EMBATTLED TERRITORY
Embattled Territory

The Circulation of Knowledge in the Spanish Netherlands
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Embattled Territory – The Circulation of Knowledge in the Spanish Netherlands
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In 1667, in a letter to Henry Oldenburg, the mathematician René-François De Sluse lamented the poor state of scientific activity in the Low Countries at the time. “To be frank with you,” he wrote,

such studies languish among us, and learned men devote their efforts to law and other branches of knowledge more highly valued by the crowd. There are some who pursue chemistry either for money or for medicine’s sake. I know no one who explores the secrets of nature merely in the interest of knowledge.¹

De Sluse’s complaint may paint a dim picture of scientific life in the Southern Netherlands in the 1700s, but his observation is not far off the mark. From the second half of the seventeenth century on, scientific life in the region was at a low ebb. The work of Jan Baptist Van Helmont, Govaart Wendelin, Gregorius a Sancto Vincentio, Andreas Tacquet, Vopiscus Fortunatus Plempius and Libertus Fromondus [Libert Froidmont] had not been carried on by a younger generation. In fact, it was not before the final dec-

¹ Hall & Hall, Correspondence of Henry Oldenburg, vol. iii, 597.
ades of the eighteenth century that a revival of scientific interest would emerge again.

In sharp contrast to the Spanish Netherlands, the Dutch Republic proved to be fertile ground for advances in the new science. After the Republic's hard won independence from Spain, the region developed into a major centre of the Scientific Revolution. The different intellectual trajectories that the Northern and the Southern Netherlands followed have led to a widespread, although mostly implicitly formulated, historiographical narrative in which developments in both regions are seen as two sides of the same coin. According to this narrative, the North enjoyed political independence and a large degree of freedom of thought, whereas the South remained under the deadening hand of a conservative Spanish government. Moreover, the massive emigration of artisans and intellectuals from the South after the fall of Antwerp in 1585 – many of whom went on to settle in the Dutch Republic – transformed the already impoverished country into an intellectual wasteland. Although the Spanish Netherlands after 1585 still produced some original scholars well-regarded internationally, the general tendency was one of steady decline, ending in an almost complete absence of scientific debate during the first half of the eighteenth century.²

The essential features of this view were initially construed in the historiography of the nineteenth century. It is not difficult to understand how the development of this perspective mirrored scientists’ own concerns about their social and professional situation. The patriotic glorification of the values of independence and the increasing efforts of the government to support and expand scientific institutions were best combined with a negative appraisal of the preceding era, dominated by foreign rulers. The liberal constitution of Belgium contrasted with the supposed obscurantism of pre-enlightenment society in which science could not and did not prosper. Biographers of Simon Stevin, Gerard Mercator and Rembert Dodoens have emphasized how these scientists had been ‘forced’ to flee the country in search of a freer society.³

In spite of these nineteenth century roots, the basic assumptions of this position have never been challenged, nor critically reviewed. This book grew out of a dissatisfaction with the current historiography of science in the Spanish Netherlands. It offers an alternative history, structured around recent work on the circulation of knowledge in the history of science, which moves towards the integration of the history of science into modern histo-

² De Bruycker & Van Netten, “Bloei, verval en migratie.”
riography. This introduction first sketches out the genesis of the current view of science, rooted in the nineteenth century as stated. After identifying some of this perspective’s basic assumptions, we introduce the alternative framework structuring this book.

**Genesis of the ‘history of science in Belgium’**

Much of our present view on the history of Belgian science arises from ideas formulated by Adolphe Quetelet (1796–1874), the astronomer-statistician who dominated Belgian scientific life for a large part of the nineteenth century. As permanent secretary to the Royal Academy for Sciences and the Arts and as a very successful author of popular books, Quetelet was the most important voice in Belgium at the time defending the interests of Belgian scientists before different audiences. At a very early point in his career, Quetelet began to use historical narratives to drive home his aspirations for the upgrading of the scientific professions. His analysis of the decline of Belgian science in the seventeenth and eighteenth centuries can be easily read as a plea for more state support and public recognition for science. The reasons for the decline were, according to Quetelet, to be found in the neglect of science by the authorities and the suffocation of intellectual pursuits by a repressive government, exactly the opposite of what he expected the young Belgian government to do. His famous graph of the movement of the Belgian mathematical intellect made it clear that the pronounced peak was caused by the benevolent government of Charles v, who stimulated a scientific movement which developed into the seventeenth century on its own momentum, before it was completely extinguished by short-sighted Spanish governors. Only with the foundation of the Academy at the end of the eighteenth century was a new opportunity created for gifted scientists to engage in scientific collaboration and to publish their work. The merits of the eighteenth-century Academy obviously paralleled the efforts of Quetelet himself to promote the Academy and the academicians as the national representatives of the nation’s scientific elite.

