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# The EU's Fifth Freedom: Why and How to Develop the 'Freedom of Knowledge'

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The goal of a fifth EU freedom – the 'freedom of knowledge' – emerged from working towards a unified European research area, expanding upon the four basic freedoms of the Single Market. This additional freedom is not yet guaranteed and so this task should be taken up anew. Here, I support this goal by explicating the meaning of the 'fifth freedom', then justifying its importance via four arguments concerning scientific progress, freedom of research, the economic and technological progress of societies, and the democratic ideals of the European project. To end the main article, I then argue that this freedom should be viewed as a *right*. In the supplementary material, I present problems that arise in the administration, funding, and organization of science within the EU to demonstrate that the fifth freedom is still a long way from being a reality. The evidence includes cases of national rules and practices that reduce or block the mobility of EU researchers and weaken collaboration and progress. For each type of problem, I present specific policy proposals for advancing the fifth freedom goal. The proposals are directed at academic administrations, funding agencies, and political actors at the regional, national, and European levels.

## **Introduction: Background and Early Development of the Fifth Freedom Goal**

Fifty years ago, sociologist and second European Community (EC) Research Commissioner Ralf Dahrendorf presented wide-ranging and novel ideas for an

integrated European research policy, which he also called a ‘European research area’ (Dahrendorf 1973a; Dahrendorf 1973b: 131–148). Among other things, he proposed advancing existing cooperation between EC member states in areas such as nuclear technology, medicine, or environmental studies, to develop mutual recognition of academic studies and titles, to coordinate national research policies, to create a European foundation for research (that would help to fund large-scale research, partly directed at joint European projects), to increase the mobility of researchers, to spread the methods and results of research among scientists freely and more effectively, to communicate these better to the public, and to offer science-based public services at the service of, for example, statistics, environmental protection, or industrial products.

By 2000, Philippe Busquin – one of Dahrendorf’s successors as research commissioner – had begun to push forward the programme of the, now officially titled, *European Research Area* (ERA; see Banda 2002; EU Commission 2000, 2007a; Adunmo 2012) – an interlocking system of programmes, organizations, and agreements related to science in a broad sense.<sup>a</sup> As stated a few years later in Articles 179(1) and (2) of the Treaty of Lisbon on the Functioning of the European Union, the EU’s general goal here is to create ‘a European research area in which researchers, scientific knowledge and technology circulate freely’ and

aiming, notably, at permitting researchers to cooperate freely across borders and at enabling undertakings to exploit the internal market potential to the full, in particular through the opening-up of national public contracts, the definition of common standards and the removal of legal and fiscal obstacles to that cooperation.

In 2007, the ERA project was presented in detail by the next EU commissioner for research, Janez Potočnik, in the green paper ‘The European Research Area: New Perspectives’ (EU Commission 2007b). In this context, Potočnik coined the term ‘fifth freedom’: the ‘freedom of knowledge’ (Potočnik 2007; cf. also EU Commission 2008a). In 2008, Potočnik’s drive for the ERA and its fifth freedom goal were officially included in an EU Commission’s communication to the EU Council and Parliament, entitled ‘Better careers and more mobility’ (EU Commission 2008b). Since then, the EU Commission has therefore been encouraging member states to create free mobility for researchers, their results, methods, procedural knowledge, technologies, and even funding. Again in 2008, the heads of EU countries themselves subscribed to the fifth freedom goal and listed policy areas in which action would be required (Kubosova 2008; EU Council 2008). Most recently, the former Italian Prime Minister Enrico Letta published a report on the Single Market (Letta 2024), in which the fifth freedom is seen as a central instrument for strengthening and improving the Single Market. However, as I will argue – and as all these repeated calls prove – we are still a long way from full realization of the fifth freedom. Much work remains to be done.

The main article provides a theoretical basis, consisting of three sections. In the next section, I explain the meaning of the concept of the fifth freedom. Then, in the

second section, I justify the importance of this freedom through four related arguments concerning scientific progress, the freedom of research, the economic and societal well-being of European countries, and the Enlightenment ideals of democracy and the project of European integration. Based on the results of the first and second sections, I argue in the third section that this freedom should be considered a *right*, but one with different aspects, which are best viewed as having different degrees of force attached to them. I also discuss two objections, one nationalist and one globalist, against understanding the fifth freedom as a right of EU researchers. As of today, granting the fifth freedom remains an unfinished task. Wide-ranging evidence of this will be presented in the four sections of the [supplementary material](#). The evidence concerns regulations and practices that constitute open or hidden discrimination in processes of applying for doctoral and postdoctoral grants or academic positions, and in terms of the mobility of national research funding, as well as giving rise to problems for institutional collaboration across internal EU borders. These cases will be accompanied by proposals for advancing the fifth freedom goal via different agents and actions.

### 1. The Meaning of the ‘Fifth Freedom’

The concept of the fifth freedom is contained in various EU documents, but – perhaps unsurprisingly for a general and newly introduced policy idea – without any detailed explanation of what exactly is meant by it. Let me make three distinct but related points for a better determination of the idea.

First, as the very choice of terminology makes clear, the fifth freedom should be seen in analogy to the famous four basic freedoms of the European Single Market: the free and non-discriminating mobility of persons,<sup>b</sup> goods, services, and capital across the borders of member countries. In a similar vein, the EU documents already cited speak of an ‘internal market for research’. Economic considerations certainly play a role here: increasing the efficiency of investments by reducing excessive doubling of research. At the same time, it also implies more: the fifth freedom, and thereby science, is intended to increase opportunities for researchers, and to push integration of the EU forward in a new dimension (cf. Letta 2024: 19).

Second, it is important that it is not only knowledge<sup>c</sup> that is supposed to move freely. The ‘freedom of knowledge’ is not merely about open access to scientific data, information, or results. From the start, the concept included the *free mobility of researchers*.<sup>d</sup> This freedom should be developed in such a way that researchers no longer perceive any national borders as they move from one EU country to another, just as with goods or services. Instead, such movement should be perceived as being as free as movements *within* member states. Free mobility for all those involved in the scientific process must, of course, mean *equal* mobility for all researchers, no matter what their national citizenship within the EU. To aim for this means to take the goal of the fifth freedom seriously.<sup>e</sup> Therefore, national rules or practices that make

mobility more difficult for non-national researchers from other EU countries must be considered discriminatory. This is a crucial point, as we will see.

Third, the joint demands for free movement of research results and of the producers of those results is not enough. *Technologies of research and research funding must be allowed to flow more freely* as well. The EU Commission has repeatedly demanded, for instance, that national funding be made portable across national borders, applying the ‘money follows researcher’ principle. Thus, in ‘The European Research Area: New Perspectives’ it is noted that: ‘Administrations do not usually allow researchers to receive or carry research grants across borders’ (EU Commission 2007b: 11). The proposal then continues as follows:

Further progress could take the form of ... the reciprocal opening of corresponding national and regional programmes to participants from other Member States, particularly in the case of investigator-driven research. This would enable researchers to apply for funds in another Member State, with the aim to enhance excellence everywhere and increase the efficiency of funding allocation to the best research in Europe, reinforcing the impact of the European Research Council. (EU Commission 2007b: 17f.)

In the EU Commission’s communication ‘Better careers and more mobility’, we also read:

To date, almost all project funding is tied to an institution within the country of the funding organisation even if relocation would be beneficial for the results of the project. The portability of grants provided by the European Research Council and the ‘money follows researcher’ scheme piloted by national research funding agencies through EUROHORCs could serve as models for other initiatives.

