand, and Niklas Korte and Michael Krisch, on the other hand, join this point with a view to Germany. Scholz looks primarily from a legal perspective at how local authorities can change the local heating market through planning procedures in order to become core players in a different, greener supply of thermal energy. Korte and Krisch also focus on local administrations and the question of how they can utilise previously largely untapped potential for photovoltaics on apartment blocks. This is because it is often difficult to supply houses with complex ownership structures with solar energy, as a number of legal problems often stand in the way of successful implementation.

Completing the first part, Joanna Bednarz and Magdalena Markiewicz consider universities as catalysts of digitalization and sustainable socio-economic transformation in their case studies of telemedicine, digitalization, and cultural aspects of the study programs in academic collaborations. Universities are uniquely positioned as research and knowledge dissemination centers in this rapidly evolving landscape. Their paper aims to explore the complex role of universities in driving sustainable socio-economic development through implementing new courses and engagement in education proposals that follow the challenges of digitalization and environmental considerations.

The **second part** of this anthology looks at **patterns, policy approaches and strategies of digital and green transformation** in various policy fields. Two essays focus on mechanisms that are primarily looking at financial instruments. Christian Bussmann critically assesses the European Green Bond Standard and the evolving ESG rating regulation. Teona Grigolashvili takes a more economic view of monetary policy and uses the example of

Georgia and mathematical modelling to explore the question of how monetary policy can influence sustainable growth.
The two essays by Tatjana Muravska and Sergejs Stacenko and Liga Sileniece and Sergejs Stacenko deal with green economic policy. The first of the two essays is primarily concerned with the instruments and strategies of green industrial and economic policy and the question of how the EU framework influences the corresponding policy in Latvia. They conclude, for example, that the EU's green economic and industrial policy is increasingly being accepted as a driver of economic transformation and that the corresponding goals and instruments are reflected in national policy. The second article takes a closer look at the enterprises level, especially SMEs. Here, the authors come to a similar conclusion: if we look at the activities and change efforts of enterprises to become 'greener', also, at their level, it is not 'business as usual', but we can detect a change in behaviour. However, the authors also warn that although it can be assumed that a 'green transition' will have a positive financial impact in the long term, too, competitive advantages are at stake in the short term. For policymakers, this means that a kind of smart balancing regulations must be found.
The last essay in this chapter takes up a completely different policy area. Rainer Lisowski looks at the activities of the European Union in relation to the protection of biodiversity. His focus shifts back to the municipal level, whereby the focus is not on them as actors, but on their activities. Using the example of municipal biodiversity strategies, he analyses how municipalities are trying to better protect biodiversity.

The **third part** of the book is devoted to the equally topical issue of **digitalisation**, which in turn can all too often be linked to the issue of sustainability (see Ručinská's contribution as an example). The section begins with two legal assessments. Christiane Trüe raises the question of whether the EU AI Act Regulation will make AI sufficiently trustworthy for use in public administration. Public administration may profit from AI in appropriate cases, provided its use respects fundamental rights and abides by the rule of law in general. The EU AI Act may help in developing AI into the right direction, by ensuring that only 'trustworthy' AI is available on the market, and hence to public administration. The AI Act, as a first attempt at regulating AI, follows a risk-based approach, leaving considerable substantive leeway for developing AI further, but imposing onerous, mostly procedural, risk and quality management obligations on providers, and also on deployers, such as public administration. Overall it is a first step which should also enable public administration to use AI, with the relevant precautions taken, namely a well-organised human oversight.

The article by John van de Pas looks at undesirable consequences of digital administration. Cities around the world are working on so-called 'smart city' strategies. Large amounts of user and behaviour-related data are collected, processed and displayed on interfaces. Van de Pas argues that this could have considerable negative effects. For this reason, he calls - in the best republican sense - for more deliberative processes in which citizens themselves negotiate how much 'smartness' they want.

The same applies to the world of work in companies. Radu-Ioan Popa therefore examines various viewpoints on the human challenges associated with artificial intelligence and new technologies in the workplace.

In contrast, Attila Németh, Michel Linnenbank, Mijneke Roeland and Anouk Visser show how much benefit data-based administrative action can bring. They develop a data-based model that uses 'big data' to make an econometric assessment of political and administrative action. Using the Dutch probation system as an example, their study shows that the benefits clearly exceed the costs of the policy approaches currently being pursued. For the administration, this result means a reassurance of its own actions.

The next article also deals with the specific use of digital tools. Evita Grigorovica , Andreta Slavinska and Guntis Bahs take a look at the healthcare sector. Digital expertise is increasingly in demand here, as more and more technology is being used in the healthcare sector, for example to monitor people's state of health. However, the devices themselves need to be monitored by people who need to be trained in the use of these technologies.

Finally, Marc Stauch considers the example of the United Kingdom's 'Verify' system for public services. 'Verify' was a system rolled out in the UK in 2016 to verify citizens' digital identity when accessing public services online. It was characterised by innovative features designed to enhance data protection, including the use of designated private companies to check on personal attributes in a way that avoided the formation of a central data base. Unfortunately, as the chapter recounts, it proved a failure in practice and was subsequently replaced in 2021 by a more centralized system, UKGov One-login, with fewer safeguards but which so far appears more user-friendly and successful. The contribution considers what lessons may be learned in terms of necessary trade-offs between usability and data protection, in particular against the background of making digital public service delivery more relevant and responsive to individual citizen needs.

D. Acknowledgements

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