

Differentiated Integration in a Nordic Perspective

**Edited by Anne Pintsch, Tor-Inge Harbo and
Lars Oxelheim**

With a Foreword by Alexander Stubb

First published 2025

ISBN: 978-1-032-69101-5 (hbk)

ISBN: 978-1-032-69919-6 (pbk)

ISBN: 978-1-032-69921-9 (ebk)

Chapter 9

Alternative integration as a stumbling block for the governance of patents in the EU

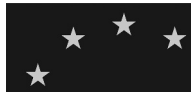
Nico Groenendijk

(CC-BY-NC-ND 4.0)

DOI: 10.4324/9781032699219-12



Routledge
Taylor & Francis Group
LONDON AND NEW YORK



UACES

9 Alternative integration as a stumbling block for the governance of patents in the EU

Nico Groenendijk

Introduction

So far, the European governance of intellectual property rights (IPRs) has been studied from the perspective of differentiated integration in a rather limited way. The main focus has been on the so-called unitary patent (UP), which formally came into force in 2013,¹ and the unified patent court(s) (UPC), operational as of June 2023, as prime examples of formal *enhanced cooperation*² in the European Union (EU).

Enhanced cooperation is one mechanism to bring about internal differentiated integration, in addition to for example opt-outs. *Internal differentiated integration* (or: internal differentiation,³ or: sub-integration) refers to an instance of integration that takes place among some but not all members of a (larger) integration scheme, within the framework of that scheme (Groenendijk 2007, 264; 2012, 96). If an integration scheme – selectively – includes one or more outsider countries, such outreach can be called *external differentiated integration* (or: external differentiation), in the sense that a differentiation is brought about in the relationship with outsiders. Internal and external differentiation can be combined, if –internally – one or more members are excluded (or exclude themselves) and – externally – one or more non-members are allowed to opt-in.

Another possibility is *alternative integration*. With alternative integration, members do not use the larger integration framework, but move outside that framework, to further integrate in a specific policy area. Whether something is differentiated integration or alternative integration, thus, depends on what is seen as the major integration framework. In most cases, that will be the EU, but that is not a given (see also the chapter by Terzi 2025 in this volume). Alternative integration schemes are many, with well-known examples such as the Bologna Process in higher education, and the Schengen area. Alternative integration can involve both insiders (EU Member States) and outsiders; as the integration takes place outside of the EU framework anyway, that distinction is not so relevant anyway. In the older literature on flexibility and flexible integration (see for an overview: Wallace and Wallace 1995; Stubb 1996), alternative integration was often discussed as a major exponent of flexibility, by

pointing to the importance of *inter se* agreements and parallel procedures. Both the Bologna Process and the establishment of the Schengen Area are commonly perceived as being examples of how alternative integration can boost deadlocked integration processes in (and beyond) the EU.⁴ As argued in the introductory chapter (Pintsch 2025), such schemes can provide their members with opportunities for experimentation and policy learning, as work on the Schengen Agreement and Convention and the Prüm Convention shows (Gaisbauer 2013; Trauttmansdorff and Felt 2023). Such alternative schemes can be brought (back) into the EU framework at a later stage. The line between alternative integration schemes and external differentiated integration within the EU framework is therefore often rather thin. This chapter however argues that contrary to the (positive) use of alternative integration as a ‘steppingstone’ for further integration within the EU, alternative integration can also provide a ‘stumbling block’ for integration within the EU.

Whereas much of the current literature on IPR governance in Europe focuses on the EU UP and UPC, this chapter emphasises the importance of alternative integration as a lens to deeper understand European IPR governance. The chapter consists of three main parts:

- (i) The chapter first maps the wider picture of European patent governance, taking a historical approach, starting from the late 1940s (Section 2);
- (ii) It will then discuss in more detail the pan-European patent system that started in 1973, through the European Patent Convention (EPC), based upon work in the Council of Europe (CoE), as a form of alternative integration outside the EU framework. This scheme ‘won’ the competition against a European Economic Community (EEC)-based solution (Section 3). Additionally, it will address the (alternative) integration efforts in this field within the framework of the Nordic Council and the ill-fated 1966 proposal for a Nordic patent (Section 4). A brief overview is also given of the developments leading up to the UP and the UPC (Section 5);
- (iii) Finally, Section 6 discusses the main (policy) implications for the EU of alternative integration in this field and concludes.

European patent governance: An overview

IPRs and European integration

The governance of IPRs⁵ in Europe is a balancing act between various considerations. Two main tensions stand out. The *first tension* is that hard harmonisation and/or supranationalisation of IPR regimes diminishes the role of national IPR systems. Integration towards European-level IPR systems leads to (vertical) competition between these European systems and national IPR systems (see in more detail: Groenendijk 2019). These national systems are often centuries old and represent vested interests. They are linked to national industrial and innovation policies. They address ethical questions regarding

patentability in their own way. They have their own professional/legal communities, and they represent revenues for government, in the form of application and renewal fees. Not unimportantly, national systems can operate in national languages, whereas integrated systems either require a choice of a set of working languages or extensive translation provisions.

The *second tension* concerns the (geographical) demarcation of cooperation in IPR governance. On the one hand, there is the need for unitary protection as an essential feature of the EEC/EC/EU⁶ Single European Market (SEM). On the other hand, there is the need to have an integrated IPR-system that has maximum territorial coverage, seen from a pan-European perspective.

The two tensions represent a trade-off between breadth and depth of integration. Unitary protection within the EEC/EC/EU can in its most far-reaching form be brought about by fully replacing national IPR systems by a single EEC/EC/EU system (supranationalisation), with hard harmonisation as a less extensive alternative. Pan-European integration will go beyond EEC/EC/EU Member States, but because it includes a far larger diversity of national systems, hard harmonisation is not an option (let alone supranationalisation), and the outcome will be much shallower than a unitary solution.

To complicate matters, in the process of European integration, different IPRs were dealt with differently and have their own development paths. First, there is a difference in timing. Patents were tackled first, already from the late 1940s. The other IPRs (trademarks, industrial designs and plant variety rights) were dealt with much later (in the 1990s and 2000s). Second, there is a varying degree of harmonisation of national IP law, with hard harmonisation through EU Directives for trademarks and industrial designs, but with very limited harmonisation (patents) or no harmonisation (plant variety rights) for other IPRs. Third, regarding unitary IPRs, linked to the completion of the SEM, unitary protection was arranged by EU legislation for trademarks, plant variety rights and industrial designs, but not for the most important IP, patents.

The pan-European governance of patents

A patent is an exclusive right granted for the protection of inventions (products or processes), offering a new technical solution or facilitating new ways of doing something (European IP Helpdesk 2019, 19). In Europe, patents normally have an (initial) protection period of 20 years.

