

2 The Rise of Europe's Border Infrastructures

Europe's Borders as a Circulation System

If borders are technopolitical entities to organize circulation, what kind of framework is best suited to study this circulation? How best to describe the relations among different actors, institutions, and technologies, ranging from quotidian tools to large-scale information networks? Rather than characterizing Europe's borders, border controls, and migration management as a kind of fortress, panopticon, or form of surveillance, I opt for a perspective that can accommodate myriad policies and practices leading to different technopolitical configurations.¹ For this reason, I frame Europe's technological border networks as a kind of infrastructure.² Like other infrastructures, borders consist of construction works, communication networks, coordination centers, monitoring instruments, and networks of employees, officers, and technical experts. Border infrastructures are also connected to many other infrastructures, including those of data, transportation, knowledge, security, finance, and humanitarian intervention. The movements and materialities of these infrastructures are intimately tied to the formation of states and, in the case of the European Union (EU), a union of states. Border infrastructures provide a particular way to understand Europe. Rather than viewing European cooperation and integration—and sometimes disintegration—in functionalist terms or as a grand design, border infrastructures can be described from the inside out by following how they organize preventions, selections, and interventions. This chapter begins our investigation by tracing the recent development of Europe's border infrastructures and by unpacking the relationships among agents, technologies, and institutions.

Europe's borders span jurisdictions and technologies and are vehicles for political thought and action. As historians of technology have shown,

processes of cooperation and integration in Europe were initiated by experts and technical communities, supported by technological advances and infrastructures of all kinds.³ Whether they concern canals, railroads, radio broadcasting, or electricity grids, studies of technology shed a refreshing light on the things that hold societies together, as well as on dynamics within international relations.⁴ Opening up these technologies and their histories often leads to nuanced understandings that temper all-too-general theories of functionalism or grand teleological schemes. Unraveling the technological “tensions of Europe” requires the study of all kinds of situated knowledge, technical possibilities and impossibilities, and, perhaps most of all, the often-contradictory political motives behind them.⁵

The study of borders and technology parallels the study of other material infrastructures.⁶ Roads, railroads, water pipes, and electricity grids, to name a few, have been central to the formation of modern nation-states, in establishing state control over territory, and in the creation of the European Union.⁷ Infrastructures are never tension free, as they select and create so-called winners and losers.⁸ Border infrastructures are notable in that they explicitly seek to make selections—to distinguish between persons allowed and denied entry.⁹ Four characteristics will help us to better understand Europe’s borders *as infrastructure*.

First, borders-as-infrastructure consist of large-scale networks that connect to particular local situations. Not all infrastructures are grand projects designed and implemented from above; they also emerge out of singular events that form the building blocks of later structures.¹⁰ The notion of infrastructure does not reduce myriad technological policies and practices to a single constellation. For example, border control infrastructures on land, at sea, and in the air (airports) have crucial differences; borders can also intermingle with nature and render different terrains into borders or stand out materially from their surroundings. Rather than distinguishing between borders on the basis of their natural or physical features, I focus on the traveling of methods and materialities applied in different situations.¹¹ Infrastructures shape common worlds, not by directly providing public goods or shared facilities but by fabricating particular connections that shape all kinds of associations between people and technologies. Borders-as-infrastructure are composed of myriad linkages between states and people, public and private, connectivity and collectivity.¹²

Second, although all infrastructures privilege some people over others—such as through variegated pricing, differential access to users, or quality of services—one of the main tasks of border infrastructures is to intentionally *exclude* at least some groups of people. While borders express a certain idea of belonging, membership, and citizenship for some, they deny this status to others. The border controls of the European Union can be seen as part of a highly political integration process—one with strict selection and prevention mechanisms and severe humanitarian consequences. The staggering number of people who have lost their lives on their way to the continent of Europe is a grim indication of how the management of mobility and the selection of membership work out in practice—and how the governance of international migration can intensify the differences in the life chances and expectations of geographically separated peoples. As such, European migration, asylum, and border management policies are in line with the international trend of states redefining their policies to privilege specific groups of migrants and asylum seekers while complicating access to others.¹³

Third, borders-as-infrastructure enter the realm of the visual. Infrastructures are related in particular ways to the interplay of the visible and the invisible.¹⁴ What border technologies have in common with other infrastructures is that patchworks, or systems of systems, appear as seamless webs. But this image obscures the tensions and ruptures that any infrastructure must overcome to appear as a unified whole. Infrastructures are composed entities that visualize and disclose specific events at various moments in time and space.¹⁵ This applies to the European Border Surveillance System (EUROSUR), which aims to link diverse national monitoring and registration systems by way of interoperability. It also applies to Europe's reception and detention centers. On the one hand, these closed camps function as the "black holes" of the migration regime. On the other hand, they are subjected to daily media coverage and seem to function as frightening examples to deter future migrants.

Fourth, borders are movable infrastructures. "It is not [only] migrants who migrate, but rather constellations consisting of migrants and non-migrants, of human and non-human actors."¹⁶ Borders move not only with the steps states take to displace them, but with the movements of migrants and their material means of movement.¹⁷ For this reason, I employ a symmetrical perspective that transcends the dichotomy between the subjects

and objects of border infrastructures—those who develop the infrastructure and those who are subjected to it. State representatives, international organizations, and nongovernmental organizations (NGOs) move with migrants, implementing migration and security policies and providing humanitarian care. Migrants are simultaneously subjects and objects: their mobility makes them the objects of state attention. The border, then, is not a passive entity waiting to be crossed. It is a movable entity; border infrastructures move with people.

The history of state formation, as well as the history of the European Union, are about bordering and rebordering, of struggles and tensions, as well as of unification and belonging. In these histories, borders are not static, clear-cut demarcations between regions and states; rather, they are movable objects that can be shifted to intervene where the movement is. Many of Europe's border control technologies—such as databanks, information systems, registration centers, and monitoring tools—are not deployed at the physical border but rather organize mobility from a distance. Borders themselves can be highly mobile devices that pop up where the action is, sometimes even traveling alongside migrants on the move. Borders, movement, and materiality are intimately related.

This chapter analyzes the emergence of Europe's border infrastructures by following interactions between actors, institutions, and technologies. I begin by recounting the development of the Schengen and Dublin systems, the emergence of Frontex, and databases such as the Schengen Information System (SIS), the Visa Information System (VIS), and the European Asylum Dactyloscopy Database (Eurodac). Particular attention will be paid to border control efforts during the so-called migrant crisis of 2014–2016: the EURO-SUR program, the hotspots created in Italy and Greece, and the externalization of border control and migration management to other countries.¹⁸ The focus on the interactions among actors, institutions, and technologies will cover monitoring technology to detect migration on land, at sea, and in the air, and the migration policies of the European Union and its member-states with countries on the southern and eastern sides of the Mediterranean.

The mobility of borders and their functioning as manifestations of policy and as vehicles for political thought can be seen in the various technological approaches to border control. While the aim of this discussion is not to provide an exhaustive historical overview of border politics in Europe, it will show how the relationships among politics, technology, materiality,

and movement already inform actual developments in Europe's border politics. Building on this empirical foundation, chapter 3 will delve into a detailed conceptual discussion of the morphology of technopolitics.

