Preface

Intellectual property (IP) is a key component of the life sciences, one of the most dynamic and innovative fields of technology today. At the same time, the relationship between IP and the life sciences raises new public policy dilemmas. With that in mind, in this volume we set out to ask leading experts from academia and industry alike to prepare an overview and an in-depth analysis of current topics in IP and the life sciences.

Although there is no clear definition of the term life sciences, it is very commonly used. It comprises the science behind medicine, pharmacy and agriculture and their corresponding industries. Nowadays ever more industries rely on life sciences, the chemical and the food industry being two pertinent examples. From an academic perspective, life sciences can be defined as the use of living organisms (biotechnology) and the protection or treatment of living organisms (medicine, veterinary medicine and plant protection). The term is helpful because it shows that formerly distinct research areas such as biology, biochemistry, physics or informatics have merged and combined their methods. Moreover, the life sciences can no longer be seen as the mere pursuit of knowledge but are always linked closely to their application. In turn, life sciences technologies like PCR (polymerase chain reaction) have become tools for further discoveries.

IP is of great importance for the life sciences since it is an industry that is not only highly dynamic but at the same time requires huge investments for developing new technologies and products. Patent law, plant variety protection and other IP rights are intended as instruments to provide incentives for investment and innovation; on the other hand, life sciences technologies are often also potentially lifesaving. The question that therefore arises is how to distribute the benefits of life sciences research fairly.

This collection of essays highlights several important aspects of IP and the life sciences. The first two sections focus on important life sciences industry sectors. Medicines and pharmaceuticals make up the first section of the book, covering pharmaceuticals, diagnostics and genes. Gene patents quite recently led to a marked divergence between European and US patent law, re-awakening discussions about the patenting of genes. A final chapter in this section analyses whether pharmaceutical regulatory law has assumed a role of quasi IP.

The second section of the book deals with the agricultural sector, especially plant innovations. Plant variety protection is still the most important IP in this area. However, patent law is also of increasing importance and the source of many legal disputes. This is not only the case with transgenic plants but also with non-transgenic plants. Additional legal problems arise with the Convention on Biological Diversity and its implementation. The final chapter of this section considers the protective effect of patents on plants.

Part III of the book covers areas of research and development in the life sciences. An important example is stem cell research, presenting patent law with the question of to what extent ethical consideration should be incorporated into patent law. Moreover, early stage patents in general are put under scrutiny. Finally, this section addresses issues of

research and development cooperation, IP pools and other instruments of collaborative innovation.

The fourth section of the book provides country case studies for Brazil, China, India, Japan, Kenya, South Africa and Thailand to provide a truly international perspective.

The fifth and final section of the book concludes with analyses at the boundaries of IP. Parallel imports are enabled by the doctrine of exhaustion, but only to a certain degree. Competition law provides boundaries at the intersection with IP law and has become a significant area of law in the life sciences sector. Therefore, the last two contributions highlight discussions about pay for delay agreements and abusive filing of IP rights as potential anti-competitive behaviour.

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