A common system for patent rights was proposed already in 1949, within the CoE, with the aim to create legal certainty for companies, by means of the so-called Longchambon plan, named after French senator Henri Longchambon. His idea was to set up a European Patent Office that would deal with registration of patent applications and examination of the main patentability elements (such as novelty and inventive step), resulting in a 'European Certificate of Invention'. Based on that certificate, national IP authorities would – upon request by the patent applicant – grant and administer the actual patents, with patent litigation (i.e., infringement and revocation cases) also to be handled domestically.⁷

The Longchambon Report first highlighted the large variety in both substantive and procedural patent law, which favoured the most powerful firms and made things difficult for ‘the isolated and impecunious inventor’.⁸ It then mentioned the difference in value across countries a granted patent can have, due to differences in quality of the examination, and the tendency of technical progress to gravitate towards countries with high-quality patent systems. It argued that these problems had been on the (international) agenda since the first International Patent Congress in Vienna, in 1873, but that no progress had been made. It further argued that such a lack of progress was due to ‘unification’ efforts, i.e., attempts to unify a ‘terribly complex whole’.⁹ Longchambon argued that such unification was not immediately necessary. Rather than harmonising patent law, countries could still grant patents using domestic patent law but based on a thorough European examination procedure. The report emphasised that the role of the national IP services would thus remain very important.

The idea for a European Patent Office that would deal with examination of patent applications must be seen in the context of similar ideas that were discussed on a global level starting with the Vienna (1873) and Paris (1883) International Patent Conferences.¹⁰ In addition, starting at the end of WWII, there were some bottom-up initiatives in Europe to cooperate in examination, most notably the joint examination bureau (*Institute Internationale de Brevet* or International Patent Institute, IIB, in The Hague), established in 1947 between the Benelux countries (building on the economic cooperation between these three countries in the 1944 Benelux customs union) and France, which Switzerland joined in 1958. With the German capacity in this field minimalised (Von Holstein 1967), the IIB was the main functioning patent institute in Europe.

A CoE Committee of Experts of Patents (CEP), made up of representatives from national IP bodies, discussed the Longchambon plan. Two main elements for further study were identified (Parthasarathy and Walker 2014). Firstly, there was the need of harmonisation of search and examination procedures and of patentability requirements and exclusions, given the huge differentials between the systems of the countries involved. Secondly, there was the question of how to organise the relationship between a European Patent Office and the national IP bodies.

The CEP focused on the first issue in its Preliminary Comparative Study on Novelty and Patentability (April 1951). It went on to work on the basic – voluntary – harmonisation of substantive patent law, resulting first in the 1963 Strasbourg Convention on the Unification of Certain Points of Substantive Law on Patents for Invention. Progress on this substantive harmonisation was deemed good enough to go one important step further than the original Longchambon plan: the European Patent Office would not only register and examine applications and issue a ‘certificate’ of invention, but it would grant a ‘European patent’ (EPC-patent). Such an EPC-patent is made up of a bundle of potential domestic patent rights, to be validated by national IP bodies in

those countries that the applicant wants patent protection in. This system is central to the 1973 Munich Convention on the Grant of European Patents (European Patent Convention: EPC).

The current system is basically the Longchambon-plus plan and constitutes:

- a A large geographical coverage. The EPC was signed in 1973 and entered into force (in 1977) for a group of countries that was made up of six EEC Member States (Belgium, France, Germany, Luxembourg, the Netherlands and the newly joined United Kingdom)¹¹ and one EFTA member (Switzerland). It has been highly successful in terms of membership, going from these initial seven contracting parties to the current 39 contracting parties;
- b A balance between the European and national dimensions. First, there is a clear division of tasks: examination and granting (including appeal) at the European level; validation and litigation (infringements, revocations) at the national level. Second, the European route does not replace the national routes; it is still possible to apply on the domestic level only, in which case national IP bodies deal with the registration, examination and granting of the patent.¹²

The governance structure (the second issue that the CEP looked at) followed from this division of tasks. The EPC established an international organisation, with Munich as main location: the European Patent Organisation (EPOrg). The EPOrg has an Administrative Council (AC) made up of representatives of the contracting states (one representative and one alternate each), that supervise the European Patent Office (EPOff). The EPOff deals with the actual examination and granting of patents, including appeals to decisions made by its bodies. The AC of the EPOrg was and still is largely made up of heads of national IP offices.

Regarding patents, harmonisation of national patent law has not only taken place through the 1973 EPC (which was revised in 2000), but also through global frameworks such as the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). In addition, there is the 1998 EU Biotech Directive,¹³ which puts limits on the patentability of some biotech inventions, for ethical reasons. The content of the Biotech Directive was incorporated (in 1999) into the EPC's Implementing Rules (circumventing EPC change), and thus became relevant for non-EU EPC countries as well.

The (EU) unitary patent

Arguing from the perspective of a well-functioning single market, and despite the pan-European EPC/EPOrg-framework being in place, the EEC/EC/EU never gave up on the idea of a unitary patent. After decades of negotiations, an agreement on unitary patent protection was reached in 2012,¹⁴ 50 years after such a unitary patent had first been proposed. The European patent with unitary

effect or unitary patent (UP) is the result of an enhanced cooperation scheme,¹⁵ in which 25 EU Member States are involved (Spain and Croatia are out). Linked to the UP is the establishment of the Unified Patent Court (UPC), agreed upon in 2013 by means of the UPC Agreement (UPCA),¹⁶ to replace domestic patent litigation. Here, in addition to Spain and Croatia, Poland does not participate. Ratification of the UPCA went slowly (due to Brexit and delays in Germany). It took until February 2023 for Germany to ratify, which launched the countdown to the official entry into force of the UPCA on 1 June 2023. The UPCA had immediate effect for the (17) Member States that had deposited their ratification to the European Commission.¹⁷ For the other countries, it will only have effect once they ratify the agreement.

In the new UP/UPC system, registration, examination and granting of UP applications are done by the EPOff. To that end the relevant EU Member States established a ‘common system of patents for Parties in the EPC’, an enhanced cooperation scheme within the EPOrg that the EPC allows for (Art. 142 EPC). Still, the UP is different from the EPC-patent. First, as opposed to the EPC-patent, validation in individual Member States is not required. A single request results in unitary protection in all EU Member States involved. This means that with the UP, applicants do not have to comply with national validation requirements, which significantly differ between countries. In some countries they are very extensive and costly, as they include translation of all relevant application and granting documents into the domestic language and/or formal representation by patent lawyers in the validation process and/or high validation/publication fees. In addition, patent holders are obliged to regularly pay renewal fees to national patent bodies. Moreover, such costs have to be borne for every single validation in each country in which the applicant wants the EPC-patent to be protected.