Proposed priority actions:

[...]

Member States and Commission to allow portability of individual grants awarded by national funding agencies and relevant Community research programmes where this enables funders to better meet their research needs and researchers to better manage their careers. (EU Commission 2008b: 6)

These passages seem to imply two things. One is that all EU countries should allow, even require, their research funding organizations to permit the mobility of individual grants with researchers who move to other EU countries. The other is that if one successfully applies for, say, a DFG (Deutsche Forschungsgemeinschaft) project from Spain, then it should also be possible to carry out the project in Spain.

Since this affects the financial interests of nations and organizations inside the EU, this is a complex and controversial aspect of the fifth freedom. One might claim that this aspect is not, or should not be, part of the meaning of the concept. One

might also argue that, at least in part, this demand can be handled by bi- or multi-lateral agreements between EU member states; after all, this has been done successfully in the past. So, the necessity of this aspect needs to be justified by good reasons, and these reasons will have to differ from those given for other aspects of the idea.

## 2. Why the Fifth Freedom Matters: Four Reasons

Quite surprisingly, most researchers are unaware of the idea of this fifth freedom. Even many politicians, not to speak of other EU citizens, are ignorant of the project. Many might even ask: why a fifth freedom? One might consider the goal to be a mere wish-list cooked up by scientists: things that are desirable to them and would make their lives easier. However, much more than that is at stake. I will now elaborate on the fundamental reasons for promoting the fifth freedom. To do so, I will introduce four distinct theses and arguments. They will involve insights from advanced philosophical and empirical studies of science and the role of science in democratic societies. In this way, it will become clear why existing restrictions and barriers are harming European science and society. This, in turn, will pave the way for proposals concerning how we can better realize the fifth freedom, which are given in the [supplementary material](#).

### *The Fifth Freedom Helps to Advance Science*

To support this thesis, two important insights from recent science studies are helpful. First, much scientific knowledge necessarily requires know-how, or implicit knowledge of procedures and methods that only experienced researchers possess (cf. Polanyi 1958). This tacit knowledge cannot be expressed completely by abstract rules that can be taught and transferred mechanically; it must be shown to colleagues and passed on to the next generation through personal exchanges, shared experiences, and processes of joint reasoning. In addition, know-how is frequently tied to the material conditions of research. Consider a new type of instrument that appears on the scene, such as the advanced confocal laser microscope that may soon replace traditional methods in dermatopathology owing to its improved speed and accuracy in the diagnosis and treatment of skin cancer (Gareau *et al.* 2017). The scientists who developed the microscope cannot train researchers at other locations without taking the device there and presenting it to them. Open access to data, technologies, and so on must flow freely together with researchers moving from one place to another to transmit their know-how and implicit knowledge. Second, knowledge production is often a highly distributed, collaborative activity (see, for example, Galison and Hevly 1992; Kitcher 1990, 1993). In particle accelerators, the human genome project, climate science, large-scale surveys concerning health developments in society, or also major editorial projects in the humanities, many people must be brought together as easily as possible in order to overcome blind

spots, remove cognitive limitations, learn more efficiently, and improve methods, procedures, and research instruments, such as the confocal laser microscope mentioned (for more, see Knorr Cetina 1995, 1999; Merz and Sorgner 2022).

Both features of scientific research point toward the same conclusion. Scientists must come together: the closer, the better; the more often, the better; the more freely, the better. However, the fact that science projects have developed into ever larger and more costly collaborative endeavours has led to problems. There are increasingly huge bureaucratic costs – and not only because of the need for researchers to come together across national borders. Even before this need arises, there are growing demands in terms of writing research proposals with precise financial and administrative planning using spreadsheets, and duties of regular reporting and justifying of one's outputs often in quantified forms.<sup>f</sup> It may be exaggerated to speak of increasing 'meaninglessness in bureaucratized science' (Finkielzstein and Wagner 2023), but it is generally true that research is hampered by unnecessary, unjustified, and even discriminating bureaucracy (Halfman and Radder 2015). In addition, there are national regulations and practices inside the EU that make scientific learning and collaboration across national borders difficult, if not impossible (see [supplementary material](#)). This entails a loss of freedom to do the work one really ought to do as a scientist: investigating nature and human society.

Could things be better? Consider an analogy. Nowadays, the positive economic effects of abolishing national tariffs and other barriers through the four freedoms of the Single Market are widely recognized. Estimates vary, but it is clear that EU countries have grown much faster due to their participation in the Single Market (e.g. Bublitz 2017; in't Velt 2019). It is highly plausible that reducing and removing bureaucratic and technocratic barriers in academia would increase scientific learning and productivity as well. Scientists would be burdened with fewer bureaucratic tasks and lower costs when they move to take up a new scholarship or position in another EU country. Experience and expertise would be brought together more easily, ideally with the smallest transactional costs possible. Therefore, if researchers, knowledge, methods, and the material means and technologies necessary for scientific research flow more freely, science can and probably will progress faster and better.

### ***The Fifth Freedom Supports the Traditional Freedom of Research***

The fifth freedom is not the same as the traditional freedom of research. However, both can be closely connected in ways that deserve to be highlighted.<sup>g</sup> Freedom of research, which in Europe (and beyond) often enjoys the status of a constitutional right, means that science should remain free from undue political and economic influences – such as when political forces, industrial companies, or other special interest groups try to bend the processes and results of scientific research, and communication thereof to the public, in their favour.<sup>h</sup> Only well-justified ethical principles ought to constrain research. Scientists, while having to be responsible citizens just like everybody else, should be able to reason about their work publicly, without having to fear unacceptable pressures e.g. in favour of or against producing

or publishing their results. The fifth freedom can provide important support here. As a well-worn German proverb says, *Reisen bildet*; and, we may add, *Reisen stärkt*. Free mobility of research, researchers, and the means of research boosts the plurality of researchers' perspectives, the quality of their evidence and arguments, and thereby also their ability to protect themselves from undue pressures. Thus, a fully realized fifth freedom can boost the traditional freedom of research in a novel way.

### ***The Fifth Freedom Helps to Advance Societies and European Integration***

Science and ordinary life no longer constitute separate domains as they did in premodern societies: we live in a scientific *Lebenswelt* (Krüger 2005). Scientific knowledge plays a crucial role in societal innovations of almost any kind today. As was already pointed out in the 1995 *White Book* of the EU Commission under the presidency of Jacques Delors, we have in recent decades moved more and more towards a 'knowledge society' (cf. also Bell 1973). By advancing science through the fifth freedom, we advance the power of science to spearhead innovation in technology, the economy, and human well-being. This is also the main thrust of Letta's recent report. It sees the fifth freedom as primarily justified by its potential to embed 'research and innovation drivers at the core of the Single Market, thereby fostering an ecosystem where knowledge diffusion propels both economic vitality, societal advancement and cultural enlightenment' (Letta 2024: 7). Thus, not only would science as a system of its own right benefit, but societies in general would profit from the fifth freedom too.