Building Border Infrastructures

In 2015 and 2016, more than 2.5 million people applied for asylum in the European Union, while thousands of others lost their lives trying to get there, turning the Mediterranean into a veritable graveyard.¹⁹ Also, in 2016, the ceiling of a museum in Schengen, Luxembourg, devoted to the history of Europe's passport-free zone collapsed during a storm, damaging installations and a number of exhibits, including passports, signed documents, photographs, and customs officials' uniforms. While this led to the museum closing for three months, Schengen's mayor was quick to note that the ceiling collapse was not a symbol. Nevertheless, "it is a sign that [they needed] to do some repairs."²⁰

The use of the word "repairs" by Schengen's mayor suits the idea that the migrant crisis almost heralded the end of Schengen and of the circulation system that it initiated. But if we look at the Schengen Agreement from a different angle—namely, what happened inside the European Union, as well as what happened outside—its contemporary manifestation appears to be in line with its original aims. The creation of the Schengen Area—by now a visa-free zone spanning twenty-six countries—was (and remains) a way to order the relationship between Europe's internal and external borders. The relationship is often seen in terms of a dichotomy: an open European travel space on the inside and a closed border on the outside. But the Schengen Agreement and its many implementing policies introduced a mechanism to organize circulation that transcended the neat division between inside and outside. Its development was not only a matter of regulation, but also a thoroughly technopolitical matter.

It is tempting to take the fall of the Berlin Wall in 1989 as a turning point in how the borders in Europe were conceived. The opening of the Iron Curtain, the reunification of the two Germans, and the dissolution of the Soviet Union can easily be seen as the beginning of a process often referred to as "rebordering": not the start of a new, globalized, borderless world, but a specific reorganization, relocation, and redefinition of borders of all sorts. Nevertheless, the process that would eventually lead to the

distinction between Europe's internal and external borders started earlier, around 1984. These early policies were not in anticipation of migration from Africa and Asia that would reach Europe sooner or later, or were they made as a prelude to the migration that followed the war in the former Yugoslavia. The common border was instead part of a broader project—namely, the completion of the European internal market.²¹

On June 14, 1985, Belgium, the Netherlands, and Luxembourg joined Germany and France in signing a treaty to abolish their national borders. The signing of the Schengen Agreement was a moving event in many ways. The treaty was signed aboard the cruise ship *Princess Marie-Astrid*, which was moored near Schengen on the Moselle River. The Convention implementing the Schengen Agreement followed in June 1990. In 1995, the original signatories of the European Economic Community (EEC)—except for Italy—agreed to abolish internal border controls, while introducing a common visa system, greater law enforcement cooperation, and external border controls. The implementation agreement covered practical provisions, such as separate circuits for intra- and extra-Schengen flights at international airports. Following the signing of the Treaty of Amsterdam, the Schengen Acquis (the Agreement and Convention) was incorporated into the EU framework on May 1, 1999.²²

Schengen's most remarkable invention was the distinction between internal and external borders. The Convention referred to internal borders as “the common land borders of the [Schengen states], their airports for internal flights and their ports for regular ferry connections exclusively from and to other ports within the territories of the [Schengen states] and not calling at any ports outside their territories.” In contrast, external borders were deemed a Schengen state's “land and sea borders and their airports and sea ports, provided that they are not internal borders.”²³ External borders were thus defined negatively.²⁴ The reason for doing so was to avoid the sensitive issue of who should be legally responsible for managing the border. Although this responsibility was never explicitly addressed, the text makes it clear who the responsible actors should be. When applied to internal borders, the term “common” refers to the territorial boundary shared by two countries. But when applied to external borders, it has a *collective* connotation. The result was that the abandoning of controls inevitably created a vacuum—a vacuum that had to be given content.²⁵

To understand Europe's borders in terms of an infrastructure, the Schengen system must be viewed in relation to the Dublin system. To discourage

asylum seekers from traveling to countries where they expect a more favorable reception, parallel to the implementation of the Schengen system, all EU member-states agreed in the 1990 Dublin Convention that, in principle, the member-state of first arrival would be responsible for examining applications for asylum. This Convention entered into force on September 1, 1997. It is important to note that the Schengen and Dublin systems were of an experimental nature. Both systems were established in separate treaties, outside the structure of the European Communities (EC). Schengen and Dublin, and particularly the technopolitical way in which they developed, can also be regarded as a form of infrastructural imagination. Schengen and Dublin not only came into being via a process of institutional competition, they also embodied a particular infrastructural innovation of actors, institutions, and technologies geared to developing novel border infrastructures. The Maastricht Treaty (1992), which entered into force in 1993, brought police, judicial, and migration cooperation under the umbrella of the European Union via the Third Pillar. Subsequently, the Treaty of Amsterdam (1997) integrated asylum and migration into the EC structures. From that moment on, the matter of Schengen and Dublin was controlled by EC regulations, supplemented by treaties with non-member-states.

The elasticity of Schengen and Dublin and the mechanisms that relate the internal borders to the external borders have been put to the test by various developments inside and outside the European Union. Internally, since 2004, the free movement of people gradually led to increased labor migration. From a legal point of view, this only concerned the functioning of the internal market, but in the official statistics of the member-states, as well as the perception of many citizens, these fellow European citizens were often regarded as foreigners. Externally, the end of repressive stability in North Africa and the Middle East had major consequences. Many people sought refuge in Europe as a result of the 2003 invasion of Iraq, the Arab Spring of 2010–2011, and especially the Syrian civil war that has been raging to some extent since 2011. Migration to Europe from Syria, North Africa, the Middle East, and parts of Asia increased in the period 2014–2016, particularly to Italy and Greece (discussion of the latter country is central to chapters 5 and 6). (The top countries of origin of asylum seekers were Syria, Iraq, Afghanistan, Nigeria, and Pakistan.)²⁶ This development was all the more intense now that many people had to take great risks when crossing through unsafe areas and had to expose themselves to exploitation

by human traffickers. The number of dead and missing migrants in the Mediterranean that was recorded increased enormously.

The Schengen and Dublin joint area actually fell apart in countries on the external border that were under pressure from the arrival of entrants, especially Italy, Spain, Malta, and Greece, which were disrupted at the time by budgetary crises. Countries in Central and Eastern Europe did not favor immigration, and when immigrants did come, they offered them few prospects. In Europe, countries in Western and Northern Europe (Germany in particular) took in the lion's share of immigrants. The way in which the European Union attempted to stabilize these developments was driven by a harmonization of the procedures and criteria for admission and residence, building on the "acquis" of the Schengen and Dublin regulations. These procedures, however, were also underpinned by border infrastructure arrangements.²⁷ Two of the main developments concerning borders in the wake of the migrant crisis—the creation of so-called hotspots within the European Union and the externalization of border control outside it—were already anticipated in the initial proposals.

The European Union's border policies can be said to consist of all kinds of infrastructural compromises. The concept of "infrastructural compromises" bears witness to the entanglement of actors, institutions, and technologies, as it denotes that border infrastructures not only result from the negotiations among various political actors or the agreements between technical experts but they also arise out of all kinds of sociotechnical mediations.²⁸ In the context of border security infrastructures, compromises concern the transformation of conflicting requirements and opposing views into a workable composition by adding new elements, foregrounding certain aspects, and backgrounding others. The concept of an infrastructural compromise encapsulates both the materiality and the movability of borders, predominantly the exchanges and transportations that are required (in terms of knowledge, technology, and ideas) to constitute a border. As such, the perspective of border infrastructures not only allows the study of the particular technopolitical layout of borders, but also contributes to the understanding of technopolitical configurations as infrastructures and to the advancement of the study of sociotechnical mediation.