Second, for the UPs, patent litigation will take place on the EU level as well, through the UPC. With the EPC-patents, infringement procedures in one country have essentially no effect in other countries. This can lead to multiple infringement or revocation procedures, with the possibility of different outcomes in different countries. This can also induce forum-shopping. The UPC handles all cases related to UPs. Interestingly, it also handles cases related to EPC patents (without unitary effect) for the EU Member States involved (i.e., the 24 Member States that are party to the UPCA).

To conclude this section, Table 9.1 shows the various possibilities there are to acquire patent protection in Europe. Not included in the overview, and not discussed above, are the international routes in addition to the national and European routes, through WIPO and through the International Union for the Protection of New Varieties of Plants (UPOV). In most cases such international applications are initially handled through registration by national IP bodies. Patents handled by WIPO also still have to be validated on the domestic level before the protection takes effect. As the disparities between patent law are generally large (given the large group of contracting states involved¹⁸), validation of rights granted by WIPO is not always successful.

Table 9.1 Current possibilities ('routes') within Europe to obtain patent protection

<i>National 'route' (single state)</i>	<i>European 'routes'</i>
Registration, examination and granting: national Protection & litigation: national	(1) Registration, examination and granting of EPC patent-bundle by EPOff Validation & protection: national (up to 39 EPC states) Litigation: national, or UPC for 24/27 EU Member States (2) Registration, examination, and granting of (valid) unitary patent (UP, as from 1 June 2023) by EPOff Protection: almost EU-wide (in 25/27 EU Member States) Litigation: UPC (for 24/27 EU Member States)

Alternative integration I: How the community patent was outcompeted

If we apply the lens of alternative integration to patent governance in Europe, then the most relevant integration scheme in the late 1940s regarding issues of legal certainty and European unity was the CoE, established in May 1949, with its ten founding Member States: Belgium, Denmark, France, Ireland, Italy, Luxembourg, the Netherlands, Norway, Sweden and the United Kingdom. Much of the groundwork for the EPC and the EPOrg was done before the start of the EEC in 1958, with its six founding countries: Belgium, France, Germany, Italy, Luxembourg and the Netherlands. From the perspective of the CoE, the EEC can be labelled as alternative integration and vice versa. In essence, they represent two competing (or: parallel) integration schemes.

Whereas the main aim of the CoE had been to create legal certainty for companies, the EEC approached the patent issue from the core objective of the Treaty of Rome, the establishment of the single market. Initially, but briefly, the legal basis for common action in the field of IPRs was debated: was action justified on the basis of Article 100 of the Rome Treaty (direct incidence on the functioning of the internal market), on the basis of Article 101 (distortion of the internal market), or not at all? Moreover, Article 36 of the Rome Treaty explicitly acknowledged the right of Member States to restrict trade based on (inter alia) the protection of intellectual property (Plomer 2015, 516). Despite this debate, EEC Commissioner Von der Groeben in 1959 established a Coordinating Committee with three working groups that would look into possibilities to create a European patent, a European trademark and a European design right. As far as patents were concerned,¹⁹ a unified EEC patent, centrally examined and granted, with immediate validity throughout the entire EEC territory, was proposed in 1962. Similar to what was proposed by the CoE CEP for what later became the EPC, the unified EEC patent was also to be managed by a 'European Patent Office', with oversight by an 'Administrative

Council' made up of representatives from EEC Member States. It was proposed that patent litigation for these EEC patents should also be unitary and done by a specialised chamber of the European Court of Justice. The proposal left the possibility open for strictly national patent applications, but it was clearly unitary for the 'European' route, and very different from the 'softer' CoE approach of a bundle of potential rights.

The main strategic hurdle that the EEC had to take was dealing with the position of non-EEC countries, especially countries that had become part of the EFTA (established in 1960) and within that group, especially the United Kingdom. Whereas the proposed patent could simply have been restricted to EEC members, the Coordinating Committee took a more liberal stance (Spencer 1959, 748) and wanted to allow other highly industrialised European countries to join. A larger geographical coverage of the common patent would obviously be beneficial for EEC members. To that end, the EEC patent should not be brought about by EEC law, but by a separate international agreement, a Convention (the later Community Patent Convention, CPC), that would be open to participation by non-EEC members, upon approval by the AC of the European Patent Office.²⁰ Non-EEC members would be involved in the management of the European Patent Office but could not be involved in the decision-making and legislation on the patent system. For the UK, this scheme was acceptable only if it was itself an EEC member.²¹ If not, it preferred to have a common system of registration, examination and granting of the patent for both EEC and EFTA members, but with a dual validation system: (a) on the domestic level for non-EEC (EFTA) members (within the framework of their own patent laws), and (b) unitary validation for EEC members. After the negotiations on UK EEC membership broke down in 1963, and with the CoE's 1963 Strasbourg Convention in place, the case for such a dual system within the EEC/EFTA framework lost momentum. An Intergovernmental Conference in 1969, made up of the heads of national IP bodies,²² and with a large group of observers, discussed all options and decided to go for the EPC/EPORG option, resulting in the 1973 EPC.²³

Kurt Härtel, president of the *Deutsches Patent- und Markenamt* (the German Patent and Trademark Office), and the chief architect of both the EPC and CPC, argued that the work on the CPC (which he personally favoured) was brought to a standstill by differences of opinion over basic political questions (Nicolai 1971, 140). The choice was between:

- (i) an EEC patent to which non-EEC countries could opt-in, upon a decision of the EEC members, and without any in-EPC decision-making power of these 'outsiders';
- (ii) -what he called- an international patent which would encompass all participants on an equal basis, but which, due to the greater number of participating countries, would become a 'bundle' of separate national patents, to be validated at the national level.

Ironically, in 1973, in the same year as the EPC was signed, the UK did eventually join the EEC, together with Denmark and Ireland. Two years later, in 1975,

the—then— nine Member States of the EEC signed the (Luxembourg) Community Patent Convention, CPC.²⁴ The CPC was never fully ratified and never entered into force (Pitkethly 1999). The CPC required ratification by all signatories to enter into force. All founding EEC countries and the UK ratified, but Denmark and Ireland had problems ratifying the agreement: the Danish Government could not achieve the necessary five-sixths majority in its parliament, and in Ireland there were fears that the CPC might be declared unconstitutional because of its loose links with the EC Treaty (Luginbühl 2009, 15). Subsequently, in 1989 the Agreement relating to Community patents²⁵ was concluded (also in Luxembourg). This agreement consisted of an amended version of the original CPC and was an attempt to revive the CPC project (in the—again— enlarged EC), but it also failed. Twelve states signed the Agreement, but only seven ratified it, which was not enough for entry into force. Newcomers Portugal and Spain did not ratify, in addition to three older Member States: Belgium, Italy and Ireland.