This general claim can also be tied to a different, more specific consideration. Potočnik noted in 2007 that the existence of national funding and the restrictions inherent to it often lead to the doubling of research, with the result that financial resources are wasted. Money could be saved if research efforts became more coordinated – once again, by enhancing the free and equal mobility of researchers and their methods, means, and results across national boundaries. The more resources huge scientific projects involving many researchers require, the more it makes sense for money and technologies to be pooled among different nations. The fifth freedom can thus intensify the European unification project. In this vein, Potočnik wrote: 'We need a greater understanding that national interest coincides with European interest. We need to embrace an attitude which sees Europe come first' (Potočnik 2007: 3). One might view this as too optimistic or too unrealistic. I will later discuss how to address nationalist objections against adding a fifth EU freedom to the four existing ones.

### ***The Fifth Freedom Supports Essential Ideals of the Enlightenment***

Not only does realizing the fifth freedom to the highest degree possible strengthen free access to information and the freedom of research, but enabling researchers and the means necessary for their research to move more freely will foster better, less

parochial, and less biased theories of nature and humankind. This is precisely what open, democratic societies that pursue the best ideals of the Enlightenment need: to decide on important political projects, the best science is needed to make free speech and rational deliberation possible that is worthy of those names (cf. Kitcher 2011). Despite its familiar limitations, science – in collaboration with philosophy – has historically been and still is the best example for training and applying the capacities of critical thinking or reasoning (cf. for example Siegel 1985). These capacities are needed to protect our societies against today’s ubiquitous propaganda, populism, and polarization (Moshman 2020; Suárez and Sturm 2021).

We currently face increasing global tensions and conflicts between democracies and authoritarian regimes. Significant decoupling of research collaborations between, for instance, Russia and the West has taken place in reaction to the Ukraine war. Therefore, open access to scientific knowledge and freedom of movement may in certain areas have to be restricted to those partners who can be trusted. The EU, with its history of peaceful collaboration and strengthening of democratic values across national borders, provides a more than adequate framework for such trust. Thus, for the time being, the fifth freedom is one that can and should be strengthened within the EU – and with selected, trusted partners in the democratic world. If carried out carefully and prudently, this will support the ideals of democracy in new ways.

In sum, the fifth freedom can and probably will promote a flourishing of science itself, freedom of research, economic and technological innovations within society, and democratic ideals of the Enlightenment. Moreover, it can strongly advance European integration. Since this is so, freedom of knowledge should be treated as equally important as the other four basic freedoms of the EU’s Single Market.

### 3. The Fifth Freedom as a Right: Arguments, Qualifications, Objections

There is an important consequence of the considerations developed so far: the fifth freedom should be viewed and treated as a *right* of EU academics. This claim may sound surprising, but I will argue that it can be supported by two distinct (though partly related) arguments. These arguments will not replace the decision-making of relevant political bodies; they are, however, meant to provide good reasons for considering the fifth freedom as a right. After presenting the arguments in outline, I will discuss important qualifications of this status, and consider two possible kinds of objections from nationalist and globalist perspectives.

#### *Two Arguments for the Fifth Freedom Having the Status of a Right*

(1) To begin, the four basic freedoms of the Single Market come with (i) the *force of immediate legal validity*, i.e. EU citizens can claim them as rights which trump national law, and (ii) the *duty of non-discrimination*: the free flow of persons, goods,

services, and capital prohibits nationality being used as a discriminating criterion (see, for example, Cuyvers 2017). If one aims, as the EU Commission does, to create a fifth freedom deserving of this name, it must come with this same legal validity, i.e. as a right, and imply a duty of non-discrimination. To be fair, this goal must be realized through joint action of EU member states: as the Treaty of the European Union declares in Article 5 (2), ‘the Union shall act only within the limits of the competences conferred upon it by the Member States in the Treaties’. However, as already indicated, the EU Council has long committed itself to the fifth freedom goal (EU Council 2008). So, in principle at least, EU member states are on board; but they need to act.

(2) The fifth freedom can be seen as derivable from two already existing rights: the free mobility of people inside of the EU and the freedom of research. Researchers are people, and so they can of course move freely within the EU. That is the beauty of logic. Accordingly, since 2008, courts in the EU have begun to treat as illegal any discriminations of researchers who are EU citizens and try to access or establish themselves in the academic institutions of EU countries other than their home country (Cippitani 2015: 142; Cippitani and Colcelli 2021: 160). In addition, as argued above, to be a stable material reality, the freedom of research profits from the free mobility of researchers, their expertise, and results, and – at least to a very considerable degree – the technological and financial means necessary for knowledge production. Thus, the two pre-existing rights again support the claim that the fifth freedom is, and should be treated as, a right of European researchers.

While argument (1) justifies the fifth freedom as a right by viewing it in parallel to the general legal status and force of the four accepted freedoms, argument (2) focuses on the better functioning of the scientific system, itself viewed as already derived from other existing freedoms. Different actors will be persuaded by different arguments; but in any case, the fifth freedom is a reasonable and timely extension of the four freedoms.

### *Qualifications*

Even if one accepts these arguments, one might think that they do not sufficiently clarify and justify the status of the fifth freedom as a right in all its manifold aspects. What qualifications will have to be made? Who should enjoy such a right, in what aspects, and with what legal guarantees? I do not claim to have all the answers yet, but here come three points which I hope will trigger a broader academic and political discussion.

First, the fifth freedom is intended to be realized within the EU, as a constitutive part of Dahrendorf’s and his successors’ plans for the ERA. But such a territorial restriction raises problems. For instance, one of the most important political steps taken in recent decades towards creating the ERA is the *Bologna process*. This created a system of comparable university degrees, especially at the Bachelor and Master’s levels, with the aim of enabling students to move more freely.<sup>i</sup> Now, the countries that have signed the Bologna Declaration make up the so-called *European*

*Higher Education Area* (EHEA), many members of which are outside the EU, such as the UK, Turkey, Russia, and some Asian countries. A first response here might be to view the fifth freedom solely as a right of EU citizens; but there is a complication with this move. The four freedoms apply to the *European Economic Area* (EEA), which next to all EU countries includes three EFTA countries (Iceland, Liechtenstein, and Norway). Given that the fifth freedom is modelled on the four freedoms and is partly based on them, it seems fitting to view the EEA as the proper realm for the fifth freedom too. However, it is not necessary for non-EU countries in the EEA to adopt the fifth freedom; that can be left to political negotiations. If they wish to do so, the area of free mobility of researchers, research methods, funding, technologies, and results would be larger and more effective. So as not to overcomplicate matters, I will not mention the EEA again and I will simplify things by speaking only of the EU, its citizens, researchers, and so on. Readers can adapt statements concerning non-EU countries in the EEA as necessary in their own minds.

Second, the Bologna process does not possess the legal force of EU legislation. We need a public discussion about whether students from EU and non-EU countries in the EHEA can enjoy the same rights, with the same legal force. Once again, it seems pragmatically reasonable here that, for the time being, only EU citizens should enjoy free mobility as a legally enforceable right.<sup>J</sup> Students from other countries will still have access under the Bologna system but will continue to face more bureaucracy than EU citizens. If other countries want to join, this again must be a matter of political negotiation with them.

Third, it is easier to improve conditions for the free mobility of researchers than for the free mobility of national research funding. For the former, we will typically only ('Only!', as sceptics might say with irony) have to reduce or remove unacceptable, discriminatory national regulations and practices impeding entry into EU academic institutions. For the latter, we will have to discuss the extent to which national funding should become movable across internal EU borders – a more complex and controversial issue.