Compromises in the construction of border infrastructures also contain imaginations.²⁹ The particular aspect that the notions of compromises and imagination address is that there are mutual interactions between technology

and politics that underpin the emergence of infrastructures. Borders and border politics are deeply implicated in materiality and movement. The notion of imagination emphasizes that political ideas are not developed separate from technology.³⁰ Imagination is required to invent new border control mechanisms to adapt to changing international circumstances and transformations in international human mobility. Border infrastructures themselves can be regarded as expressions of imagination that allow the creation of novel ideas and applications. As a toolkit for politics, border infrastructures are not just the instruments of politics. Instead, they encapsulate visions and ideas regarding the identity of Europe as a security actor. Not infrequently, these imaginations and compromises entail various contradictions and oppositions. These oppositions—such as between the inside and the outside of the European Union—have often created infrastructural tensions and fueled innovation in attempts to overcome them, as the following discussion will show.

Unpacking the European Union's Border Control Agencies

If it is true that border infrastructures as mechanisms to organize circulation are as much vehicles for political thought as instruments of political action, how are the entanglements between the European Union's institutions, agents, and technologies to be grasped? To comprehend the infrastructural characteristics of the entanglements between the European Union's institutions, agents, and technologies that were distinguished in the opening of this chapter, we must begin by conceiving of a parallel development of agencies and information systems.³¹ This imperative can be followed by elaborating particularly on the first two characteristics of border infrastructures described earlier in this chapter—namely, that they connect large-scale networks with local situations and manifestations of borders and select by organizing forms of circulation.

The agencies that were installed include Europol, Eurojust, and, most important for the purposes of this chapter, Frontex. The European Police Office, which later became the European Union Agency for Law Enforcement Cooperation, and more colloquially known as Europol, commenced its full activities on July 1, 1999. From the outset, Europol was not directly concerned with migration, but it was involved with the prevention of human trafficking and the facilitation of illegal immigration as forms of organized crime. Eurojust, whose formal name is European Union Agency for Criminal Justice Cooperation, was established in 2002 and “supports in any way possible the

competent authorities of the Member States to render their investigations and prosecutions more effective when dealing with cross-border crime."³² The European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (better known as Frontex) was agreed upon by European Council regulation on October 26, 2004, and established on May 1, 2005. It followed the December 2001 meeting in Laeken, at which the European Council called for a better management of the external border controls.

The name "Frontex" stems from the French *frontière extérieure*. Arising out of seven ad-hoc centers on border control whose task was to oversee EU-wide pilot projects and common operations related to border management, the agency was created to fill the empty chair for the collective control over external borders.³³ Frontex rapidly emerged as the flagship of Europe's control over its external borders. Its primary task is to coordinate joint operations at the external land, sea, and air borders. Not only did Frontex build up a border control infrastructure, it also drew on existing systems of agencies such as the European Union Satellite Centre (EUSC), the European Defense Agency (EDA), the European Maritime Safety Agency (EMSA), the European Space Agency (ESA), and the European Centre for Disease Control (ECDC).³⁴ Although Frontex was involved in an institutional and infrastructural competition with Europol, the Agreement on Operational Cooperation between Europol and Frontex of March 28, 2008 expresses the intention to share information systems and to protect data.³⁵

From its start, operations have been central to Frontex's mission. The first joint operation was Illegal Labourers in 2005. The first sea operation began in 2006 and was called Hera. Hera was concerned with irregular immigration from West Africa to Spain's Canary Islands in the Atlantic Ocean. It soon became clear that the Mediterranean would become the main area for joint operations. The shift of focus to the Mediterranean not only implied a particular operational angle, but also introduced an additional motif—namely, the requirement of *interoperability*, a concept that will be discussed later in this chapter. When Frontex began its mission, there was little international cooperation in the sphere of external border control. One of the agency's headline initiatives was the establishment in 2007 of Rapid Border Intervention Teams (RABITs), the first of which was deployed in 2010 along the Evros River on the Greek-Turkish border.

The goals of EU policies with regard to international migration consist of a combination of mobility, security, fundamental rights, and humanitarian considerations. In all the key documents, the European Parliament, the European Commission, and the Council of Ministers underline that the European Union ought to commit to preserving life at sea, combating human smuggling and trafficking, and respecting refugee rights.³⁶ When Frontex was originated, it lacked a concrete human rights framework. Border security considerations such as assisting national border guards, coordinating joint maritime missions, and coordinating EUROSUR were defined as its main task. On the other hand, as an EU agency, Frontex is bound by the EU Charter, indirectly by the European Convention on Human Rights and the jurisprudence of the European Court of Human Rights (ECHR), and also by international human rights standards and protection obligations toward asylum seekers. An important underlying idea is the principle of “nonrefoulement,” which forbids a country receiving asylum seekers from returning them to a country where they are in danger.

Still, a gap needed to be filled in order to do justice to the tensions arising between security considerations and fundamental rights. In 2014, the European Union formulated the Frontex Sea Borders Regulation (regulation 656/2014). This regulation replaced the previous Council Decision 20120/252/EU; it aimed to establish “clear rules of engagement for joint operations at sea, with due regard to ensuring protection for those in need who travel in mixed flows, in accordance with international law as well as increased operational cooperation between countries of origin and transit.”

Although the regulation sidesteps some political controversies with regard to refugee rights, immigration deterrence, and saving lives at sea, it is a stronger instrument than the previous Council Decision.³⁷ Regulation 656/2014 of the European Parliament and the Council of May 15, 2014, establishing rules for the surveillance of the external sea borders in the context of operational cooperation coordinated by Frontex, introduced changes to the mandate of the agency. Together with the earlier Regulation 1052/2013 of October 22, 2013, which established EUROSUR, it was fully integrated and referred to in Regulation 2016/1624 of September 14, 2016, which installed a “European Border and Coast Guard Agency” to replace the “European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union.”

The development of these regulations is significant here, as it shows how the European Union and Frontex aimed to combine the different but inevitably related tasks of protecting borders and people. The legal nuances will not be discussed at length. Instead, the focus will be on the attempts to combine border control, security considerations, and human rights in terms of the construction of “infrastructural compromises” referred to in chapter 1. An infrastructural compromise does not result from an agreement between political actors; rather, it emerges from infrastructural tensions among actors, institutions, and technologies. Chapters 5 and 6 will detail the constituent components of such a compromise and the ways that it worked out—or failed to work out—in practice. Moreover, these chapters will demonstrate how the quest for infrastructural compromises fuels the multiplication of the border. Infrastructural compromises intensify the mediating nature of borders and push them toward novel hybrid connections, such as between surveillance on land and at sea, or between care and control.

The background of these compromises consists not only of legal struggles, political negotiations, and policy considerations, but also of conflicts among various actors, institutions, and technologies in particular situations and specific circumstances. These conflicts flared up by a series of dramatic events at sea and the increasing number of migrant deaths in the Mediterranean. Chapter 7 describes in detail how migrant deaths and dramatic events at sea become public issues and discusses questions of responsibility and accountability that these events evoke. The chapter will do so by discussing the notion of the infrastructural state and the rise of the observing, investigating, reconstructing, and participating public eye. One of the events includes the so-called left-to-die boat, a widely documented case.³⁸ The term “left-to-die boat” refers to an event in March 2011 when sixty-three migrants lost their lives in the central Mediterranean while attempting to migrate from the coast of Libya to the small Italian island of Lampedusa.³⁹ What made the incident particularly unfortunate is that these deaths occurred when the European Union’s maritime frontier was under high surveillance. National border police forces from both sides of the Mediterranean were reinforced by over forty military ships and many patrol aircrafts deployed by Western states off the Libyan coast in support of international military intervention led by the North Atlantic Treaty Organization (NATO). This high density of surveillance at sea “placed these deaths squarely in the most highly surveyed waters in the entire world, and there were strong indications that military

forces were failing in their obligation to rescue migrants in distress, despite possessing the requisite means of surveillance to witness their plight."⁴⁰

The causal relations between such dramatic events, the transformation of public opinion, political responses, and institutional and operational change are hard to determine (if they exist at all). In some cases, dramatic events are a consequence of measures taken—or not taken—by the European Union, its member-states, and/or other European countries. In other cases, these dramatic events resulted in new policies and regulations to strengthen the protection of migrants. Over the past decade, hundreds of dramatic events resulting in thousands of deaths have taken place. Next, a brief and far from complete overview of some of these cases will be presented. The cases are selected because they had a specific impact on the development of policies and regulations, became events that affected public opinion at large, or both.