Quetelet implicitly adopted a model where the level at which science was being practiced was determined by social, political and economic circumstances. Perhaps to underscore the beneficial effects of good government, he did not put much emphasis on the disturbing military situation

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4 Vanpaemel, “Wetenschapsgeschiedenis in België.”
in the Spanish Netherlands, nor on the impact of the separation of the Northern and Southern Low Countries. To Quetelet these social disasters could have been overcome by good government; however Belgian scientists were not encouraged by those in power to pursue their studies. Rather, they went abroad or safely abandoned the field of intellectual enquiry. It was only through the intervention of a powerful government at the end of the eighteenth century that a new stimulus arrived to make a change for the better.

If Quetelet himself abstained from analyzing the social and ideological characteristics of science in an ‘oppressed country’, these aspects were nevertheless vehemently discussed in the 1840s by liberal and Catholic historians, primarily focusing on two scientists who left the Spanish Netherlands and moved to the newly founded Dutch Republic: Stevin and Dodoens. Some historians suggested that the spirit of free enquiry could only survive in a country that was itself free, which, they believed, the Spanish Netherlands obviously was not. Another famous debate which carried on in the public arena at that time centred on the negative influence of religious orthodoxy prevailing at the University of Leuven. In the 1870s (at the same time that the Galileo archives were finally opened to the public in the Vatican), the University’s position concerning the condemnation of Galileo was criticised by Armand Stévart but defended by Georges Monchamp.6 Notwithstanding their sharp disagreement on the value of Catholic science, both seemed to agree that the deteriorating cultural climate in the Spanish Netherlands was a result of the restrictive policies of the Spanish government which local scientists or institutions were unwilling or simply unable to counter in order to defend the freedom of research.

In 1875, Ernest Rousseau (1831–1908) comprehensively laid out these nineteenth-century discussions in a contribution to *Patria Belgica*. Contrary to Quetelet, Rousseau did not consider the Golden Age of the sixteenth century to be attributable to one particular political leader. To him, the developments occurring at this time were merely the natural outcome of Renaissance culture, as well as the voyages of discovery, the invention of printing and the creation of universities which took place in the preceding centuries. Rousseau paid more attention to the sudden end of this Golden Age, which he explained in terms of the religious wars and repression by the Spanish regime:

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6 Opsomer, “Controverse.”
At the very moment when one could hope that Belgium would become, in science as well as in art, the first nation in the world, the deplorable Spanish domination and the religious persecutions stole from our country its most famous scientists, intellectuals and philosophers.7

Scientists had responded to this deteriorating cultural climate by leaving their home countries and building careers elsewhere. For the seventeenth and eighteenth centuries, which Rousseau surveyed together under the caption *Décadence scientifique*, he explained that “oppressed Belgium, materially ruined by war, and intellectually weakened by the immense losses which it suffered in the field of thought, slowly fell down from the rank to which it had risen.”8

The history of science neatly correlates with the general historical narrative propagated by Henri Pirenne, although this historian hardly referred to the history of science. Pirenne opened the fourth volume of his monumental *Histoire de Belgique* with the arrival of the Duke of Alva and the terror inflicted on the Low Countries. According to Pirenne, the major cause for the decline of ‘civilization’ in the Spanish Netherlands was the estrangement of the Spanish government from the population in the Low Countries. The indifference of the Spanish rulers towards their subjects was met with a similar indifference from the people towards the Spanish rules and regulations. The result was an economic and social decline in the country. As a consequence, people looked for refuge in religion, which “absorbed the best intellectual forces and continued some sort of intellectual movement.”9

But when the triumphantist church slipped into a complacent lethargy, its intellectual activities lost momentum, which in turn caused a general loss of interest and creativity in the whole population.10

The general outline of the story has been neatly summarised by the Dutch historian of science Dirk Jan Struik. He wrote:

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This flowering of the Southern Netherlands came to an end with the disturbances under the Spanish occupation, and in particular after the coming of Alva in 1567 and his reign of terror [...]. Especially after the fall of Antwerp to the Spanish in 1585 thousands of South Netherlanders, many of them Calvinists, left their homeland to find in other countries an existence with less violence and more freedom of conscience. [...] We should not think, however, that this exodus, certainly damaging to the country, was a mortal blow to Belgian science. But it did change its character. Under the Spanish archdukes it assumed in part a courtly-clerical appearance, instead of being, as before, a science serving navigation, surveying and commerce.11

Two additions to the standard view can be mentioned to complete this historiographical survey. In 1941 Paul Pelseneer published a remarkable statistical analysis of the notices of scientists and other professions in the Biographie nationale.12 Pelseneer noted a sharp decline in numbers from the middle of the seventeenth century, not only of those practising science, but in most of the other intellectual professions he surveyed. He concluded, with reference to the Merton thesis, that it had been unfortunate for Belgium not to have had a strong and active Protestant community. The decline of science in the Spanish Netherlands was, according to Pelseneer, linked to the persecution and silencing of ‘unorthodox’ scientists, or their departure from the Spanish Netherlands for religious reasons. A second contribution to the standard view was made by Jan Briels in 1985, who compiled detailed and quantitative studies of the emigration from the Southern Netherlands to the Dutch Republic. His work emphasized a point already made in the nineteenth century, that the flowering of science in the North was a direct consequence of the massive immigration of the most creative and productive part of the population into the region, causing at the same time an economical and intellectual decline in the South.13

Many of the elements brought together in the aforementioned survey are still viewed as relevant in contemporary work. In the Geschiedenis van de wetenschappen in België van de Oudheid tot 1815 (1998), there is still mention of the popular exodus after 1585, as well as reference to the detrimental consequences of the Counter-Reformation and the religious persecution that occurred at the time, all contributing to the general decline in

11 Struik, Land of Stevin, 29.
12 Pelseneer, “Aspect statistique.”
13 Briels, Zuid-Nederlanders.
the seventeenth century. In *België in de zeventiende eeuw*, Jan Roegiers concludes with more subtlety that

intellectual life followed the same tendency as the economy or the arts. The factors which in due time had inhibiting effects were not only, or not primarily the brain drain towards the Northern Netherlands after 1585, and the implementation of Counterreformation control and censorship. [...] It cannot be denied that the Jansenist controversy used up much energy which might have been used more usefully. It is clear that the University of Leuven, which was brought under the control of the Archdukes, had lost much of its freedom of action. But we cannot neglect the constant threat of war and the problems associated with it, which hit on the Spanish Netherlands, especially after 1665. This climate made it increasingly difficult to give priority to intellectual pursuits over everyday worries.

**Basic assumptions**

The classical view of science in the Spanish Netherlands harbors some implicit assumptions, which need to be reconsidered in the light of contemporary historiography. Exclusive attention to scientific ‘achievements’ or ‘discoveries’ has been replaced by the study of science as a culturally constituted practice. International scholarship in the history of science has set aside recurrent concepts of scientific disciplines as well as a priori demarcations of science from non-science. This has allowed new methods to emerge in the study of practices of knowledge production, accumulation and circulation. Such questions can now also be used to renew the historiography of science in the Spanish Netherlands. This book revisits in particular two ‘hidden assumptions’ in the classical narrative on science in the Spanish Netherlands. It must also be stated that this is only a first attempt to identify possible ways of re-reading this long-standing classical view; further efforts may indeed expand this approach more extensively.

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Definitions of Science, Medicine and Technology

The earliest histories of science written in the Southern Netherlands took a much broader view of science than became the standard with later historians. ‘Science’ was considered to include all varieties of human invention and creativity, whether in art, technology or basic skilled work. A further, differentiated strain of national historiography emerged during the nineteenth century, focusing on agriculture, horticulture and gardening, which was considered ‘the Belgian science’ par excellence. It was through the influence of Quetelet that the term ‘science’ received a more restrictive definition, with much emphasis being placed on mathematics, physics and chemistry. The history of science became the history of the eminence of individual scientists and their contributions to international developments over the different disciplines. Much of the historiography since that time has continued to separate the fields of natural science, medicine, technology, arts, skills or the human sciences. More recent historiography of science in an international context has questioned the appropriateness and usefulness of making such separations between science, technology and the arts in the early modern period. Rather, the approach has been instead to speak of a continuum of forms of knowledge. Indeed, several chapters in this book ask how artisans, physicians, artists, philosophers, theologians and other groups in the Spanish Netherlands made use in different ways of shared bodies of knowledge, and what role these different groups played in changing what counted as knowledge.