Such a differentiation between aspects of the fifth freedom should not be surprising. It is often the case that rights can be associated with different degrees of legal force. For instance, in international law, the principle of territorial sovereignty is a so-called *ius cogens*, that is, a law from which no derogation is permitted. There are other principles of international law that do not possess the same status, or where this is controversial. Thus, while there is a right of peoples to self-determination, this is not an unlimited right of peoples within plurinational countries to form their own state. In contested cases, the principle of territorial sovereignty can trump that right to self-determination, at least as long as all citizens are equally granted typical participatory rights (which was not the case in the colonies of imperial powers). Still, international law recommends that states should grant cultural or linguistic autonomy to, for example, ethnic minorities, or perhaps install regional parliaments possessing certain powers. Thus, the principle of the self-determination of peoples is a right, and one with a certain efficacy, but a weaker one than that of territorial sovereignty.

Similarly, we can conceive of the fifth freedom as a right, but one allowing for differentiations. 'Freedom of knowledge' is a complex notion, referring to different objects and allowing for different degrees of realization. One basic differentiation could be between, on the one hand, the requirement to abolish discriminatory national rules and practices concerning the mobility of researchers and research results and, on the other hand, the requirement to abolish national rules and practices that limit the mobility of funding and other material conditions of research. It should be a constitutive, enforceable right of EU academics that there be no unnecessary, outdated, or discriminating regulations and practices of the former kind. The free movement of research funding, technologies, and other material conditions of research can be seen as a right, too, but as a 'regulative' norm which needs to be realized progressively. Political actors should nonetheless realize this latter free movement as fast and as far as possible, through specific substantial decisions.<sup>k</sup> The EU Commission has pushed for more than we currently have in this regard, and Enrico Letta's (2024) report also argues for the urgency of freeing science from excessive national and bureaucratic restrictions within Europe. Two considerations help to show why demanding more free movement of research funding, technologies, and other material conditions of research is justified: countering nationalist objections, and emphasizing facts and possibilities that show how the 'money follows researcher' principle can and should be expanded beyond current practice. In what follows, I will address these points. I will also argue that the fifth freedom cannot, for the time being, be expanded to the global level.

### ***Demanding Too Much or Too Little? Nationalist and Globalist Objections***

Two opposite groups of objections against the considerations presented so far arise from taking either a nationalist or a globalist standpoint. While the former considers the idea of the fifth freedom to be too idealistic, the latter considers it not to be idealistic enough.

*Nationalist objections* can be directed against any aspect of the fifth freedom. However, I will assume that at least moderate defenders of national interests will accept as a constitutive, enforceable right of EU researchers that there be no unnecessary, outdated, or discriminatory regulations and practices that hamper their free mobility inside the EU. Instead, I will focus on the issue of the free flow of national research funding across EU internal borders. Should national or regional funding agencies really open their financial resources up to the fifth freedom concept? To begin, the arguments presented in the second section are important, although the nationalist concerned with science funding will probably dismiss them anyhow. But if EU countries and their funding agencies accept the arguments, at least *in theory* – if they accept, that is, that the fifth freedom supports scientific progress, freedom of research, EU economies, and democratic practices and virtues, and that it constitutes a new step in the EU integration process – then these actors should also accept *in practice* that this implies promoting free mobility of research funding as much as

possible. In other words, if one accepts the arguments given in the second section, then the burden of proof shifts. It should no longer be the application of the fifth freedom to national research grants that requires special justification; it should be national protectionism that must now defend itself. Just claiming that this protection is the status quo is no longer acceptable.

Still, the world being as it is, it does not come as a surprise that national funding organizations still mostly refuse to allow funds to move abroad with researchers, without feeling the need to justify themselves. So, what we need at this point are facts and arguments not for a demand for EU-wide mobility of national research funding as such, but for it being realistic and, perhaps, advantageous to all.

First, let me reiterate an important fact. I wrote that it is ‘mostly’, but not universally, true that national funding is restricted in its portability. Some national funding organizations have already taken a progressive step which helps especially – though not exclusively – early career researchers, by adopting the ‘money follows researcher’ principle. If a researcher has obtained a national grant, and subsequently obtains an academic position in another country, then the grant can be carried with the researcher to the new position. So far, six national funding organizations follow this policy: the DFG (Germany), the Swiss National Science Foundation (SNSF), the Austrian Fonds zur Förderung der wissenschaftlichen Forschung (FWF), the Independent Research Fund Denmark (DFR, Denmark), the Dutch Research Council (NWO, Netherlands), and the UK Research and Innovation body (UKRI).<sup>1</sup> Moving national research funding abroad is no longer an absolute taboo. This also proves that some organizations have contributed to the realization of this aspect of the fifth freedom. Clearly, if more funding organizations were to follow this example, this would significantly promote that freedom. And, once again, the burden of proof should be firmly on the side of those who favour national protection of research funding.

#### *The Nationalist Objection*

Let us assume that nationalists about research funding accept the shift in the burden of proof. They still have at least one argument in their hands against expanding the portability of grants beyond current restrictions. The objection no longer comes in the form of a dogmatic appeal to national interests but attaches itself to the existence of significant socioeconomic inequalities inside the EU: if applied throughout the EU, unrestricted portability of national grants could weaken already disadvantaged regions or countries. After all, researchers from these countries might use the national grants and carry them off to the most attractive places for science in Europe. That would be unfair, so substantial restrictions must remain in place.

#### *Reply*

There are three important responses to this objection. (1) The objection should not be taken to be trivially or undeniably correct, since it implies an empirical prediction: namely, that lifting national restrictions to portability of grants will benefit stronger

regions and harm weaker ones. Whether this prediction holds requires careful testing, which could be carried out in the form of Karl Popper's (1957) idea of piecemeal social engineering: test it in reversible steps. (2) Fearing that without prohibiting the portability of research grants one's own country or region will necessarily suffer (or will run a high risk of suffering), may be thinking of the situation as a zero-sum game. Such thinking may also exhibit a bias known as the 'endowment effect' (Kahneman *et al.* 1990): we often try to hold on to what we have, and do not consider what we might gain by exchanging it for a new deal. However, letting national funding flow more freely may lead to a win-win situation for all. Careful, stepwise experimentation can show which predictions are correct and which changes are profitable. The proof of the pudding will be in the eating. (3) If the general form of the objection holds, it would equally well apply to the other four EU freedoms. However, taking the risk of developing these freedoms has paid off significantly for all parties involved. In addition, the Brexit experience has by now shown that opting out of the EU's Single Market has hurt the UK's economy significantly. To be fair, whether realizing the fifth freedom in the domain of national research funding pays off as well, once again, requires careful experiments and subsequent evaluation. In these experiments, national funding agencies and national governments could and should receive recognition for promoting research in other EU countries and the cause of EU integration.

So much, in theory, for thinking that national research grants should not be opened up to EU-wide mobility. In the [supplementary material](#), the subsection entitled 'Restrictions Concerning the Portability of National Grants', I will provide some specific proposals for making this aspect of the fifth freedom goal more tractable in practice.