To conclude this section, the choice for the EPC (i.e., for alternative integration, outside the EEC framework) rather than for the CPC (starting from the EEC framework, with external differentiation through opt-ins by outsiders) involved several factors. First, there was the fact that the CoE, with its early activities in this field, had created something of a first-mover advantage, with the EEC proposals coming later and always in second place.²⁶ Second, there was the uncertainty surrounding the status of the UK and of the other EFTA members that considered accession to the EEC: were they outsiders or insiders-to-be? Third, the EPC solution was by many perceived as the least far-reaching and thereby the least risky of the two (Pila 2013). It was the solution that had the least impact on the position of national IP bodies, and these national IP bodies were very well represented in the decision-making process, especially in the CoE context. In the EEC/EC context, the more far-reaching CPC solution failed to get support from some Member States. The choice for the EPC was however a choice for a less integrated scheme: a second-best alternative that did not really contribute to the desired deeper integration in the EC in the field of patents.

Alternative integration II: Nordic cooperation nipped in the bud

In 1949 (the same year as the CoE Longchambon Report was presented), prior to the formal establishment of the Nordic Council (*Nordisk Råd*) in 1952, a committee of experts from Denmark, Finland, Norway and Sweden²⁷ was appointed to look at the possibility of creating a unitary Nordic patent. At long last, in 1966, the committee proposed a draft uniform patent law, with the following characteristics (Von Holstein 1967):

- Identical substantial patent law in all the Nordic countries;
- A special Nordic patent, which could be issued by any national patent office, and would then be valid in all Nordic countries;
- The Nordic patent would not replace all national patents. If the applicant wanted a patent to be valid in just one country, a strictly national route would still be available.

The proposal for a Nordic patent lost momentum after the failed attempt to set up a Nordic economic community (*Nordek*),²⁸ and the subsequent establishment in 1971 of a very intergovernmental Nordic Council of Ministers that supplemented the – parliamentary – Nordic Council. Both Denmark and Norway turned their eyes towards the EEC (and organised referenda on accession), with Denmark joining in 1973.

Regarding EPC participation, only Sweden became part of the EPC at an early stage, in 1978. The other Nordic countries joined much later: Denmark in 1990, Finland in 1996, Iceland in 2004 and Norway in 2008. The decision by a country to join depends on the extent to which applicants from that country can profit from a single examination process and the granted European patent bundle. These benefits must be weighed against potential disadvantages of the (shallow) harmonisation of patent law that the EPC represents, in addition to the obligations that come with joining an international organisation. Temporal variety regarding joining the EPC can thus – tentatively – be explained by differences in attitude towards international cooperation as such as well as differences in patent activity (and the relevance to applicants of international patent protection).

How does the Nordic patent experience relate to the idea, central to this book, that differentiated integration in the form of regional cooperation within larger frameworks provides the opportunity to experiment and learn? First, in its work, the Nordic patent committee had to take into account the developments in the CoE, in the EEC and in the EFTA (to which all Nordic countries at that point of time belonged). Any proposal for a Nordic solution had to fit in with the wider framework, which imposed limits on experimentation. Moreover, uncertainty as to what that framework would look like, made it difficult to present a final draft, and explains the long period between the start of the work and the presentation of the draft proposal. This shows that, in contrast to what Sabel and Zeitlin (2008) argue, uncertainty is not always beneficial to ‘experimentalist governance’ and can also create inertia.

Secondly, and contrary to that argument, it is also possible to see the attempt to create a Nordic patent as an experiment, but not a very successful one. The Danish, Finnish, Norwegian, and Swedish parliaments all adopted the proposed uniform patent law in December 1967, but the subsequent debate (and the decision by the four governments whether or not to actually implement the system) centred around (a) the need for a common court, and (b) the need for a common Nordic Patent Office. Regarding point (a), an expert committee proposed in 1968 a common Nordic Board of Appeal for granting of patents, but the broader issue of litigation (infringements, revocation) and court competence was not tackled. Regarding point (b), especially Norway argued for the use of a common patent granting institution, a Nordic Patent Council, rather than using the national IP offices, and made that a condition for implementation of the Nordic patent.

There is still some cooperation in the Nordic region through the Nordic Patent Institute (NPI), located in Denmark. The NPI is an intergovernmental

organisation which was established in 2006 by Denmark, Iceland and Norway. Since 2008, the NPI acts as a – regional – Patent Cooperation Treaty (PCT) authority, dealing with international applications. As of 2023, it is, together with the EPOff and the Swedish Patent and Registration Office (PRV), one of the three offices dealing with searching and preliminary examination for such international applications with the patent offices of Denmark, Iceland, Norway and Sweden. In March 2023, the Finnish Patent and Registration Office (PRH), the Swedish PRV and the NPI signed a Memorandum of Understanding to enhance cooperation in patenting services. In the context of the UPC, Sweden and the Baltic States created a Nordic-Baltic regional division at the Court of First Instance (to be located in Stockholm); UPC members Denmark and Finland are not part of that cooperation.

The UP and UPC: Outsourcing the community patent

Following the non-ratification of the 1975 CPC, the EEC, in its efforts to bring about a unitary patent, focused on solving important legal ambiguities, especially regarding the jurisdiction of national courts and of the European Court of Justice. As described above, the attempt in 1989 to revive the CPC also failed. Rather than pursuing a stand-alone community patent outside of and competing with the EPC/EPOrg, the European Commission then decided to integrate the EU unitary patent with the EPC.

With that die cast, the debate could focus on remaining important issues such as court competencies, translation issues and fees. In 2007, the Commission outlined the idea for a European Community Patents Court with exclusive jurisdiction over the community patent.²⁹ Because no consensus could be reached over the main language and cost issues, eventually the enhanced cooperation mechanism was used. In 2012/2013, EU Member States and the European Parliament reached agreement on the so-called patent package, which consists of three parts:³⁰ (i) a regulation creating a European patent with unitary effect (25 EU Member States), (ii) a related regulation establishing a language regime applicable to the unitary patent (also for 25 EU Member States), and (iii) an agreement between EU countries to set up a single and specialised patent jurisdiction, the UPCA (24 EU Member States). In its 1997 Green Paper, its 1999 Communication and its 2000 draft Council Regulation,³¹ the Commission furthermore proposed to involve the EPC/EPOrg in the implementation of the UP, and to let the EPOff (a non-EU body, part of another international organisation) examine and grant the UP, rather than the European Union Intellectual Property Office (EUIPO).