The first case took place in 2009, when the Italian government supported pushback operations to prevent migrants from reaching the Italian islands. It thereby withheld a proper refugee status determination procedure from the migrants. Twenty-four migrants who were part of a larger group intercepted in May 2009 in an Italian pushback operation and returned to Tripoli brought their case to the ECHR. In 2012, the Court formulated the *Hirsi* judgment and considered the pushbacks a clear violation of the rights of the migrants. These issues were not fully solved with Frontex's 2014 regulation, which halfheartedly incorporated the standards of the judgment.⁴¹

The aforementioned left-to-die case of 2011 gave rise to an investigation of the Parliamentary Assembly of the Council of Europe.⁴² The Lampedusa shipwreck tragedy on October 3, 2013, which caused the death of 368 migrants, was a turning point for both Italian and EU policies. The Italian government launched Operation Mare Nostrum, while the European Commissioner for Home Affairs called for the European Union to increase its Mediterranean-wide search-and-rescue patrols to intercept migrant boats through Frontex. A significant pushback disaster in the Greek Aegean Sea is the Farmakonisi case of January 20, 2014, which will also be discussed in chapter 7, in which eleven refugees—eight of them children—lost their lives when their boat capsized as it was being towed through the water. The event inspired director Anestis Azas to write and direct a performance called *Case Farmakonisi or the Justice of the Water* in 2015. On April 18, 2015, at least 800 people died as their boat capsized between Libya and Lampedusa when it collided with a Portuguese freighter ship that had been called to its

aid. Only twenty-eight people survived the accident. The disaster occurred after the ending of the Mare Nostrum project, in which distressed boats carrying migrants were rescued at the expense of Italy and the European Union. (The shipwreck, one of the deadliest in the Mediterranean in living memory, was displayed in an exhibition by the Swiss-Icelandic artist Christoph Büchel at the 58th Biennale di Venezia in 2019.)⁴³ The disaster accounted for nearly a fifth of the estimated 3,665 migrant deaths in the sea that year. In response, at a joint meeting of foreign and interior ministers chaired by High Representative/Vice President Federica Mogherini and held in Luxembourg on April 20, 2015, Migration, Home Affairs, and Citizenship Commissioner Dimitris Avramopoulos presented a ten-point plan of the immediate actions to be taken in response to this crisis in the Mediterranean.⁴⁴

On April 28, 2015, the European Commission adopted the European Agenda on Security, followed by the European Agenda on Migration on May 13, 2015. The near-joint publication of the two agendas states that external border management is increasingly understood as a pact to organize the inflow of migrants and internal security.⁴⁵ In addition, the European Council agreed to reinforce the scope of the EU civilian mission in Niger to support the authorities in preventing irregular migration and combating associated crimes, as well as to establish an EU military operation, EUNAVFOR Med, to break the business model of smugglers and traffickers of people in the Mediterranean. In June 2015, EU leaders agreed on a series of measures covering the areas of relocation and resettlement, return and readmission, and cooperation with third countries (meaning countries that are not a member of the European Union, as well as countries or territories whose citizens do not enjoy the European Union right to free movement).

A second package of proposals in September 2015 included an emergency relocation proposal for 120,000 people in clear need of international protection from frontline countries; a controversial relocation mechanism for all member-states; a highly disputed common European list of safe countries of origin; a supposedly more effective return policy; a guide on public procurement rules for refugee support measures; measures to address the external dimension of the migrant crisis; and a trust fund for Africa. As mentioned later in this chapter, these measures were followed by the Valletta summit and the EU-Turkey Statement.

Not only have the attempts to combine border control, security, and human rights approaches with regard to migration resulted in all kinds of

infrastructural compromises (as chapters 5 and 6 will explain in greater detail), but Frontex itself increasingly has become a paragon of infrastructural imagination. Proclaiming operations as Frontex operations, the fluttering EU flags on the participating vessels, and the Frontex armbands worn by the officers create an impression to migrants that it is Frontex, not the individual member-states, that they are dealing with. The growth of the agency and the broadening of its tasks make it a symbol of European cooperation.

In 2016, Frontex was rechristened the European Border and Coast Guard Agency (EBCG). But in addition, the role of the EBCG is entirely new; it was never part of the original Frontex mandate.⁴⁶ EBCG can intervene directly in the affairs of a member-state that proves ineffective in controlling its own borders. An important shift brought about by the EBCG regulation is the introduction of a centralized mechanism that deals with situations where control of the external border is rendered ineffective. This would be the result of inadequate measures by the member-state to prevent irregular access, which could result in jeopardizing the functioning of the Schengen Area as a whole.⁴⁷ It can also collaborate with the Commission in a hotspot at a member-state's request.

The position of Frontex still raises many questions. The increased capacities, tasks, and competences of Frontex have been accompanied by new accountability mechanisms, but the exact meaning of these mechanisms in the organization's operations is far from clear. On November 13, 2019, the EBCG was given a new legal basis.⁴⁸ In addition to the broadening of its mandate, the new regulation offers Frontex its own standing crops, equipment, and a greater role in the governance of border surveillance data systems. The extension of the EBCG's mandate, staff, and equipment suggests that Frontex will play an even larger role in Europe's border management—and it will. But Frontex is not the engine of Europe's border machine. The development of Frontex as an agency mirrors the changing nature of Europe's borders and the continent's border control as well.

Digital Borders: The European Union's Databases and Information Systems

Of the characteristics of border infrastructures that were discussed in the beginning of this chapter, the analysis so far has mainly focused on the way that border infrastructures connect large-scale networks with local situations

and manifestations of borders, and how border infrastructures choose between migrants by organizing forms of circulation. Borders, however, also display a specific interplay between visibility and invisibility. This interplay is expressed in particular by the relation between the aforementioned border infrastructures and Europe's digital borders.

Alongside the aforementioned policies and agencies, the European Union has developed three information systems: SIS, Eurodac, and VIS. These systems are operated by eu-LISA (the much more manageable name for the European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice). The databases and information systems are the digital technological dimension of Schengen and the Dublin Regulation. However, it would be misleading to consider these databases as only digital or virtual information systems. As the following chapters will show, the systems are directly related to the border practices on land, at sea, and in the air, and also affect the border infrastructures of harbors, airports, and hotspots.

