The World

Pathways in Thought and Geography

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Students on the roof of the Academic Union, with a view of Öresund, Denmark, the Continent, and the world. Lithograph probably by Magnus Peter Körner, 1851.

David Dunér

The World.

PATHWAYS IN THOUGHT AND GEOGRAPHY

If you stand under the treetops of Lundagård and then walk northwards along Kyrkogatan and Bredgatan, past the monument, this will take you to Kävlinge, the forests of Göinge, and Lapland. If instead you head south along Stora Södergatan you get to the river Höje Å, which flows into the bay at Lomma and continues through Öresund, Kattegatt, and into the seven seas. If you cross the bridge at Sankt Lars you emerge on the billowing plains of Skåne leading to Staffanstorp, Trelleborg – and Berlin, Paris, Rome, the cultural metropolises of Europe. If you follow the Dalby road eastwards you come to Sjöbo and Tomelilla. If you choose the opposite direction and walk along Klostergatan towards the central station you can board the Öresund Train towards Copenhagen and after 32 minutes alight at Copenhagen Airport, Kastrup, from where you can leave the surface of the earth and fly to New York, Rio de Janeiro, Tokyo, Sydney, Cape Town – the world. Lund, from the heights of Sankt Hans Backar down to Sankt Lars Park, from northern Smörlyckan to the Höje Å, slopes southwards, facing the south and west, like a south-facing hotbed where ideas can be grown.

The crest of the main university building is adorned by globes. Lund occupies a specific place on the globe; to be exact, Lundagård is at 55 degrees and 42 minutes north, 13 degrees and 11 minutes east. It is just over sixty kilometres to the nearest capital, Copenhagen. It is closer to Berlin (490 kilometres) than to the Swedish capital (600 kilometres), in other words, Lund is far from the centre of power in the north, but close to the civilized countries of the south. Lund University is the only university in Sweden where one can literally see into another country from the roof of its buildings. This geographical location, the changes in borders, the travel and communications are essential for understanding the university's development and transformation. Geography is where history takes place. The place where you are and the place where you are headed is significant for thinking, knowledge, and science. It is not just that travels and contacts with the outside world, beyond the real and imagined walls of Lundagård, give us new knowledge about our globe, its nature and cultures, allowing us to meet other people who enable us to share their outlook on the world, their thoughts about the world. Travels and contacts also change us, our own thinking, our own position in the world. Thinking, scholarship, and education do not take place in the immaterial spheres, but in a place, partaking of the world around them, of the things, distances, and people in the surroundings and in other places, near or far away. We think with objects which have floated from other parts of the world; we think thoughts which have been thought in other places and which we have encountered through texts, conversations, and travels.

The focus here is on Lund in the world, Lund University's international contacts in the last 350 years, how the university's contacts with the surrounding

world have changed over the years, and the factors that lie behind this change. The changes may be viewed as a question of quantity, statistics on destinations, travel grants, and foreign correspondence, but it is also a matter of qualitative change, what the journeys and the contacts with other people do to us as researchers, teachers, and students. The following is an attempt to describe what the world looks like from Lund, how Lund University's field of vision has changed during the 350 years it has looked at the world. It is not so much a complete survey of international contacts through the ages, but more an attempt to explain the changes. The aim is to look at this internationalization in terms of the interaction between things and thought, and the changes in communication technology and geopolitical realities. To capture how Lund has changed over the years one must look at its geographical location and the available paths of communication, how the immediate environment interacted with the surrounding world.

An island in the archipelago of knowlege

Two factors have determined the Lund environment and its distinctive atmosphere ever since the seventeenth century, as the literary scholar Carl Fehrman wrote in his history of Lund University: the provincial and the continental.[81] Through its location in physical and cultural geography, as if thrown out on the plains of Skåne, the university is linked to the province, the dialect, the soil, and the climate. By being close to the European world of learning, Lund is also continental, a part of European culture, education, and scholarly exchange. The Lundensian atmosphere appears like a mixture of the provincial and the cosmopolitan, the soil of Skåne blended with flotsam and jetsam from foreign shores of learning, from near and far. On the one hand Lund is, as Tegnér put it, "an academic peasant village", away from the big world, a place where teachers and students plodded on in old footsteps between their rooms and the lecture theatres, on the other hand an oasis of cosmopolitan civilization close to the centre of the world. The motto "prepared for both" can be reinterpreted as being prepared for both the provincial and the international.