Given this involvement of the EPOrg, one might wonder about the external dimension of the UPC. Is it possible for non-EU Member States to opt-in into the UPC? The UPC Agreement of 2013 starts with the following consideration: ‘CONSIDERING that cooperation amongst the Member States of the European Union in the field of patents contributes significantly to the integration process in Europe, in particular to the establishment of an internal market

within the European Union [...]'. A 2011 draft of the same agreement started however as follows: 'CONSIDERING that co-operation amongst the countries of Europe in the field of patents contributes significantly to the integration process in Europe, in particular to the establishment of an internal market within the European Economic Area [...]'. This shows that the original intention of the Council was to allow non-EU Member States to be party to the agreement, which was envisaged as an international agreement to be concluded between the Member States, the European Union and third countries, rather than a Council agreement. Participation was not only foreseen for non-EU EEA countries, but also beyond the EEA. Article 14a (under 3) of the draft agreement³² stated that a contracting state that is not a party to the EEA Agreement shall bring into force the laws, regulations, and administrative provisions necessary to comply with Community law relating to substantive patent law. The draft agreement was put before the Court of Justice of the European Union (CJEU) by the Council for an opinion on the compatibility with EU law of such an international (i.e., not exclusively EU) UPC. The CJEU was of the opinion³³ that the idea would be incompatible with EU law, because it would confer on an international court (outside the institutional and judicial framework of the EU) an exclusive jurisdiction to interpret and apply EU law in the field of patents, in conjunction with provisions relating to other intellectual property, and to the rules concerning the internal market and competition law. This would deprive courts of EU Member States of their powers in relation to the interpretation and application of EU law and the CJEU itself of its powers to reply, by preliminary ruling, to questions referred by these courts. The Council followed this opinion and scaled down the UPC Agreement to EU Member States. It did not look into alternatives that would be compatible with EU law but would still allow opt-ins of non-EU countries. Neither did it consider the possibility of scaling down the UPC agreement to EEA countries only.

Discussion and conclusions

The existence of an alternative integration scheme in the form of the CoE-driven EPC has presented obstacles for the EEC/EC/EU. Unlike, for example, the Bologna Process in the field of higher education, which really boosted a deadlocked integration process, the EPC has not been a driver of deep integration of patent protection within Europe. It has been more of a 'stumbling block' than a 'steppingstone' for further integration in this field within the EEC/EC/EU. The uncertainties in the 1960s regarding the membership compositions of the EPC, of the EEC and of EFTA, have had a paralysing effect on the establishment of a unitary patent, both in the EEC and in the Nordic context.

The UP/UPC solution that the EU has come up with, more than 50 years later can be discussed further from the perspective of enhanced cooperation and internal differentiated integration within the EU. But that perspective is maybe not the most interesting. The non-participation of EU Member States like Spain, Croatia and Poland (and initially of Italy, which made a U-turn)

does not reflect a highly politicised divide within the EU but is based upon a difference in assessment between these countries and the other EU Member states of what the UP/UPC means for especially small and medium-sized enterprises. Especially Spain has expressed concerns that the language and costs provisions of the UP/UPC will be highly detrimental to such enterprises, and not just in Spain, but EU-wide.³⁴ What makes this case interesting is the decision of the EU to join forces with the EPOrg and to outsource the examination and granting of the unitary patent to the EPOff. Put differently, rather than continue trying to make the alternative integration scheme (EPC) superfluous, the European Commission decided to go for *differentiated integration within the alternative integration scheme*, with, as explained, a special status within the EPOrg of the EU Member States participating in the UP/UPC, through the EPOrg's 'enhanced cooperation' mechanism of a common system of patents for Parties in the EPC.

It is possible to assess the 'UP-by-EPOff'-construct as well as the introduction of the UPC as uncharted territory with substantial risks of failure. Much of the literature focuses on such potential incompatibilities, especially legal ones, between the EPC and UP/UPC systems (for example Schovsbo, Riis and Petersen 2015; Plomer 2019, 2020). This concluding section will first draw attention to another main incompatibility and risk, namely the very different governance structures and – especially – cultures of the two organisations involved. Moreover, the use of the EU of the EPOff for examination and granting of the UP arguably can be perceived as the final surrender of the EEC/EC/EU to the pan-European CoE-EPC scheme, after more than 60 years of competition between these two alternative European integration regimes.

Countering that view, the second part of this section will address the potential the 'UP-by-EPOff'-construct has for further EU-driven integration in the area of patent protection.

Finally, this section will address the role of the Nordic countries in the new EPC-UP/UPC construct.

The European patent office: An agency run amok?

Effectively, with the UP, the EPOrg will become an agency of the EU. One could argue that may not be too problematic, as regarding structural features, the EPOrg and the EPOff have much in common with the EU and its agencies (e.g., Borrás, Koutalakis, and Wendler 2007; Groenendijk 2019). There are, however, also important differences between the EPOrg/EPOff on the one hand and, for example, the European Intellectual Property Office (which deals with trademarks and industrial designs) and the Community Plant Variety Office (CPVO, which deals with plant variety rights) on the other hand, beyond the obvious difference in formal status (international organisation, IO, versus EU agency).

Firstly, sizes differ. The EPOrg involves 39 Member States, and with about 6,700 staff, it is the third largest IO in the world (after the UN and the EU).

The EUIPO has 1,000 staff and is the largest EU agency in staff size. The CPVO has only 44 staff and belongs to the smaller EU agencies.

Secondly, patents have a much higher political salience than trademarks, designs and plant variety rights. The patentability of inventions in specific areas such as stem cells, human embryos, and genetically modified organisms is often contested by civil society/NGOs.³⁵ Ethical criticism is however not limited to ‘patents-on-life’ issues, but also addresses questions regarding broad and upstream product patents (that hinder rather than foster innovation), the importance of openness and knowledge sharing, health policy concerns arising from overpriced patented medicines and the global justice dimension of patenting (Rigaud 2008; Forsberg et al. 2018). Various authors have concluded that the EPOrg/EPOff system is a very closed system, a technocracy made up of legal and technical experts who at best interact with only those stakeholders directly involved in patenting practices (i.e., patent applicants) but hardly beyond the patent system as such (Schneider 2009; Kica and Groenendijk 2011; Forsberg and Groenendijk 2019). The system has distinct characteristics of a so-called epistemic community: a network of professionals with shared normative principles and beliefs, shared causal beliefs, a shared notion of what constitutes valid knowledge, and with a common policy enterprise (Haas 1992; Drahos 1999; Borrás 2006). The EPOff (the executive part of the IO that deals with the actual examination of applications and the granting of patents) has a high degree of autonomy and combines executive, quasi-jurisdictional, and tacit legislative powers (Plomer 2019). This self-governance raises questions about transparency, accountability, democratic control and legitimacy. For example, the independence of the EPOff Boards of Appeal has been questioned.