#### *The Globalist Objection*

If the explanations and justifications of the fifth freedom idea are indeed so strong and convincing, why limit the realization of that freedom to the EU? Science is a – perhaps *the most* – global enterprise! This is a respectable point. However, there is no way of realizing the ambitious and complex freedom of knowledge for the whole world in one masterstroke – just as we could not simply expand the four classical EU freedoms to the global level. For pragmatic reasons, it is best right now to develop the fifth freedom to the maximal degree possible inside the EU, given its experiences and successes with integration. Trusted partners who wish to take on the idea can do so provided they satisfy certain conditions. In the case of the Bologna process, this has already happened through the EHEA. Likewise, the EU's Framework programmes have been opened up to partners willing to pay their share. Countries that have entered into these agreements and treaties with the EU relating to science but do not permit fully free and equal mobility for non-nationals, such as Switzerland and now the UK, will have to face a decision. The fifth freedom builds upon the free movement of people across EU borders and is inconceivable without it. Still, while advancing the fifth freedom means that EU countries will be

taking yet another step towards integration, increasing the cross-border rights of their citizens that other countries cannot or do not want to take, this does not mean that everyone else will be shut out. It only means that the EU will achieve a new and deeper level of integration: no matter what their national identity, all its researchers will enjoy exactly the same rights.

### **Conclusion: An Unfinished Task**

I have explained the concept of the fifth freedom, and I have supported its importance with four related arguments. This freedom can strengthen European science and society, Enlightenment ideals, and democratic processes and practices. I have moreover argued that the fifth freedom should be considered a right of EU researchers. However, numerous existing rules and practices still block the realization of this right (for examples, see the [supplementary materials](#)).

When proposing the idea, former EU Commissioner Janez Potočnik expressed the idea that the ERA, and with it the fifth freedom, could be realized by 2014. However, European research policy turned away from that goal until, on the occasion of the twentieth Busquin anniversary, it became clear that we are still a long way from realizing it. The relaunch of the ERA idea led to the ‘European Pact for Research and Innovation’ (EU Council [2021](#)).

No doubt, in the last two decades, progress has been made: the Bologna process; the EU Framework (now called ‘Horizon’) programmes with funding of ERC or Marie-Skłodowska-Curie Actions projects which grant holders can take with them (‘money follows researcher’); or open access policies that are now routinely promoted by the EU and its member states. However, we are still far from a full realization of the fifth freedom. The ‘European Pact for Research and Innovation’ document repeats many of the demands associated with the ERA project and the fifth freedom. Among other things, the document also claims that ‘it is necessary to strengthen coordination and to deepen coherence between the Union, national and regional policies’, and demands ‘better working conditions’, ‘free circulation of researchers and support staff, scientific knowledge and technology’, ‘enhancing framework conditions for researchers’ mobility’, ‘sharing scientific knowledge, data and tools as early as possible, in particular through open science practices’, and critically observes that ‘R&I investment at Union level has slowed down overall recently’ (EU Council [2021](#)).

Scientists should put pressure on political actors to make the idea of the fifth freedom a reality. National governments and parliaments, as well as funding agencies and academic administrations should recognize and abolish outdated, unnecessarily complex, and discriminatory rules and practices. The EU Commission and Parliament should encourage national and regional actors along these lines, check regularly whether progressive steps are being taken, and push forward on their own where possible. Half a century ago the first ideas for a European Research Area and the fifth freedom were born. It is high time we push things forward.

## **Supplementary Materials**

The supplementary materials for this article can be found at <https://doi.org/10.1017/S1062798724000164>

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This text originated in conversations within the Spanish–German Scientific Network, organized by the German Embassy in Madrid and the German General Consulate in Barcelona. These conversations primarily addressed problems encountered in Spanish–German academic collaborations (some examples are included in the supplementary material). However, the problems have a wider reach, and I decided to discuss them from the perspective of European research policy. Useful comments and materials came from members of the Network: Jens Biegert (ICREA & Institute of Photonic Sciences (IFCO), Barcelona), Ulisse Cecini (Ancient and Medieval Studies, Universitat Autònoma de Barcelona (UAB)), Alexander Fidora (ICREA & Ancient and Medieval Studies, UAB), Klaus-Jürgen Nagel (Political Science, Universitat Pompeu Fabra (UPF), Barcelona), Charlotte Poschenrieder (Plant Physiology, UAB), Lothar Schulte (Physical Geography, Universidad de Barcelona (UB)), Matthias Tischler (ICREA & Medieval Studies, UAB), and Peter Wagner (ICREA & Sociology, UB). Many other people helped too with comments and criticism: Hanoeh Ben-Yami (Philosophy, Central European University, Vienna), Roberto Cippitani (Department of Law-Centre of Excellence ‘Rights and Science’, University of Perugia), Esa Díaz-León (Philosophy, UB), Karl Hepfer (Hannover), Oliver Hochadel (Institución Milá y Fontanals de Investigación en Humanidades-CSIC, Barcelona), Marja Makarow (President, Academia Europaea), Genoveva Martí (ICREA & Philosophy, UB), Andreu Mas-Colell (Economics, UPF), Lara Scaglia (Philosophy, Universidad Nacional de Mexico), Jeroen van den Bergh (Institute for Environmental Science and Technology (ICTA), UAB), and two anonymous referees. Christopher Evans provided important linguistic assistance. I am also highly grateful to the Germany Embassy in Madrid and the German General Consulate in Barcelona for building the Spanish-German Scientific Network; in particular, to Patrick Heinz, who supported this work with patience and interest. Finally, special thanks go to Rainer Lange (Head of the Division of Research Policy, German Sciences and Humanities Council/Wissenschaftsrat, Cologne). He pointed me towards the idea of a fifth EU freedom and provided sage advice concerning aspects of European research policy.

## **Competing Interests**

The author declares none.

## Notes

- a. In some ways, the ERA project goes beyond the territorial boundaries of the EU. For instance, it includes the *European Higher Education Area* (EHEA), which has members far beyond the EU – basically, all other European countries including Russia, and even an Asian country: Kazakhstan.
- b. Originally only for workers, but this freedom was legally expanded to all people who are citizens of the member states of the European Single Market.
- c. The term ‘fifth freedom’ is sometimes applied even more narrowly as referring only to the free flow of *data* within the EU; see the related 2018 decision of the European Parliament (<https://www.europarl.europa.eu/news/en/press-room/20180926IPR14403/free-flow-of-non-personal-data-parliament-approves-eu-s-fifth-freedom>).
- d. EU documents also include students, teachers, staff members, and other people related to academic research here. One might also speak of ‘knowledge workers’ or ‘academic workers’. I will continue to use the term ‘researcher’, but it should be clear that it has a broader meaning than is ordinarily assumed.
- e. More precisely, since researchers go through different career stages, we must demand equal mobility opportunities in equal career phases.
- f. Fortunately, many organizations are beginning to reduce reliance on scientometric and other quantified criteria in their evaluations. See for example the *San Francisco Declaration on Research Assessment* (DORA; <https://sfдора.org/read/>), signed by the EU Commission, among others.
- g. The literature on freedom of research leaves out the fifth freedom – even when it includes legal, institutional, and comparative European discussions of freedom of research. See for example the collection by De Gennaro *et al.* (2022).
- h. I characterize the idea of freedom of research in this way to avoid conflation with the ideal of *general* value-freedom in research. Such an ideal is controversial. Not only is science often constrained by values or practical interests, one can also argue that it *should* in some cases be so constrained, for instance, when human lives, our well-being or basic democratic values are negatively affected by research (for closer discussions, see Kitcher 2001, chs. 7-8; 2011, ch. 1; Sturm 2020; Wilholt 2010, 2012).
- i. A major criticism of the Bologna process is that student mobility has decreased, not increased. Among the popular explanations for this are increased bureaucracy for changing universities; and the claim that students are pushed to study faster and in more school-like ways, with the effect that they prefer not to change universities. However, one should be cautious here: the statistical data concerning student mobility are mixed and unclear (cf. Teichler 2015: S14).
- j. Russia now plans to leave the EHEA anyway (Russland-Analysen 2022).
- k. The distinction between constitutive and regulative norms goes back to Immanuel Kant and is well known nowadays in ethics, philosophy of language, law, and game theory. My point here is to present a plausible option, not a final analysis, for understanding different aspects of the fifth freedom as a right. The constitutive/regulative distinction has been characterized in various ways and is not undisputed, since, for example, it may not be a sharp or clear distinction. See Placani (2017); Villegas Alexov (2022).
- l. See <https://www.scienceurope.org/our-priorities/cross-border-collaboration/money-follows-researcher>