SIS is a large-scale information system that supports external border control and law enforcement cooperation in the Schengen states. According to the Commission, it is the "most widely used and largest information sharing system for security and border management in Europe."⁴⁹ The Schengen states were early in developing an electronic mail infrastructure. SIS monitors all kinds of cross-border movements. As the "database-flagship" of the Schengen Agreement, it stores information on persons and objects and enables national authorities such as the police and border guards to enter and consult alerts about them.⁵⁰ SIS consists of a central database, called C-SIS, and national SISbases, in all of the Schengen states. C-SIS is located in a bunker in Strasbourg, and its aim is to maintain "public order and security, including State security, and to apply the provisions of this convention relating to the movement of persons, in the territories of the contracting parties, using information transmitted by the system."⁵¹

In April 2013, the second generation of the Schengen System (SIS II) went live. SIS II consists of a central system (Central SIS II), a national system (N.SIS II) in each member-state, and a communication infrastructure that links Central SIS II to the various national systems. SIS II enables authorities such as police and border guards to enter and consult alerts on certain categories of wanted or missing persons and objects. The reasons for issuing an alert include to refuse entry to a person who does not have the

right to enter or stay in the Schengen territory, to find and detain a person for whom a European arrest warrant has been issued, to find a missing person, and to find stolen or lost property, such as a car or a passport. An SIS II alert contains not only information about a particular person or object, but also clear instructions on what to do when the person or object has been found.

As the European Data Protection Supervisor (EDPS) describes, the competent authorities of the member-states enter, update, or delete data in the SIS II via their national systems. Before a competent authority issues an alert, it has to determine whether the case is relevant enough to warrant entry. The competent authorities are also responsible for ensuring that the data is accurate, up to date, and lawfully entered into SIS II. When the alert is issued in SIS II, only the relevant member-state is authorized to modify, correct, update, or delete the data. According to the Commission, by the end of 2017, SIS contained approximately 76.5 million records, and it was accessed 5.2 billion times and saw 243,818 hits.⁵²

The Eurodac system collects the fingerprints of asylum seekers in support of the Dublin Regulation. Acting as the EU asylum fingerprint database, it charts asylum migration across Europe and detects multiple asylum claims. Eurodac was introduced to prevent so-called asylum-shopping. Through the registration of multiple claims, it also gives some indication of secondary movements. The biometric information database became operational in 2003. The system consists of a central unit, a computerized central database used to compare the fingerprint data of asylum applicants, and the means of data transmission between the member-states and the central database. The EDPS is responsible for supervising the system in cooperation with the competent national data protection authorities. According to this entity, "when a participating country sends a set of prints to Eurodac, it knows immediately if they match up with others already on the database. If so, it can choose to send the individual back to the country where he or she first arrived or applied for asylum; the authorities there are responsible for making a decision about the candidate's right to stay. If not, the country that submitted the prints handles the case."⁵³

VIS became operational in October 2011. It connects EU member-states' immigration authorities and consular posts around the world. Its central database details the personal and biometric information of all visa applicants to the European Union and the dates on which the visas were applied for, granted, refused, cancelled, withdrawn, or extended. This means that VIS

generates aggregated data on shifts and trends in visa-based mobility from specific countries and regions.⁵⁴ VIS stores and processes three categories of data: (1) alphanumeric data on Schengen visa applicants and holders (e.g., surnames, names, and places and dates of birth), as well as on each specific application (e.g., status of the application, the authority processing it, and the type of visa requested); (2) authorities capture, digitize, and store in the system the ten fingerprints of each applicant; and (3) photographs (i.e., facial images) of those requesting Schengen visas. In addition, VIS contains scanned documents submitted by individuals in support of their visa applications.⁵⁵

These technologies have raised many ethical and legal questions. Processes of identification, authentication, and registration increasingly rely on information derived from human bodies, such as fingerprints, and thus they may invade people's privacy and affect how they view their bodies. Such interventions place high demands on the integrity of companies and professionals and prevent overly restrictive interpretations of the tests lead to questionable rejections and passes. Gathering information extracted from human bodies also supports dragnet policies in which vast amounts of data are collected for future purposes. Eurodac, for instance, was originally intended to prevent multiple asylum applications and unauthorized entry. Later, under renewed Eurodac regulations, access was no longer restricted to immigration authorities, but widened to include police, public prosecutors, and Europol.⁵⁶

Besides specific ethical, technical, and financial concerns, a particular criticism is about the capacity of these systems to become "ever closer," to interconnect and expand. For these reasons, these systems have been labeled as "greedy" and as a "machine."⁵⁷ This characterization is particularly applicable, given EU proposals regarding the transformation of these systems as a response to the so-called migrant crisis and the ongoing intermingling of migration and security policies. In April 2019, the European Union adopted new legislation with regard to its digital borders (namely, legislation to establish a framework for interoperability between several EU information systems). This legislation affects the areas of security, border, and migration management, visa processing, and asylum because it concerns the Schengen *acquis* regarding borders and visas, as well as the Schengen *acquis* on police cooperation. The legislation concerns VIS, Eurodac, and SIS, as well as three databases that do not exist yet—the Entry/Exit System (EES), the European Travel Information and Authorization System (ETIAS), and the European Criminal Records Information System for Third-Country

Nationals (ECRIS-TCN). It also concerns Interpol's Stolen and Lost Travel Documents (SLTD) database and Europol data.

The EES aims to "contribute to the modernisation of the external border management by improving the quality and efficiency of the external border controls of the Schengen Area."⁵⁸

ETIAS ought to become "an automated system that would gather information on visa-exempt travelers prior to their arrival, in order to determine any irregular migration, security or public health risks associated with them."⁵⁹ ECRIS-TCN "aims to improve the exchange of criminal records information regarding convicted non-EU-citizens and stateless persons through the existing European Criminal Records Information System."⁶⁰ The interoperability among these systems consists of four components: (1) a European search portal (ESP), (2) a shared biometric matching service (shared BMS), (3) a multiple identity detector (MID), and (4), the eye catcher of this interoperability operation, the Common Identity Repository (CIR). Final approval of the Commission's proposal to create a European Criminal Records Information System for Third Country Nationals was given by the Council on April 9, 2019.⁶¹

The legislation has been widely criticized. This criticism will sound familiar to scholars interested in issues of border surveillance. The nonprofit organization Statewatch published a report in 2018 titled *Interoperability Morphs into the Creation of a Big Brother Centralized EU State Database Including All Existing and Future Justice and Home Affairs Databases*.⁶² A German Member of the European Parliament described the development as creating "a monster database." The European data protection supervisor has warned of a potential "panopticon in which all our behavior is considered useful for investigative purposes and must be made accessible because fighting crime is given priority."⁶³

Without wanting to deny these qualifications, there is a different issue at stake. The example of the aforementioned legislation is interesting in itself, as it raises all kinds of questions and has far-reaching consequences, but it also illustrates more general characteristics of digital borders in particular and border infrastructures in general. A particular characteristic of border infrastructures concerns the morphology of borders. "Morphology" here means the study of the development and dissemination of political ideas via their manifestation in all kinds of technologies, as well as how, via those expressions, the ideas themselves are affected and transform, grow, and change. In this morphological conception, border control technologies

(such as walls and fences) or border surveillance technologies (such as large-scale databases) are not just instruments or tools that are freely available and acted upon at will. Instead, the following discussion will explore the idea that border politics develops through all kinds of technologies and expresses itself in the shape of borders.