Thirdly, as an IO the EPOrg enjoys immunity and is not governed by EU or domestic regulations regarding budgetary control, transparency or labour policy. Labour relations have been especially problematic over the last 15 years, linked to the coercive management style of Benoît Batistelli, EPOff-president from 2010 to 2018 (Forsberg and Groenendijk 2019). This does not seem to have improved in any way in recent years.

In short, the EPOff is in many ways a highly contested agency, with an AC (the principal) that does not seem to be able to get grip on matters. Based on Part IX of the EPC, the EU UP countries within the EPC have, however, delegated all administrative tasks to the EPOff and, as far as governance and supervision of these activities are concerned, form a select committee within the EPOrg AC. The set-up and working rules of this committee copy the set-up of the (general) AC in detail, including all the risks of lack of principal steering that has been manifest in the EPOrg now for decades.

The UPIUPC countries as vanguard group within the EPC

A possible positive effect could be that enhanced cooperation within the EPC and more generally within the European patent landscape will be a driver for further integration in the area of patent protection. There are two main ways through which this may happen.

First, there is legislative development. One of the main weaknesses of the EPC system is that it by now involves so many countries, that revision of the EPC (both concerning substantial and procedural patent law) is very difficult due to unanimity and ratification requirements. The latest (and only, and minor) revision of the EPC dates from 2000. This is problematic, especially in light of new emerging technologies such as biotech and artificial intelligence that bring up new questions on patentability that the EPC (from 1973) cannot answer. With EPC revision being difficult, the EU has had to put limits on the patentability of some biotech inventions, for ethical reasons, by means of the 1998 EU Biotech Directive,³⁶ for its Member States, and, through extension, for the other EEA countries. The content of the Biotech Directive was also incorporated into the EPC's Implementing Rules. Such 'incorporation' is decided upon by the EPOrg AC and does not require EPC revision. In this way, EU legislation becomes relevant for all EPC countries. A similar move has been made in art. 27 of the UPC agreement, which introduces some exceptions to patent rights, of which the most important one is the breeder's exception. This provision limits the effects of patent rights for 'the use of biological material for the purpose of breeding or discovering and developing other plant varieties'. The breeder's exception has already been incorporated into the national patent laws of France, Germany, the Netherlands (and Switzerland), but the UPC will also extend that exception to all UPC countries. It is not unlikely that these provisions will then also be incorporated into EPC's Implementing Rules, and thus extended to all EPC members. Recently, the European Commission proposed to reform EU's framework for the licensing of standard essential patents (SEPs, i.e., patents that protect technologies that are essential to implementing a technical standard). In other words, within European patent law, it has been the EU that has taken upon itself the role of main legislative actor. This role will be enhanced through the special status of the UP countries in the EPC, who can take on the much-needed role of an enhanced cooperation or vanguard group within the EPC and can counter the *de facto* legislative powers of the EPOff.

Second, there is case law, linked to the role of the – highly specialised – UPC and the possible involvement of the CJEU. The UPC Agreement explicitly recognises the primacy of EU law (art. 20) and seems to suggest a further hierarchy in sources of law to be applied by the UPC (art. 24): EU law, the UPC Agreement, the EPC, other international agreements, and national law. It states (art. 21 UPC Agreement) that the UPC shall cooperate with the CJEU to ensure the correct application and uniform interpretation of Union law through requests for preliminary rulings. Furthermore, CJEU decisions are binding on the UPC. The UPC also means a higher level of specialisation in patent law of judges compared to the current national courts. The UPC will be a court with more weight than national courts. It has the potential to be better linked to the CJEU as (some) national patent courts currently are, with more cooperation and more inclination to request preliminary rulings on matters of Union law. Moreover, with a central role for the CJEU, patent law can be better integrated with the EU law on trademarks, industrial designs and plant variety rights (e.g., Holthuis and van der Velden 2019).

The Nordic countries and the UPIUPC

Finally, what implications will the UP/UPC have for the Nordic countries? Denmark, Sweden and Finland are part of the UP/UPC and are also part of the related common system of patents for Parties in the EPC. They will be part of his new ‘laboratory’ for patent integration in Europe. Iceland and Norway, which already joined the European patent system rather late (in 2004 and 2008), will not be part of this deepened cooperation within the EPORG.³⁷ For both countries the new situation can be problematic, in two ways. First, if we assume that the UP/UPC is an improvement over the current situation for the countries involved, Norway and Iceland miss out on an opportunity to enhance the functionality of their patent system within the larger European system. This will in all likelihood have a negative effect on competitiveness and innovation, but it is hard to establish the exact nature and magnitude of that effect. Second, regarding patent legislation, Norway and Iceland are rule-takers, in two arenas. They are rule-takers in the EU/EEA context, where EU legislation on IPRs is – in principle – EEA relevant as part of the provisions on competition policy and other common rules. They are also rule-takers in the EPC context, with EU legislation incorporated into the EPC through the backdoor of the Implementing Rules. The more the EU takes on the role of main legislative actor in the field of patents, as argued above, the larger the drawback of the incomplete involvement of Norway and Iceland in EU decision-making is, and the larger the contrast with the other Nordic countries.

Notes

- 1 The actual implementation of the UP depended on the start of the UPC, which was delayed considerably because of Brexit and ratification problems in Germany.
- 2 Article 20 TEU, articles 326-334 TFEU.
- 3 In this chapter, differentiation refers to horizontal (i.e., territorial) differentiation, not vertical differentiation (i.e., differentials in integration levels across policy fields). See Schimmelfennig, Leuffen and Rittberger (2015).
- 4 See Groenendijk (2012, 96) for an overview of advantages and disadvantages of alternative integration.
- 5 Intellectual property (IP) refers to creations of the mind and is commonly divided into two main categories: industrial property and copyright (WIPO 2011, 2). Industrial property refers to inventions and the use of symbols, names and images in a commercial context. Copyright covers literary works and artistic works. There are various detailed typologies of IPRs, but the most relevant IPRs are: (a) patents and utility models, (b) trademarks, (c) industrial design rights (d) plant variety rights.
- 6 In the remainder of this chapter, EEC/EC/EU is used when generally referring to the economic cooperation that is now incorporated into the EU. If reference is made to the 1958–1993 period, EEC (European Economic Community) is used. If reference is made to the enhanced activities of the EEC under the heading of European Communities in the first Maastricht pillar (1993–2009), EC (European Community) is used. EU is used for the period from December 2009 onwards.
- 7 Report on the Creation of a European patents office, Parliamentary Assembly, CoE, 6 September 1949, Doc. 75, with Appendix I (Introductory Note) and Appendix II (Draft Proposal of a Convention on the creation of a European Patent Office). The draft proposal was approved and recommended by the Parliamentary