The National versus the Atlantic Perspective

The massive emigration of scientists and skilled workers after 1585 has been interpreted as an economic disaster, a fatal ‘brain drain’, or a flight from religious oppression. However, in reality the emigration had a less spectacular impact with regard to science. Most importantly, this departure did not seem to hinder the mobility of scientists nor their international contacts. It was not only the émigrés but also those who decided to stay in the Spanish Netherlands that maintained broad networks, thus falsifying the view that the Spanish Netherlands turned into a provincial backwater, closed off from the rest of the world, after the fall of Antwerp. Moreover, insistence on the effect of the emigration tends to consider the Spanish Netherlands in a comparative perspective with the Dutch Republic (the

16 Davids, Rise and Decline, 203–43.
alleged destination of the majority of emigrants). This has obscured the essentially different features of the Spanish Netherlands, in particular, the effects of its belonging to the Spanish empire and its access through Spain to the Atlantic world. A second factor has equally contributed to the ‘disappearance’ of the Atlantic world in the historiography of science in the Spanish Netherlands. Most narratives have been written from a national perspective, i.e. retracing the roots of ‘Belgian’ science. This has tended to overlook the presence of foreign merchants, craftsmen and scholars in the Spanish Netherlands, who played important roles in practices of knowledge production and circulation. It has also obscured the international outlook of commercial companies or religious orders, the importance of the Spanish court or the local governors, as well as the Atlantic connection through the ‘oppressor’ Spain. Several chapters in this book will thus trade the national perspective – with a strong focus on 1585 and the Separation – for the transnational, Atlantic perspective on science and knowledge in the Spanish Netherlands.

Given the Spanish monarchical and imperial situation of the Southern Netherlands, it is illuminating to look at the revisions of the historiography of science in Spain in recent years. Exposing the Black Legend as the construct of the eighteenth-century Enlightenment in northwestern Europe, historians of science have argued for the Iberian origins of the Scientific Revolution. Jorge Cañizares-Esguerra’s claim that Francis Bacon based his New Atlantis on Spanish institutions well illustrates this historiographical shift. Why did this shift take place? One important factor is the more general movement in the history of science to begin to incorporate other disciplines and more types of knowledge. While mathematics, physics and astronomy used to be the dominant models of knowledge, more recent studies have argued for the important role played by natural history and cartography in the Scientific Revolution. Since these are types of knowledge on which the Iberian empire was very much based, it makes sense for Spain to be moved more towards the center of discussion. In Spain the control of the state of the circulation of knowledge has privileged and shaped its utilitarian, pragmatic and commercial outlook. The doctrine of arcana

18 For good summaries of the revisions of historiography of science in Spain, see especially, Navarro-Brotóns & Eamon, Beyond the Black Legend; and Goodman, “Science, Medicine and Technology.”
20 For the role of Spanish imperial science in the rise of empiricism, see Barrera-Osorio, Experiencing Nature.
imperii led to Spain’s particular culture of knowledge exchange being mostly scribal rather than based on print. It has now become clear that this made the Iberian contribution to science and knowledge invisible to previous generations of historians.\(^2^1\) The question to what extent state control inhibited the circulation of knowledge is now considered more fruitful to ask than to accept the more traditional vision of the decline of science in the seventeenth century because of the ‘racial’ reasons highlighted in the Black Legend.

Next to the shift of the scope of knowledge, another important factor in the revision of the historiography of Iberian science is the definition of Spain itself. In their introduction to *Beyond the Black Legend* William Eamon and Victor Navarro-Brotóns declare the presumed unity of the Spanish monarchy to be a myth. Instead, the Spanish monarchy existed at three levels which influenced science and the circulation of knowledge in different ways: “that of the individual peninsular kingdoms, the combination of kingdoms of Hispanic tradition, and the imperial conglomerate built up under the Spanish Crown.”\(^2\)\(^2\) This third level of a more geographical scope has been crucial. The Atlantic sensibility characterising the history of science in Spain has been given a leading role in recent studies of science and empire.\(^2\)\(^3\) From the perspective of the history of Iberian science, the revision of the historiography of science in the Spanish Netherlands which this book undertakes can also be understood as an undoing of the effects of the Black Legend.