An emphasis on morphology allows a consideration of the shape and the form of borders, technologies, and politics. Two aspects require special attention: the movements that shape borders and the materiality that makes them. In that sense, the present view shares some similarities with the notion of “kinopolitics,” according to which “a border is not simply an empirical technology to be resisted or not; it is also a regime or set of relations that organize empirical border technologies.”⁶⁴ The argument that will be set out here can also be regarded as relational. However, an even more intimate relationship between knowledge, ideas, politics, and technology seems to be at stake. For this reason, border can be conceived as a kind of containers or vehicles of politics. This does not mean vehicles like remote-controlled cars that can be acted upon at a distance, but rather vehicles as moving entities that contain and transport ideas and imaginations of Europe, of belonging, of identities, of inclusion, and of exclusion. In a comparable way, the forthcoming database that is part of the legislation, the CIR, can be regarded as a vehicle that not only stores information, but also gathers it, distracts it from humans, and mobilizes it for various purposes.

EUROSUR has been developed following a different institutional and infrastructural logic than the aforementioned databases. The course of the European Commission with regard to the mandate, funding, and staffing of Frontex was informed by two studies—the MEDSEA and BORTEC studies. The MEDSEA attended to the possibilities for enhancing operational cooperation in the patrolling of the European Union’s southern maritime borders and the Mediterranean. The study provided for the launch of Mediterranean coastal patrol networks and information-sharing mechanisms between the member-states and FRONTEX. The BORTEC study, on the other hand, was concerned with the setup of a European border surveillance system focusing on the EU southern maritime borders, including the Mediterranean.⁶⁵ The BORTEC report is a telling illustration of the way that persons are increasingly regarded as subjects that are part of large-scale populations and need to be objectified as “targets.”⁶⁶ The plans presented in the BORTEC study eventually led to EUROSUR, which became operational in December 2013.⁶⁷

Instead of creating an all-seeing eye or a seamless web, the coupling of different technologies leads to a combination of systems. Monitoring mobility requires protocols and personnel to gather, interpret, compare, and apply information. This monitoring is based on a distinction of different areas, such as the coastal waters of EU member-states, the open sea, and coastal waters of third countries. Each area requires specific modes of detection, such as systems to identify vessels by monitoring and tracking, radio, coastal radar, infrared cameras, satellites, and unmanned aerial vehicles (UAVs) such as drones. The key word is “interoperability,” and the aim of such monitoring is to create situational awareness. A military term by origin, situational awareness aims to visualize critical situations such as emergencies and irregular border crossings to assess whether intervention is required. In addition to boats, cameras, and radar, since 2014, EUROSUR has been using satellite imagery obtained through the European Satellite Centre. For example, when a Hellenic coast guard patrol spots an unregistered ship in Greek waters, it contacts the national coordination center in Piraeus, which directs it to the agency's headquarters in Warsaw to compare the crew's observations with satellite images. Armed with this information, the coast guards can then decide what to do.

The notion of interoperability, as this discussion shows, applies to the interconnection of the European Union's various databases and information systems concerning migration, borders, and security, as well as to the cooperation that is required for specific border operations, such as the ones conducted by Frontex and the EU member-states. The EDPS says, with regard to the new legislation that was adopted by the European Union in April 2019, that “interoperability is not primarily a technical choice; it is first and foremost a political choice to be made.”⁶⁸ A political choice indeed, but of what kind of politics? The issue of pursuing the policies of interoperability is not just that a big, greedy data monster or an all-seeing apparatus is created. Most striking is the appearance of all kinds of novel mediating moments at which new connections are being established among actors, institutions, and technologies.

The Technological External Dimension

The external dimension of Europe's border control illustrates the fourth characteristic of border infrastructures—their movability—par excellence. Externally, the European Union—particularly in the form of its neighborhood

policies—has become increasingly involved in cooperation, development, security, and migration management, implying the possible movement of the external frontier as well. For instance, the Barcelona Process, set up in 1995 to coordinate relations between European countries and their North African and Middle Eastern neighbors, resulted a decade later in the Euro-Mediterranean Summit, held in Barcelona. The Barcelona Declaration merely adapted the process to new challenges, such as with regard to migration. The externalization of border control and mobility management is an important and growing part of EU foreign policy, particularly concerning its neighbors to the south and east. Externalization of border control establishes that borders can be movable entities themselves. Initiatives to support democracy and development have increasingly become part of an agenda that is engaged primarily with security and considers migration issues and border control policies accordingly. The externalization of border control also opens a new technological dimension.

Spain's policies during the 2000s, which to a certain extent foreshadowed the European Union's Global Approach to Migration, offer a telling example. After closing the transit routes via the Strait of Gibraltar and the Ceuta and Melilla enclaves in 2005, migration moved to the Canary Islands. Spain subsequently sought to strengthen control in West Africa. Spain's policies were written down in *Plan Africa*, published by the government in 2006. At the core of Spain's approach was the connection between development policies and migration governance. The plan was enacted through the deployment of various technological operations. First, Spain intensified its patrol of the waters surrounding the Canary Islands. Spanish marine and Guardia Civil (Civil Guard) vessels, assisted by planes, surveilled the waters to detect migrants' boats. Thereafter, in 2006, Spain established new treaties with the government of Mauritania. Together with Spanish police and Guardia Civil officers, they brought along surveillance equipment, including a helicopter with a night observation device, a surveillance plane that was handed over to Mauritian forces, and joint patrols of Spanish and Mauritian security forces in the harbors and coastal areas. Mauritian forces, including coast guard, were trained by Frontex standards and equipped with vessels, zodiacs (fast rubber boats), quads (small four-wheel vehicles), and surveillance technologies.⁶⁹

This remote control consists of moving border controls farther and farther south, east, and southeast, away from the boundaries between neighboring European countries. Since the Tampere Council in 1999 placed the

spotlight on the external dimension of the European Union's migration and asylum policies, strategies have emphasized mobility partnerships, partnership with countries of origin, and stronger external action. Since 2005, many of these external aspects have been managed by the European Union's Global Approach to Migration and Mobility (GAMM), while the European Agenda on Migration, formulated in 2015, has been particularly important in addressing the rise of migration since 2014. The agenda is based on four pillars: (1) reducing the incentives for irregular migration, (2) border management, (3) a common asylum policy, and (4) a new policy on legal migration. The agenda in this sense aims to arrive at a compromise, a combination of migration and security policies and humanitarian initiatives. At the international summit in Valletta in November 2015, European and African leaders agreed to intensify remote control. Measures included new legislative and institutional frameworks to ensure the control of land, sea, and air borders and the provision of equipment, anti-trafficking training, and intelligence services.⁷⁰

The European Union carries out its border work far beyond the external borders of the current union.⁷¹ The New Deal for Africa, as the European Union's Partnership Framework has been called, aims to invest tens of billions of euros over the coming years into a range of financial instruments and funds, most notably the EU Trust Fund for Africa, designed to create jobs and strengthen the communities, policies, and border controls in Jordan, Lebanon, Niger, Tunisia, and elsewhere. The initiatives range from coordination among regional land and sea border control authorities, such as the Seahorse network across West Africa, to investment and development programs aimed at limiting migration and combating international crime and terrorism.

The focus on managing migration and externalizing border control in the European Union's common foreign policy has led to its creeping securitization, which has only been exacerbated by the EU response to the migrant crisis. On November 7, 2015, on the eve of the migration summit in Malta, the Dutch minister for foreign affairs stated that "the migration agenda demands serious cooperation with Africa. Border controls, terrorism, smugglers' networks: there is scope for compromise on all these issues." In his view, the upcoming summit offered the prospect of a "New Deal" between Africa and the European Union.⁷²

The deals reached by the European Union with countries to the south and east of the Mediterranean combine migration management with issues

of diplomacy, trade, development, and security. The EU-Turkey Statement holds that from the day of the agreement, all new “irregular migrants” crossing from Turkey to the Greek islands will be returned to Turkey. This should be done after an assessment of each individual’s asylum claims, in line with EU and international law. For every Syrian returned to Turkey, another Syrian would be resettled directly from Turkey to the European Union.