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**Supplementary material to:**  
**THE EU'S FIFTH FREEDOM:**  
**WHY AND HOW TO DEVELOP THE "FREEDOM OF KNOWLEDGE"**

**PROBLEMS AND PROPOSALS CONCERNING GRANTS, ACADEMIC POSITIONS, AND  
INSTITUTIONAL COLLABORATIONS**

Thomas Sturm\*

In the main article, I have described the meaning, rationale, and limits of the fifth freedom goal, as a necessary component for realizing a fully unified and progressive European Research Area. Now, in this supplementary material, I aim to show by specific examples and problems from different areas of the collective organization, funding, and administration of scientific research just how far we really are from full realization of this fifth freedom.

I will present evidence in the form of cases of unnecessary or unjustifiable national rules and practices that lead to discrimination of researchers in processes of applying for doctoral and postdoctoral grants, academic positions, and national research funding, and also to problems in institutional collaborations. I have chosen this format to help readers recognize similar cases in their own environments and encourage them to denounce them, to facilitate public discussion of each type of problem, and to prepare constructive proposals for policy makers. The classification of cases into problems of application processes for doctoral and postdoctoral grants, academic positions, national research funding, and institutional collaborations is not meant to be comprehensive or final. However, it matches the most relevant academic

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activities that cross internal EU borders and which are affected by the lack of the fifth freedom.

I also distinguish between open and hidden discrimination. Some cases may be mixed or unclear. But such differentiations are useful, both for deciding over what needs to be done in each (type of) case, and to highlight how easy it may be to overlook non-obvious but nonetheless problematic practices. I refer to rules *and* practices: while I mostly focus on explicit regulations, some cases consist of administrative practices that have no explicit rules covering them but result in discrimination or unnecessary paperwork, nonetheless. Finally, the reader will notice that the cases I report are focused on only a few countries. Nevertheless, these examples are significant and symptomatic: many others exist throughout EU countries. Taken individually, each case might be viewed as too unimportant to report. However, their sum produces unnecessary costs and stands in the way of realizing the fifth freedom.

Sections 1 and 2 address questionable bureaucratic barriers and practices that inhibit full free mobility of researchers, while Section 3 deals with national research funding. Section 4, finally, concerns a problem of large-scale institutional collaborations. Together with this evidence, I will present proposals for how to advance the fifth freedom goals in specific ways: first, for free mobility during early career stages and concerning academic positions, then for national research funding, and finally for transnational institutional collaborations within the EU. The proposals will have to be discussed and decided on by different political actors, from funding agencies and academic administrations to political institutions and organizations at the regional, national, and European levels. In this regard, the proposals mostly speak for

themselves, but sometimes I have been explicit about who should take action. Each of the constructive proposals can and should be considered on its own. Rejection of one should not lead to rejection of any others.

## ***1. Doctoral and postdoctoral grants***

### **1.1. Open discrimination**

*Example 1:* Italian universities have no specific contractual instruments for temporarily employing non-national researchers who have been selected under the Marie-Skłodowska-Curie Actions program. This leads to the use of inadequate forms of contracting these researchers, for instance as consultants or via scholarships.

*Example 2:* One requirement of the Spanish ministerial bureaucracy for junior research position applications (such as for the prestigious Ramón y Cajal postdoctoral fellowship but also others) is that they be signed using a digital signature issued by Spanish authorities. Foreign applicants must either obtain the technology which involves meeting a series of further conditions which are difficult to realize from abroad or submit the documents to a Spanish consulate or embassy in their home country. Either option represents a considerable burden in terms of bureaucracy, travelling or costs that Spanish applicants do not face. This is not only discriminatory but also unnecessary, since there is no need for formal signatures at the application stage; these should matter only when the funding is to be granted.

*Example 3:* If an applicant wins a Ramón y Cajal fellowship and wishes to sign a contract, the Spanish Ministry for Science and Innovation requires that they present a so-called *NIE* (“Número de Identidad de Extranjero”: an identification number for tax and other administrative purposes). They can get this number at local offices only if they can show evidence of residence in Spain; however, usually one cannot take up residence (e.g. rent an apartment) without already having a NIE. To avoid a bureaucratic dilemma similar to the one described satirically in Carl Zuckmayer’s novel *The Captain of Köpenick* (Zuckmayer 1931/1971), the Spanish administration offers a provisional NIE, which subsequently has to be made permanent. This is an example of unnecessary bureaucracy. An EU passport or ID should suffice for signing the contract.

*Example 4:* A doctoral student with Italian citizenship had to obtain different sworn translations of university documents and qualifications for her doctoral and postdoctoral grants and positions in Spain and then again in Poland. (An alternative, which some universities in the EU still require, even from EU citizens wishing to enter doctoral programs, is the Hague Apostille.) For this, the student had to pay a total of around 1,000 Euro and acquire fiscal ID numbers, which required a lot of time and many other documents. In addition, in Poland, to be employed as a postdoctoral researcher, she was required to fill out a document requesting personal information about her parents, including information about their jobs. These demands are too personal and totally irrelevant for her job.

*Example 5:* One of the requirements for applying for some doctoral scholarships in Spain – such as the FPU, FI, and FI-SDUR (a Catalan scholarship) – is providing one’s

average undergraduate marks via the so-called “nota media del expediente académico” (<https://www.educacionyfp.gob.es/en/servicios-al-ciudadano/catalogo/gestion-titulos/estudios-universitarios/titulos-extranjeros/equivalencia-notas-medias.html>). This official document certifies average grades for degrees obtained outside Spain, but expressed according to the Spanish rating system (from 0 to 10, with 10 being the highest mark). Consider students wishing to move to Spain with Master’s and Bachelor’s degrees from Italy, for example, where grades range from 0 to 30, with 30 being the highest grade. The student’s average marks must be converted to the Spanish rating system through equivalence tables. The conversion procedure uses a parameter expressing the frequency of a given grade, relative to the Spanish system. Now, Italian students obtain 30 points more frequently than Spanish students obtain 10 points – there is more grade leniency in Italy. Consequently, an Italian average grade of almost 30 points is calculated to equal approximately 8.35 points in the Spanish system. Crucially, this average grade is below the minimum average accepted by the regulations for scholarships such as the doctoral grant from Spanish Ministry of Universities (FPU). Hence, someone with almost the highest average grade in Italy cannot even apply for a Spanish FPU grant. More generally stated, the lack of an EU-wide grading systems can lead to discrimination.

## **1.2. Hidden discrimination**

*Example 1:* Here is a recent advertisement for doctoral scholarships at the University of Barcelona: <http://www.ub.edu/beques/3rcicle/PREDOCSUB/convocatoria.html>. The directives do not, of course, impose any nationality requirements. However, when an Italian student tried to apply for one of these scholarships, it proved impossible to submit the application without a Spanish digital certificate (cf. again Section 1.1, Example 2). She contacted the support agent in the administration: no response.