**Circulation of knowledge in the Spanish Netherlands**

This book renews the historiography of science in the Spanish Netherlands by approaching it from the perspective of the circulation of knowledge. Following the work of Liliane Hilaire-Pérez, Kapil Raj and Jim Secord (among others), this approach has in recent years become widely adopted in the history of science and technology and allowed historians to raise new questions.\(^2\)\(^4\) The focus is on processes of appropriation, translation and transformation of knowledge when it moves from one social, institutional or geographical context to another. The emphasis on the circulation of knowl-

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\(^{21}\) As argued at length in Portuondo, *Secret Science*.


\(^{23}\) See for example, Delbourgo & Dew, *Science and Empire in the Atlantic World*.

edge also scrutinizes the material carriers and the mediation of knowledge (books, instruments, people and so on). Finally, a third shift is that the circulation of knowledge deconstructs any simple dichotomies between center and periphery. These three elements are clearly present (to different degrees) in the chapters of this book. The book does not have the ambition to replace existing textbooks on the history of science in the Southern Netherlands. Some topics, which would have been a perfect fit for the book but have already been treated extensively elsewhere (for example, the University of Leuven founded in 1425 or the Jesuit missions in which the Belgian province played a prominent role), are not included here in this volume. Instead, this book highlights those types of knowledge, contexts and other aspects typically excluded from the existing accounts of the history of science in the Southern Netherlands. Approaching the history of science from the perspective of the circulation of knowledge, our ambition here is to indicate new paths of research furthering the integration of the history of science in wider, general history. To accomplish this aim the book raises three sets of questions, reflected in the three sections into which the book is divided. Sections one and two offer a new geography of knowledge within the Spanish Netherlands and its global contexts, focusing respectively on urban knowledge in the Spanish Netherlands and on Iberian connections. Section three on the politics of knowledge in the Spanish Netherlands discusses the transformation of knowledge connecting the Spanish Netherlands to the recent historiography of early modern science in an international perspective.

1. Urban knowledge in the Spanish Netherlands

The Spanish Netherlands hosted one of the most dense urban networks in Europe. The question of the role of cities in the production and transmission of knowledge and skills in the Spanish Netherlands deserves our full attention in the history of science – with the Southern Netherlands being particularly relevant given the high level of urbanization in the region. How did cities foster knowledge production and innovation? How did urban institutions regulate the circulation of knowledge? These are some of the central questions which the chapters in the first section of the book address. Raoul De Kerf and Bert De Munck ask how cities managed to attract and stimulate innovation and [of equal import] hamper innovation in the countryside. The authors emphasize the role of urban guilds in this process. Following recent studies they argue that the guilds did not hinder innovation, but were rather in fact a stimulating force for new ideas. For example, in a
highly competitive environment the guilds and urban governments succeeded in attracting foreign experts thereby fostering the circulation of skills and innovative ideas in the manufacture of products. As to the role of guilds in learning, De Kerf and De Munck are careful to point out that while guild regulations of apprenticeships might have stimulated the transmission of technical knowledge, they largely served other purposes as well, promoting sociability and product quality control and did not have the aim of creating a more efficient system of training. The second chapter focuses on learning on the shop floor, the typical site where a craft would be learned in the absence of more formalised education. Annelies De Bie and Bert De Munck assess the evolution of the way trades were learned between the fifteenth and eighteenth centuries. While in the fifteenth century, masters functioned as substitute fathers for apprentices, learning became separated from processes of socialization and education, more business-like and market-oriented, and more institutionalized in guilds.

Pieter Martens’ and Dirk Van de Vijver’s chapter on the circulation of military engineers and their expertise offers an interesting comparison with the way trades were learned on the shop floor. In a similar way to De Bie’s and De Munck’s analysis of crafts, Martens and Van de Vijver show that knowledge of military engineering was acquired and transmitted on the battlefield. As one of the most densely urbanized regions in Europe and an almost permanent war zone, the embattled territory of the Southern Netherlands became a site of innovation and experimentation in military fortification and technology. Attracting foreign engineers and experts, conflict fostered the circulation of engineering knowledge. Drawings were an essential carrier for the transmission of engineering knowledge, and Martens and Van de Vijver emphasize the role of printing in the circulation of such knowledge. Vincent Van Roy in the final chapter of this section similarly emphasizes the import of printing for medical knowledge, thereby underscoring the role of cities, home to print shops and publishing houses, in the circulation of knowledge in the Spanish Netherlands. Following in the footsteps of the first two chapters on guilds, Van Roy underlines the importance of urban institutions for the regulation of the circulation of medical knowledge.