- Assembly to the CoE Committee of Ministers (Creation of a European patents office, Parliamentary Assembly, CoE, 8 September 1949, Doc. 110).
- 8 Appendix I, Introductory Note to the Report, p. 4.
 - 9 Appendix I, Introductory Note to the Report, p. 5.
 - 10 See for an overview of the many initiatives and ideas: Spencer (1959).
 - 11 Italy did not participate from the start but joined in 1978.
 - 12 Some national IP bodies have effectively outsourced (parts of) these tasks to the European Patent Office.
 - 13 Directive 98/44/EC of the European Parliament and of the Council on the legal protection of biotechnological inventions.
 - 14 Regulation (EU) No 1257/2012 of the European Parliament and of the Council implementing enhanced cooperation in the area of the creation of unitary patent protection; Council regulation (EU) No 1260/2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements.
 - 15 Based on article 20 TEU and articles 326-334 TFEU.
 - 16 Council Agreement on a unified patent court, signed on 19 February 2013 (OJ 2013/C 175/01).
 - 17 The seven countries that had not deposited their UPC-ratification were: Cyprus, Czechia, Greece, Hungary, Ireland, Romania and Slovakia.
 - 18 WIPO patents can be validated in up to 150 states, WIPO trademarks (through the so-called Madrid system) in up to 100 states, and WIPO industrial designs (through the so-called The Hague system) in up to 65 states.
 - 19 Regarding trademarks and designs, not much progress was made. Eventually, as outlined in Section 2, these IPRs were dealt with in the aftermath of the Single European Act (1986), through (a) harmonisation of national law, and (b) introduction of the EUTM and the RCD/UCD.
 - 20 Two types of participation by non-EEC countries were envisaged: accession (article 211 of the later CPC) and association (article 212). The idea was that accession would mean full participation in the unitary patent, whereas association would limit the involvement to specific activities, for example to the “use” by associated countries of the examination capacity of the European Patent Office (Nicolai 1971).
 - 21 The position of other EFTA countries was not addressed by the UK. The head of the Patent Department of the Swedish State Telephone and Telegraph Administration, Fredrik Neumeyer, expressed his concern for this approach, during a lecture for the London School of Economic and Political Science in May 1961: ‘... the EFTA countries should not just sit back until they are allowed to join such a Convention in a secondary capacity as a kind of late developed and less gifted child but should immediately discuss and shape a basic plan of unification of patent legislation in their group of countries’, explicitly urging the UK to take on a role as “big brother” in the EFTA cooperation (Neumeyer 1961, 729).
 - 22 The six EEC Member States (Belgium, France, Germany, Italy, Luxembourg, the Netherlands), seven EFTA members (Austria, Denmark, Norway, Portugal, Sweden, Switzerland and the UK), and Greece, Ireland, Spain, Turkey, Monaco, Yugoslavia, Finland and Liechtenstein. Interestingly, the EEC Coordinating Committee that in 1962 had proposed a unitary system was largely made up of the same group of people (heads of national IP bodies from the EEC countries, with a large overlap between CoE and EEC membership) as its CoE counterpart, the CEP, that supported a non-unitary system based on the Longchambon plan, and as the group that ultimately decided to go for the EPC/EPOrg solution. Von Holstein (1967, 202) points out that much of the text of the EPC and the CPC is identical, ‘which is natural as the draftsmen were to a great extent the same ...’.
 - 23 This is in essence the situation that will be reality shortly: the UK not being a member of the EEC/EC/EU and a dual validation system: unitary for (the vast majority of) EU Member States, and national for other countries.

- 24 Convention for the European Patent for the Common Market (76/76/EEC).
- 25 OJEC 1989 L. 401.
- 26 It is possible to look at this differently, as both Pila (2013) and Plomer (2015) do. They argue that there are three phases in the process: (i) a first phase where the initiative was with the CoE, resulting in the 1963 Strasbourg Convention, (ii) a second phase where the EEC takes over the agenda with its CPC-proposal, and (iii) a final phase in which the EEC's initiative is frustrated, resulting in the 1973 EPC.
- 27 Iceland did not want to participate in the preparatory work.
- 28 And a similar failed attempt to establish a customs union between Denmark, Sweden and Norway.
- 29 Enhancing the patent system in Europe, COM(2007)165final.
- 30 Regulation (EU) No. 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection; Council Regulation (EU) No. 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation requirement; Agreement of 19 February 2013 on the Unified Patent Court.
- 31 Promoting innovation through patents. Green Paper on the Community patent and the patent system in Europe, COM(1997)314 final; Promoting Innovation through Patents. The Follow-up to the Green Paper on the Community Patent and the Patent System in Europe, COM (1999)42 final, and Proposal for a Council Regulation on the Community Patent, COM(2000)412 final. See also *A Single Market for Intellectual Property Rights. Boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe* (COM(2011)287 final).
- 32 Draft Agreement on the European and Community Patents Court, Council Working Party on Intellectual Property (Patents), Council Document 7928/09 of 23 March 2009 on a revised Presidency text of the draft agreement on the European and Community Patents Court and the draft Statute of that court.
- 33 Opinion 1/09, delivered pursuant to Article 218(11) TFEU – Draft agreement – Creation of a unified patent litigation system – European and Community Patents Court – Compatibility of the draft agreement with the Treaties. ECLI:EU:C:2011:123 (8 March 2011).
- 34 In 2015, the ECJ dismissed the legal concerns Spain had put forward against the UP and UPC. See CJEU decisions C-146/13 and C-147/13.
- 35 See <https://www.no-patents-on-seeds.org/en/patent-cases> [Accessed 25.11.2019], for an overview of NGO-involvement in opposing the patentability of plants/animals.
- 36 Directive 98/44/EC of the European Parliament and of the Council on the legal protection of biotechnological inventions.
- 37 The position of the third EFTA state, Liechtenstein, is not discussed here, as it is unique (and rather complicated) due to the patent union Liechtenstein has with Switzerland.

References

- Borrás, Susana. 2006. "The Governance of the European Patent System: Effective and Legitimate?" *Economy and Society* 35, no. 4: 594–610.
- Borrás, Susana, Charalampos Koutalakis, and Frank Wendler. 2007. "European Agencies and Input Legitimacy: EFSA, EMeA and EPO in the Post-Delegation Phase." *Journal of European Integration* 29, no. 5: 583–600.
- Drahos, Peter. 1999. "Biotechnology Patents, Markets and Morality." *Intellectual Property Review* 21, no. 9: 441–49.
- European IP Helpdesk. 2019. *Your Guide to IP in Europe*. Brussels: EASME.