*Example 2:* The language required for generating the “nota media” (cf. Section 1.1, Example 5) is Spanish. If candidates’ academic transcripts are in a different language, they must also submit sworn translations of each of their transcripts (typically two: Bachelor’s and Master’s degrees). Sworn translations are expensive, and a candidate must pay several hundred Euro to obtain them. It would be more efficient if all institutions in the EU/ERA required academic transcripts to be written in English.

*Example 3:* Another problem for applicants is that national funding offers are often accompanied by relevant informative materials, many or all only in the EU member state’s national language or languages. A recent instance of this is, again, the Spanish government’s Ramón y Cajal postdoctoral fellowship, where many sections are given in Spanish only –

from the front page (<https://www.aei.gob.es/en/announcements/announcements-finder/ayudas-contratos-ramon-cajal-ryc-2022>)

including the offer

([https://www.aei.gob.es/sites/default/files/convocatory\\_info/file/2022-12/Convocatoria%20RYC%202022\\_%20F.pdf](https://www.aei.gob.es/sites/default/files/convocatory_info/file/2022-12/Convocatoria%20RYC%202022_%20F.pdf))

and the FAQs ([https://www.aei.gob.es/sites/default/files/convocatory\\_info/2023-01/Q%26A%20RYC2022.pdf](https://www.aei.gob.es/sites/default/files/convocatory_info/2023-01/Q%26A%20RYC2022.pdf)).

*Example 4:* Mobility opportunities as part of national doctoral or postdoctoral stipends or fellowships are typically limited to only a few months. While not being discriminatory as such, such restrictions can reduce mobility unnecessarily, as the start-up costs may be too high.

## **2. Job applications**

### **2.1. Open discrimination**

*Example 1:* To apply for lecturer positions at Spanish universities, or for postdoctoral positions with the Spanish Research Council (Consejo Superior de Investigaciones Científicas, CSIC), foreign researchers must certify for the equivalence of their doctorate. The process of recognizing foreign PhD titles at Spanish universities is called “homologación”, and it is notoriously bureaucratic, costly, outdated, and discriminatory. Each Spanish university might require slightly different documentation, and, in any case, a considerable number of documents is asked for (cf. e.g. <https://www.ub.edu/portal/web/farmacia-es/homologacion-de-titulos-extranjeros-de-educacion-superior>). Again, the CSIC requires all foreign applicants to submit online proof of equivalence of their PhD before they are allowed to apply (<https://sede.csic.gob.es/tramites/bolsa-de-trabajo>). Although things have improved over the last twenty years, and Spanish universities are usually helpful in these matters, all this takes time and effort. Depending on the language of these documents,

universities will require a sworn translation (English is generally accepted but certainly not German). To translate all these documents costs several hundred Euro. Other documents required might include the first degree (Master's or similar) certificate as well as extensive documentation listing all classes taken as an undergraduate, certified by the university where the applicant studied. This means that if the applicant is, say forty years old, they would have to recover documents from twenty years back. In addition, the "homologación" is a two-step process in which the university must first evaluate all the documentation provided, which can take months. Only if the PhD is recognized can the second necessary step start, which consists of registration of the PhD by the ministry responsible. This second step is only a formality but also takes time. The fees Spanish universities charge for the "homologación" of PhD differ but can be around 600 or 700 Euro. The whole cost can amount to 1,000 Euro.

*Example 2:* In assessing candidates for a lecturer's position, teaching and research activities carried out abroad are still evaluated negatively by some Italian universities if these activities were based on temporary contracts or invited lectures. However, as the case-law has decided, "contract teaching and lectures by invitation cannot a priori be evaluated negatively; it must be rather taken into account that, in other countries, teaching assignments or lectures are awarded on the basis of the professor's merit, with the consequence that in particularly prestigious universities only professors teach who, regardless of the qualifications formally obtained, are deemed 'worthy' of teaching. It follows, therefore, that an assessment which leads to penalizing a priori the candidate who has enriched his professional experience must be considered flawed." (Judgment of the Council of State of 4 September 2007, no. 4635)

## 2.2. Hidden discrimination

*Example 1:* In the Italian examination process for the qualification of university professor (*Abilitazione Scientifica Nazionale*), in the area of the “non-bibliometrics” fields (humanities and social sciences, including law) only journals listed by the Italian National Agency of Evaluation (ANVUR) are accepted as relevant. Even though the ANVUR list includes non-Italian journals, these are a minority. Many prestigious international scientific publications are excluded or ignored. This favors Italian over non-Italian researchers.

*Example 2:* An opening in 2023 for a position as a junior lecturer (*professor lector*) at the University of Barcelona was published only in Catalan, not in English or even Spanish. Being asked how that conforms with the fact that the position was open to all academics satisfying the necessary requirements, the university administration responded that this is so for all announcements of this kind, and only as an exception positions in the specific “Serra Húnter” plan are published in Catalan and English.

While it seems fair to expect that non-nationals who obtain an academic job ought to learn, within a reasonable time, the relevant national language, it is discriminatory to demand this already at the application stage from non-nationals. One can hardly expect that academics from other EU countries (or beyond), who look for positions in different countries, already know all the languages.

*Example 3:* Another form of hidden discrimination occurs when – not a rare event – calls for academic positions are announced in obscure sections of university webpages, or mixed up with positions advertised for lab technicians, secretarial staff, etc. Universities could and should do better to be more open to foreign academics.

Let me sum up the significance of the problems and cases of Sections 1 and 2. Researchers from EU countries applying for national doctoral or postdoctoral scholarships or academic jobs often face administrative, linguistic, and financial obstacles and costs that citizens of the country offering the scholarship or position do not face. If similar barriers were found concerning the four freedoms of the EU's Single Market, these would be considered (more or less) discriminatory. These barriers undermine the goal of full free and equal mobility of researchers. In addition, the examples often show how seamless interoperability between national institutions and public administrations inside the EU is unnecessarily limited and, very often, inefficient. Things need to change.

## **PROPOSALS CONCERNING DOCTORAL/POSTDOCTORAL GRANTS AND JOB**

### **APPLICATIONS**

1. Researchers and scientific institutions and organizations, including funding organizations, need to receive more sustained and systematic information concerning the fifth freedom, the ERA, and the European Pact for Research and Innovation. Straightforward and clear information about the existence of these goals might already have a positive effect towards realizing them. The EU Commissioner for Research could take a lead role here. An important action could

also be an online survey that collects potential cases of discrimination and makes them publicly known.

2. We need a general campaign to raise awareness in all scientific organizations of hidden and open forms of discrimination according to nationality. Any unjustifiable, unnecessary, and avoidable administrative regulations and practices in EU countries that discriminate against citizens from other EU countries should be abolished. Discriminating academic career development based on nationality is no less a violation of equality than discrimination based on gender, sexuality, religion, or race. All science policy makers at the regional, national, and European levels should become active here.
3. Establishment of anti-discrimination officers in scientific organizations that look for hidden and open discrimination according to nationality, in analogy to gender equality efforts.
4. Evaluation systems for Bachelor and Master's degrees need to be unified throughout the EU, since – despite the Bologna process – different national and local regulations still result in discrimination and unnecessary bureaucratic work, as when a Master's degree must legally be certified or accompanied by the Hague Apostille.
5. Reductions in costs for student mobility: academic institutions in the EU should issue and accept Bachelor's and Master's certificates (also) in English.
6. Within the EU, doctoral titles from certified universities should become universally accepted, without the need for additional certification. Universities should provide an (additional) English translation of the doctoral certificate. A doctoral certificate

from an EU country should imply equivalence for being allowed to apply for academic jobs.