2. Iberian Connections

Through the Spanish Empire the Southern Netherlands was entangled with the rest of the globe, and the Atlantic world in particular. How did these Iberian connections shape the circulation of knowledge in the Spanish
Netherlands? In what ways was the travel of objects, people and books between the Southern Netherlands and Spain significant for knowledge practices? These are some of the questions central to the chapters in section two. Moving from the city to another important site of knowledge, Geert Vanpaemel investigates how the court shaped intellectual life in the Spanish Netherlands. Vanpaemel discerns the court as distant, and argues that it left little mark on intellectual life in the Spanish Netherlands. At the same time however, the court had a strong albeit indirect impact on science and scientific activity, since through its power and imagined embodiment of civic values, it guided the University of Leuven and the religious orders. Nevertheless, against received opinion, intellectual life did not become primarily oriented towards the court after 1585. Useful knowledge was as privileged at court as much as it was elsewhere in other sites in the Spanish Netherlands.

While the role of the court in intellectual life was thus ambivalent, the Southern Netherlands became in any case the main northern European hub for the accumulation of knowledge coming from and concerning the Iberian Peninsula and its overseas territories, according to Werner Thomas and Johan Verberckmoes. Such knowledge travelled through political and diplomatic networks not affected by the events of 1585. Of equal import to the position of the Southern Netherlands as part of a continuation of global networks connected via the Spanish empire, was the establishment of a printing industry specialised in the publication of knowledge gathered in Spanish territory. While Thomas and Verberckmoes primarily discuss ethnographical knowledge, Florike Egmond and Sven Dupré shift the focus to natural knowledge (especially knowledge of exotic naturalia such as living animals). These authors too come to the same conclusion that the diplomatic networks involved in the exchange of American and exotic naturalia, which from the very beginning of the sixteenth century had made the Netherlands a vital hub for collectors of such specimens and artefacts, continued to function after 1585. Exotic animals, whether at public events or in printed material, were a very visible part of life in the Spanish Netherlands.

In his chapter Piet Lombaerde returns to military engineering, a topic also discussed by Martens and Van de Vijver. However, while Martens and Van de Vijver discuss the attraction that the embattled territory of the Southern Netherlands held for foreign engineers, Lombaerde delineates the movement of military engineers trained in the Spanish Netherlands to other parts of the Spanish empire, especially Latin America. Together, the chapters show how important the global networks of the Spanish empire were for the circulation not only of collectibles but of experts too, and how such
circulation (partly in contrast to the lesser influence of the distant court) significantly shaped intellectual life in the Spanish Netherlands. All chapters agree that the events of 1585 did not mark a significant moment of change.

3. The Politics of Knowledge in the Spanish Netherlands

The third section of this book is concerned with the following questions: in what ways did sites shape the production and circulation of knowledge in the Spanish Netherlands? How was knowledge mediated and packaged to reach audiences? Did the definition and nature of knowledge change in the Spanish Netherlands and how was this related to processes of political and religious transformation? How did the transformation of knowledge in the Southern Netherlands compare to the process of intellectual renewal in the sixteenth and seventeenth centuries, a point in history commonly known as the ‘Scientific Revolution’? One of the most significant intellectual transformations of the sixteenth and seventeenth centuries was the shifting status of artisanal and visual knowledge. All chapters of this section discuss the early modern arts and show how in the specific context of the Spanish Netherlands the arts acquired a new epistemic status. Characterized by the intersecting worlds of guilds, chambers of rhetoric and print, as well as those of humanism and vernacular cultures of knowledge, the Southern Netherlands was a site of premier importance in the elevation of the status of the arts. Bert De Munck and Arjan Van Dixhoorn show that the artisanal body, bodily knowledge as well as bodily matter were celebrated in the sixteenth and seventeenth centuries. However, in the eighteenth century the brotherhood of artisans as a political group disappeared together with the culture of the chambers of rhetoric. By the end of the eighteenth century artisanal skills were equated with tools and instruments, and bodily knowledge as well as knowledge gained through the senses was again distrusted.

The Spanish Netherlands, especially the circles around the Plantin Press in Antwerp and the Brussels court, was also a centre of emblematics. Ralph Dekoninck and Agnès Guiderdoni investigate through the example of the Jesuit Jan Ciermans how this mode of visuality and hermeneutic inquiry was used to publicize mathematics. The next chapter is also about visual knowledge. In particular, Maarten Delbeke and Krista De Jonge scrutinize the circulation of architectural knowledge via drawings, as already discussed by Martens and Van de Vijver. Delbeke and De Jonge argue that 1585 disrupted some of the trading networks that brought building materials to the