The EU-Turkey Statement has been roundly criticized. Unclear whether it can actually be considered a treaty, its legitimacy remains in doubt. The current situation in Turkey makes it questionable whether the principle of nonrefoulement in international law can be respected. The effectiveness of this statement has been questioned as well, with numerous scholars pointing out that arrivals were already declining, partly due to Hungary’s closing of the Balkan Route. The execution of the agreement also has left much to be desired: returns to Turkey are processed slowly, as are requests for asylum. Many migrants thus remain trapped on the islands in centers and camps. Numerous critics also argue that the statement has made the European Union vulnerable to political blackmail and has strengthened relationships with a country on an illiberal slide. The statement disregards the procedure laid down in the EU treaties. For that reason, it prevented the European Parliament and the European Court of Justice to take their constitutional roles. At the individual level, the statement was hard to challenge by those whom it affected.⁷³ Moreover, it blocked their access to the legal system.⁷⁴

So-called deals like the EU-Turkey Statement do not consist of only international treaties, political agreements, policy mechanisms, and funding. As the previous examples show, border externalization contains a technological dimension as well. This dimension becomes particularly clear in the EU policies with regard to North Africa and sub-Saharan Africa. The volume of the technological container of border externalization has increased in particular by the intermingling of two agendas: the EU migration management and security agenda on the one hand, and making a compromise between border control and protecting lives on the other. This intermingling was addressed in particular in the 2015 European Agenda on Migration and the twin document, the 2015 European Agenda on Security. According to the European Union, the two agendas ought to be read together. Many of the tools, instruments, and devices that are developed for the purpose of migration policies, such as biometric information on identity and travel documents and risk assessments

coincide with the EU security strategy.⁷⁵ These technopolitical tools are powerful performative devices facilitating the securitization of migration.⁷⁶

The complications among Italy, Libya, and the European Union and its other member-states reveal various examples of the technological external dimension and the inseparable connection of this dimension with borders and human lives. First, to prevent uncontrolled migration and save lives in the Mediterranean, Italy and the European Union provided Libyan coast guards and migration control officers with training and instructions. Second, the technological dimension consists of the provision of vessels and the organization of joint patrols. Third, it contains the use of radar systems, satellites, and drones, as well as cameras and infrared sensors installed on ships, high-resolution binoculars, and night vision equipment, perhaps to be extended with software to track and identify ships.

The technological dimension consists not only of the construction of all kinds of tools, instruments and apparatuses, but also the destruction of things. Destruction can be understood in the literal meaning, such as the destruction of boats by the EU Naval Force Mediterranean that were considered to be used for the transport of migrants in the period 2015–2017. But destruction also concerns rights and values. In 2017, the Italian government aimed to restrict the activities of organizations trying to rescue migrants at sea. The Italian government has created a monopoly to conduct search-and-rescue operations—or to refrain from them.⁷⁷ In 2018, the Italian government prevented the docking of ships at ports that transported rescued migrants.⁷⁸ In addition, the Italian Maritime Rescue Coordination Centre warned the Libyan coast guard in order to allow them to rescue people and return them to Libya.⁷⁹ This situation created pullbacks (i.e., “remote control pushbacks”).⁸⁰ In 2019, the Italian government passed a security decree that criminalizes search and rescue and humanitarian aid, allowing it to fine NGOs and migrant rescuers.

Although the previous examples mainly refer to the Italian government, humanitarian aid to migrants is under pressure throughout Europe. The report of the United Kingdom's Institute for Race Relations (IRR), *Humanitarianism: The Unacceptable Face of Solidarity*, offers many examples of legal and political suppression of support for migrants.⁸¹ The suppression ranges from the banning of volunteers distributing food to preferring legal charges against people offering shelter to migrants.⁸² All these examples show that there is a specific material aspect involved in the European policies of

security and border externalization that lead to various forms of construction, destruction, criminalization, and containment.

Europe's involvement is not restricted to the countries and coast of North Africa; they reach even deeper, into the African continent. The combination of migration, development, and stabilization policies affects sub-Saharan countries, as well as countries in the Middle East. The New Migration Partnership Framework of the European Commission, passed on June 7, 2016, proposed Ethiopia, Jordan, Lebanon, Mali, Niger, Nigeria, and Senegal as its priority partners, but the collaboration also concerns other African countries such as Libya and Sudan. In practice, the European Union's involvement leads to cooperation not only with governments and elected representatives, but also with various political and military groups and local militias and clans or state security organizations that are not known for their protection of human rights.

The European Union collaborates closely with the International Organization for Migration (IOM). In 2009, the IOM developed the Migration Information and Data Analysis System (MIDAS), "a high-quality, affordable system that can collect, process and record information for the purpose of identification of travelers, data collection and analysis."⁸³ MIDAS is installed in over 100 land, air, and sea border-crossing points in twenty nation-states in Africa and the Americas. IOM also encourages the use of biometrics in migration management. Between 2012 and 2016, IOM offices in eighty countries had implemented 125 projects with significant biometric components.⁸⁴ These technologies do not affect just migrants who are on their way to Europe. By far, most of the migration movements are located within and between African countries themselves. As a result, these technologies also affect people conducting seasonal labor and communities that are not bound to state borders. International interactions and transactions set the agenda and intensify the use of technology. However, not all technological border infrastructures developed in Africa are supported by European Union or the IOM. Another driver of the emergence of border infrastructures consists of the circulation of knowledge about border control technologies by transnational security professionals (e.g., with regard to biometric security practices in Senegal).⁸⁵

The externalization of border control not only displaces the border, it also creates novel interactions between the inside and the outside of Europe. By moving the border outward, border infrastructures increasingly become

mechanisms that not only organize circulation, but support security and stability as well. As a result, the border multiplies: it involves an increasing number of actors to develop it, as well as an increasing number of people to which it is to be applied. The external technological dimension adds another layer of complexity to the inside-outside relationship. On the one hand, it enlarges what is considered the inside of Europe as border infrastructures extend. On the other hand, the inside-outside division only becomes harder to maintain as the multiplicity of border practices shapes ever-more-entangled relationships. In that sense, the externalization of border control via technologies intensifies the emergence of mediating moments—and, when we consider the role of patrol boats, helicopters, radars, checkpoints, harbors, and biometrics, we may add material moments, as they were described earlier in this chapter. These moments multiply the construction of compromises, such as between development and stabilization, and security and humanitarian concerns.