7. In processes of application, unnecessary national and technocratic documents that act as bureaucratic or technocratic barriers should be abolished. For instance, for applications at postdoctoral levels, a passport or ID card and a doctoral certificate should be sufficient (together with the other typical documents, such as a CV, research statements, etc.).
8. All information concerning national offers of doctoral and postdoctoral stipends and academic positions open to EU citizens must be accompanied by complete English translations.
9. If full free mobility of national doctoral and postdoctoral grants cannot be achieved immediately, the duration of possible stays in other EU countries should be substantially increased. For instance, if scholarship holders so desire, they should be able to spend around 30%-50% of the duration of the scholarship at academic institutions in other EU countries. In return, researchers could be asked to commit themselves to education projects for a similar time within their home countries.

### **3. National research funding**

#### **3.1. Open discrimination in national grants with binational Co-PIs**

*Example:* The DFG allows applications by foreign Co-PIs within the framework of “priority programs” (*Schwerpunktprogramme*, SPPs), provided there is a Germany-

based Co-PI, so that the funding can remain at a German academic institution. However, this option is linked to a clearly discriminatory rule: the foreign applicant (in any case only as a Co-PI, with a Co-PI from a German academic institution) must prove that the individual project is *essential or necessary for the success of an entire SPP*. This special rule is not justified in any way by the DFG, and no criteria for its application are given, so its interpretation is entirely arbitrary.

Such restrictions have a discriminatory effect on EU researchers not based in Germany. In addition, they are counterproductive for knowledge mobility and thus for scientific progress itself (cf. main article, Section 2) since national projects deprive themselves of the expertise of researchers not based in Germany. This, again, is in clear conflict with the ideal of the fifth freedom. It should be noted here that perhaps the DFG may not be able to change this rule, as it may be derived from national budget laws. In that case, the German parliament and government should act; the German *Bundesministerium für Bildung und Forschung* (BMBF) could take a lead role.

### **3.2. Restrictions concerning the portability of national grants**

As seen above (main article, Section 1), the ERA project includes, remarkably and ambitiously, demands for EU-wide mobility of nationally funded projects – not yet common practice. National funding organizations still mostly refuse to allow grants to go abroad with researchers. I will not list these restrictions here; they are easily accessible in the rules provided by funding organizations. When discussing the nationalist objections, I have shown that if one accepts the significant arguments offered for promoting the fifth freedom (main article, Section 2), then the burden of proof is shifted to those who think that nationalist interests exclude EU-wide mobility

of national research funding (see main article, Section 3). I have also shown that some national funding organizations have already changed some of their policies towards the “money follows researcher” principle. In addition, just as with the other four freedoms, economic and other advantages of the fifth freedom can outweigh the risks or costs involved. To repeat, a piecemeal social engineering approach will help us best to figure out the truth, and to overcome what may be nationalist or other biases.

### **PROPOSALS CONCERNING NATIONAL RESEARCH FUNDING**

1. The first three proposals concerning grants for doctoral/postdoctoral positions and other academic applications need to be repeated here: First, we need more

information directed at all institutions and academics about the fifth freedom, the ERA, and the European Pact for Research and Innovation; secondly, a campaign for more awareness in all administrations and academic institutions targeting hidden and open forms of discrimination in terms of nationality; thirdly, the establishment of anti-discrimination officers in administrations and agencies that look for hidden and open discrimination, in analogy to gender equality efforts. The actors who could or should take lead roles are described above.

2. All national or regional grant agencies in the EU should follow the “money follows researcher” principle, at least for early career researchers to increase their mobility.

Since funding agencies often cannot or will not act on their own here, parliaments must allow their funding agencies to let grants flow more freely. One need not demand 100% freedom here: through budgetary regulations, parliaments can set limits on how much of their research budgets can be open to realizing the fifth freedom. EU-wide agreements could proceed in a gradual manner and allow for

transition phases and other means for coping with existing inequalities in the scientific strength of different regions or countries. To get the process going, the EU Parliament and EU Council could take the lead, but one can also imagine pilot projects between countries who want to move forward here.

3. If full free portability of national research grants cannot be achieved immediately, concrete steps towards creating the 5th freedom can and should nonetheless be taken. Five specific ideas are:

- (a) National funding agencies such as the DFG should no longer uphold discriminatory regulations against EU researchers not located in Germany in collaborative funding schemes.
- (b) National funding agencies could experimentally open a selection of their grant schemes fully to all researchers who are EU citizens, allowing portability of grants to other EU countries, for a defined period – say, 5-10 years – and afterwards evaluate results. It should be checked whether this leads to mutual benefits or to increased inequalities.
- (c) Researchers working on topics relevant to one EU country (e.g., Germany), but do so in another EU country (e.g., Spain), could be given the opportunity to receive and move funding from former country's national funding resources (the DFG, for example). Cooperation should be made easier, especially for junior researchers, for the purposes of long-term cooperation between the two (or more) countries. For its part, a funding organization from the first country should see the benefit in connecting talented researchers from other countries to its system at an early stage.

- (d) National funding organizations from one EU country could allow PIs from other EU countries, provided the universities in the former country accept them as guest researchers for limited periods, while the PIs keep their positions in their home countries and manage projects from there, too.
- (e) National funding agencies should receive full credit for promoting research in other EU countries.

#### **4. Institutional collaborations**

*Example:* In the first years of this century, the German Max Planck Society (MPG) developed an international strategy of founding Max Planck Institutes (MPIs) abroad. Several such institutes were founded, among them some outside of the EU, such as those in the USA or China. However, an attempt by the MPG to build a joint institute “Convivencia” – devoted to transcultural history – with the Spanish CSIC in Madrid remained unrealized because of the different principles and regulations for hiring people. While MPIs hire academics overwhelmingly on a temporary basis, to boost careers during doctoral and postdoctoral stages, the CSIC tends to hire on a permanent basis only (both systems have advantages and disadvantages, of course). No compromise could be found, to the disadvantage of both sides. This is an example of how divergent national or institutional can practices block scientific progress and undermine the free flow of researchers, knowledge, methods, and the means of research.

#### **PROPOSALS CONCERNING IMPROVING INSTITUTIONAL COLLABORATIONS**

1. One should use this failure for a thorough critical examination of what kind of flexibility and coherence concerning research contract systems would help bring us closer to the goal of the fifth freedom in the area of institutional collaborations.
2. Added funding from EU cohesion programs – already proposed in combination with the Horizon program  
  
(<https://publications.jrc.ec.europa.eu/repository/handle/JRC123485>) – could support multi-country cooperation between EU countries with significantly different economies, helping to overcome mobility barriers related to, e.g., salary differences.
3. If this road were taken, then (i) projects from partner countries that work recognizably towards realizing the fifth freedom by, e.g., reducing or removing national bureaucratic hurdles and (ii) projects that have adopted the best practices within EU countries should be strongly preferred. Arguably, (i) and (ii) could also be made necessary conditions for funding support from EU cohesion programs.

## References

**Zuckmayer C** (1931/1971) *The Captain of Köpenick* (original work 1931). Trans. by J Mortimer. London: Methuen.