- Forsberg, Ellen-Marie, and Nico Groenendijk. 2019. "RRI and Patenting: A Study of European Patent Governance." *NanoEthics* 13, no. 2: 83–101.
- Forsberg, Ellen-Marie, Anders Braarud Hanssen, Hanne Marie Nielsen, and Ingrid Olesen. 2018. "Patent Ethics: The Misalignment of Views Between the Patent System and the Wider Society." *Science and Engineering Ethics* 24, no. 5: 1551–76.
- Gaisbauer, Helmut P. 2013. "Evolving Patterns of Internal Security Cooperation: Lessons from the Schengen and Prüm Laboratories." *European Security* 22, no. 2: 185–201.
- Groenendijk, Nico. 2007. "Enhanced Cooperation: The Way-out or a Non-starter?" In *Unresolved Issues of the European Constitution – Rethinking the Crisis*, edited by Nanette Neuwahl, and Stefan Haack, 263–90. Montreal: Éditions Thémis.
- Groenendijk, Nico. 2012. "Enhanced Cooperation under the Lisbon Treaty." In *The European Union after Lisbon*, edited by Søren von Dörmann, 95–110. London: Routledge.
- Groenendijk, Nico. 2019. "Agentification & the Governance of European Intellectual Property Rights: Competition, Cooperation, and Conflated Agency Governance." Paper presented at *TARN Conference "EU Agencies as Inbetweeners? The relationship between EU Agencies and Member States"*, Maastricht, 4–5 December 2019.
- Haas, Peter M. 1992. "Introduction: Epistemic Communities and International Policy Coordination." *International Organization* 46, no. 1: 1–35.
- Holthuis, Jan, and Marc van der Velden. 2019. "Plant Variety Rights versus Plant Patents: Legal Developments and Frictions in a Regional Perspective." *Business Law International* 20, no. 2: 95–136.
- Kica, Evisa, and Nico Groenendijk. 2011. "The European Patent System: Dealing with Emerging Technologies." *Innovation: The European Journal of Social Science Research* 24, no. 1–2: 85–105.
- Luginbühl, Stefan. 2009. "Uniform Interpretation of European Patent Law with a Special View on the Creation of a Common Patent Court. A Study on Judicial Measures Supporting the Uniform Interpretation of Patent Law in Europe." PhD diss., University of Utrecht.
- Neumeyer, Fredrik. 1961. "Unification of European Patent Legislation on The Common Market." *The Modern Law Review* 24, no. 6: 725–37.
- Nicolai, Thomas. 1971. "The European Patent Convention: A Theoretical and Practical Look at International Legislation." *The International Lawyer* 5, no. 1: 135–164.
- Parthasarathy, Shobita, and Alexis Walker. 2014. "Observing the Patent System in Social and Political Perspective: A Case Study of Europe." In *Patent Law in Global Perspective*, edited by Ruth L. Okediji and Margo A. Bagley, 321–44. Oxford: Oxford University Press.
- Pitkethly, Robert. 1999. "The European Patent System: Implementing Patent Law Harmonisation." Paper presented at *International Symposium on Innovation and Patents, Hitotsubashi University Japan*, 12–13 February 1999.
- Pila, Justine. 2013. "The European Patent: An Old and Vexing Problem." *International and Comparative Law Quarterly* 62, no. 4: 917–40.
- Pintsch, Anne. 2025. "Laboratories of Differentiation and the Nordic Region". In *Differentiated Integration in a Nordic Perspective*, edited by Anne Pintsch, Tor-Inge Harbo, and Lars Oxelheim, 1–20. Abingdon, Oxon: Routledge.
- Plomer, Aurora. 2015. "A Unitary Patent for a (Dis)United Europe: The Long Shadow of History." *IIC - International Review of Intellectual Property and Competition Law* 46, no. 5: 508–33.
- Plomer, Aurora. 2019. "The EPO as Patent Law-maker in Europe." *European Law Journal* 25, no. 1: 57–74.
- Plomer, Aurora. 2020. "The Unified Patent Court and the Transformation of the European Patent System." *IIC - International Review of Intellectual Property and Competition Law* 51, no. 7: 791–96.

- Rigaud, Nicolas. 2008. *Biotechnology: Ethical and Social Seabates*. OECD International Futures Programme. Paris: OECD
- Sabel, Charles F., and Jonathan Zeitlin. 2008. "Learning from Difference: The New Architecture of Experimentalist Governance in the EU." *European Law Journal* 14, no. 3: 271–327.
- Schimmelfennig, Frank, Dirk Leuffen, and Berthold Rittberger. 2015. "The European Union as a System of Differentiated Integration: Interdependence, Politicization and Differentiation." *Journal of European Public Policy* 22, no. 6: 764–82.
- Schneider, Ingrid. 2009. "Governing the Patent System in Europe: The EPO's Supranational Autonomy and Its Need for a Regulatory Perspective." *Science and Public Policy* 36, no. 8: 619–29.
- Schovsbo, Jens, Thomas Riis, and Clement Salung Petersen. 2015. "The Unified Patent Court: Pros and Cons of Specialization – Is There a Light at the End of the Tunnel (Vision)?" *IIC - International Review of Intellectual Property and Competition Law* 46, no. 3: 271–74.
- Spencer, Richard. 1959. "A European Patent: An Old and Vexing Problem." *American Bar Association Journal* 45, no. 11: 1157–59.
- Stubb, Alexander C-G. 1996. "A Categorization of Differentiated Integration." *Journal of Common Market Studies* 34, no. 2: 283–95.
- Terzi, Özlem. 2025. "Differentiated (Dis)Integration of Preferences: Norm Selectivity of Stakeholders with Respect to the EU's Arctic Strategy." In *Differentiated Integration in a Nordic Perspective*, edited by Anne Pintsch, Tor-Inge Harbo, and Lars Oxelheim, 142–164. Abingdon, Oxon: Routledge.
- Trauttmansdorff, Paul, and Ulrike Felt. 2023. "Between Infrastructural Experimentation and Collective Imagination: The Digital Transformation of the EU Border Regime." *Science, Technology, & Human Values* 48, no. 3: 635–62.
- Von Holstein, Per. 1967. "International Co-Operation in the Field of Patent Law with Special Reference to the Activities of the Council of Europe." *The International and Comparative Law Quarterly* 16, no. 1: 191–206.
- Wallace, Helen, and William Wallace. 1995. *Flying Together in a Larger and More Diverse European Union*. The Hague: WRR.
- World Intellectual Property Organization. 2011. *What is Intellectual Property?* WIPO Publication No. 450(E). Geneva: WIPO.