Technological Borders: A Laboratory of Europe

At first glance, the development of Europe's borders reveals the logics underlying European cooperation and integration—namely ongoing integration leading to spillover effects that are addressed by creating supranational institutions. This looks like the teleological logic of the European Union in *optima forma*. Indeed, the Schengen Agreement of 1985 and the 1990 Convention implementing the Schengen Agreement were the result of increasing cooperation in the form of the internal market and freedom of movement, which prompted the EU member-states to harmonize their border policies. But a closer look shows things to be more nuanced, and in many cases, it displays the outcome of subtle negotiations within changing historical and technological contexts, rather than the result of a well-planned integration process.⁸⁶

The previous sections discussed the characteristics of borders as infrastructures as introduced in the opening of this chapter. First, borders connect large-scale networks with local situations and manifestations of borders. Second, borders select among migrants in particular ways—not just by including some and excluding others, but by organizing forms of circulation. Third, borders display a particular interplay between visibility and invisibility. Fourth, borders can be movable entities themselves. All together, these

features represent the development of Europe's borders as an infrastructural laboratory. The term "laboratory" is referred to here in two ways. In a historiographical meaning, the notion of the laboratory was used by Schengen officials and EU officials as a metaphor to emphasize the experimental and innovative nature of the initiative outside the formal institutions.⁸⁷ Besides this metaphorical meaning, laboratories can be understood in a conceptual sense, as is frequently done in political science and technology studies. In this conceptual meaning, a comparison is drawn between the laboratory and the state—or, in the case of the European Union, a union of states. Not unlike laboratories, states consist of various actors capable of mobilizing each other and forming associations to execute specific tasks.⁸⁸ States or a union of states concerned with its internal and external borders, must experiment and test their own programs of action. In that sense, like a laboratory, the European Union is a setting where issues and experiments circulate from the micro to the macro level and back.⁸⁹ As such, the analogy envisages the EU actors and agencies as mediators that can enroll a network of instruments.⁹⁰

Meanwhile, the notion of the laboratory is not an innocent metaphor. The metaphor is a very demanding one, in that in the context of borders, technologies, and politics, it implies that experiments are conducted on humans—their lives and rights. The reason that the laboratory metaphor can still be considered appropriate is that, besides the fact that it has been used regularly by EU officials to typify the role of "Schengen," the notion of a laboratory is much more specific than the metaphorical meaning of a test lab. A laboratory is not just a test lab, but an entity that denotes a specific way of organizing innovation and entails a specific constructivist view to describe this innovation process. In the case of the European Union and Schengen, the innovation consisted of the novel relationship between internal and external borders and the coordination and organization that was required to control them simultaneously. The Schengen Agreement and the Schengen Convention were adopted outside the framework of the European Communities (later the European Union) in 1985 and 1990. The Schengen Protocol was attached to the Treaty of Amsterdam in May 1999.

In the sense of being a laboratory, Schengen was part of a competition, an infrastructural composition to use the terminology of this study. Commenting on the early stages of the initiative in a 1990 report on "the removal of controls on persons at the internal frontiers of the Community," the Commission of the European Communities defined Schengen as "an exercise"

that would function as a “testing ground” or “test bed” for what would happen in the European Union. This metaphor was also used by the former general director of the Justice and Home Affairs Directorate, when he noted that “the proponents of Schengen are not working in vain; they are demonstrating a possible and feasible way, creating a laboratory for Europe, and ultimately offering a decisive push to the European construction.”⁹¹

Europe's infrastructural practices that help constitute the border share many similarities with laboratories in a conceptual way. The collection of rules, regulations, and treaties often referred to as “Schengen” concerns much more than the creation of an open European space. Schengen created this space, but it did so by redefining internal and external borders in a very specific way. Moreover, Schengen is not only concerned with Europe's internal space.⁹² European border practices did not disappear with the Schengen Agreement. Schengen's main invention was not just the distinction between internal and external borders, but also the creation of a kind of political accordion that allows the squeezing in and drawing out of border policies. The idea behind the open European space and the intensified control of external borders was neither to close the European Union off nor to not allow anybody in any longer, but rather to create a filtering system, a sieve for selection. Instead of creating an all-seeing eye or a seamless web, the coupling of different technologies has led to a combination of systems, with many gaps between them.

Europe Inside Out, and Outside In

The division between internal and external borders has transformed the nature of borders and led to a complex relationship between what counts as inside and outside the European Union. Chapter 3 will proceed with a conceptual, morphological exploration of the relation between inside and outside, between concepts, ideologies, and ideas and between materialities and technologies of all sorts. To lay the groundwork for exploration, the following lessons can be drawn from this chapter.

The first aspect of Europe's borders is that they cannot be considered as plain boundaries between a territory's inside and outside. Just like the notion of territory, the concept of a border has various meanings and implications. It operates not only in political and geographical registers of sovereignty, authority, and jurisdiction, but also in legal, technical, and economic ones.⁹³

The inside/outside dichotomy tends to neglect the dispersed nature of borders.⁹⁴ It also does not acknowledge that communities, identities, and political bodies are not restricted to either the inside or the outside of a state.⁹⁵ Instead, borders organize the relationships between inside and outside and redefine them in particular ways. For instance, borders can have the effect of creating new divisions and enlarge inequalities between entities, such as between people of different sexes or genders. Violence, in all its forms, is part of the daily practice of many migrants and related to borders and border controls in various ways.

Second, the erosion of the inside/outside distinction implies that various forms of registration, monitoring, and surveillance are materially and technologically dispersed. Dispersed borders express themselves in a variegated architecture of control that is spread over landscapes and seascapes spatially, which affects the execution of control at harbors, airports, and checkpoints.⁹⁶ Dispersed borders are likely to spread from the sphere of states and bureaucracies to households and private lives, even affecting the bodies of persons (e.g., by fingerprinting or facial recognition technology).

A third characteristic of Europe's border infrastructures is that the continent's materiality and spatial dispersal are entwined with knowledge infrastructures and information infrastructures to gather and process data—variously used to conduct risk assessments, support decision-making, profile migrants and travelers, identify critical border crossings, or detect patterns of mobility.⁹⁷ By tracking the trajectories of mobility, such as by gathering, storing, analyzing, and interpreting data, preemptive actions and preventions, such as no-fly lists, can be prepared with regard to persons far before they have reached an actual border.

Taking the inside/outside dichotomy as a starting point restricts the analysis of Europe's border infrastructures.⁹⁸ A too-dichotomous inside/outside distinction is likely to overlook the subtle filtering and selection process that borders facilitate and the coming into being of a multiplicity of classifications and categorizations of people on the move. Moreover, a too dichotomous inside/outside distinction might consider movement as the object of borders and borders as the objects of politics while their relationship might turn out to be much less subordinate. For that reason, this chapter has aimed to overcome the inside/outside dichotomy by following the rise of Europe's border infrastructures. The challenge is to arrive at an understanding of technological politics that allows issues of border control, mobility management,

surveillance, and security to be articulated as a matter of politics.⁹⁹ If we follow this perspective, data clouds do not stand in opposition to barbed wire fences; automated border controls and facial recognition technologies at the airport have much in common with walls between countries. Attention to the morphology of politics requires an investigation of the mutual interaction between politics and technologies, between political ideas and the shape they take via borders. Political decision-making and technological border projects are intimately entangled. Border control technologies are vehicles for political thought. The resulting politics and policies can be seen as a conflictual world-making endeavor—one that constantly redefines the relationship between the inside and outside of Europe. The mosaic nature of surveillance at the airport, the patchwork nature of border surveillance technologies on land and at sea, and the appearance of movable humanitarian borders: all these phenomena are affected by the datafication of the border, while Big Data will likely further transform the relations between territory, mobility, and political subjectivity.¹⁰⁰

The characterization of borders as infrastructures engaged with movement allows the beginning of a particular form of technopolitics. The following chapters of this book elaborate on how technopolitics functions as a vehicle for thought and action, particularly political thought and action. The management of mobility and border surveillance at airports, the creation of hotspots, and the European Union's borders in North Africa are not just things or policies that EU institutions and member-state representatives have decided upon, but technopolitical innovations of a particular political kind. As vehicles of decision-making about who is and is not allowed to enter Europe, they transport a particular political program, as well as the technologies attached to it. For that reason, an inquiry into the relationship between technology and politics is required.



Hungary rail track fence—closed September 2015.

Source: Henk Wildschut.

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