Lund's geographical location and cultural proximity allows good opportunities for contacts with European centres of learning, which in turn has given access to foreign books and journals, visits and travels. Being near the Continent, close to education and illumination, is recurrently cited as a specific aspect of the Lund environment. During his time as Bishop of Växjö, Esaias Tegnér looked back on his time in Lund: "In you I once lived closer to Europe, / closer to the sun".[82] Being at such a short distance from Copenhagen was an invaluable asset to the

botanist Carl Adolph Agardh. On the subject of communications he wrote in *Lunds Weckoblad* in 1830:

> The academy in Lund has one of the most splendid locations in Sweden. Only a few hours are needed to transport oneself from there, at a trifling cost, to a capital in another country which has the biggest libraries, institutions, and collections in the North, and simultaneously to a collection of *littérateurs* who distinguish themselves as much through genuine learning as through genuine humanity.

Or as it was simply expressed by the Danish historian of religions, Edvard Lehmann, who became professor in Lund in 1913: "Lund is the threshold to Europe."[83] And the door is Copenhagen. During a discussion on the inexhaustible topic of "Lund vs. Uppsala", as recounted by the ambassador Gunnar Jarring, the argument was put forward that Lund has an advantage through its proximity to the Continent.[84] Perhaps Lund has found it easier to maintain cosmopolitan contacts than universities further north.

Lund University's history stands on unfree ground, as Tegnér wrote in a poem in 1836: "In truth all culture stands on unfree ground, / barbarity alone was once endemic."[85] The research and teaching pursued in Lund has interacted with events outside the walls. Lund University's international contacts are by no means a new phenomenon. The university has always been international, from that very first day in 1668 when the first teachers and students settled in the cathedral city that was just a small, dilapidated rural town. In its quest for learning and wisdom the university is international, cosmopolitan, and universal; knowledge respects no boundaries, transcending cultures and nations, striving for the universal truth that is valid everywhere and always. At least that is how it is supposed to be. Academics are members of the scholarly republic where scientific internationalism is cherished. The university is thus imbued with a belief in universal values, the quest for knowledge of general human validity, an idealistic international ethos, sometimes expressed as a spiritual culture aspiring to peaceful development and consensus among peoples, rendering humanity more edified.[86] This internationalism also has a practice, agreeing on an international conceptual apparatus and standardized measurements. At the same time, the university also has its national motives: to bring esteem to the nation, to contribute to the development of the country and to confer specific economic benefit, as the nation's industrial, economic growth and international competitiveness is believed to be dependent on scientific research and education. The university is also considered to be significant for regional

development. The internationalization, nationalization, and regionalization of the university is thus also an issue of the independence of science and its utility for society. Academic freedom has perhaps for a long time been chiefly a matter of being able to move freely between different universities and seats of learning. Recently, freedom has also been associated with freedom of thought, independence from economic and political power.

Despite the awareness of how research and education are dependent on the surrounding world, university history has almost always been written in a national context, as a public authority in relation to the development of the monarchy and the nation state, not essentially different from any other servants of the state such as the government authorities responsible for traffic, telecommunications, and energy. Professors and students are portrayed as loyal civil servants present and future. As the university historian Pieter Dhondt writes, the genre of university history has traditionally had a national focus, as part of a country's social or political history.[87] In other words, the emphasis has often been on organization, with an account of consistory minutes, vice-chancellors' decisions, government inquiries, allocation of funding, and so on. And this is how the history of Lund University has been written. Despite its merits, the four-volume *Lunds universitets historia* (1968–1982), a work initiated to mark the tercentenary, is not a history of the free movement of learning, thoughts, and ideas, nor of people's dialogues and travels. Hardly anything is said about the vortex of international motion in which Lund University actually found itself. Instead the university is read almost entirely in a national context. It is a history of a state authority that was placed in Lund by royal decree. Sometimes we glimpse the outside world in passing, but mostly as something irrelevant to the central narrative. For example, in the last volume about the period 1868–1968, the author Jörgen Weibull says nothing about how the world was on fire. The fact that two world wars were fought outside the university walls is implicitly irrelevant for an understanding of what happened within university buildings. In the historian Sverker Oredsson's book about Lund University during the Second World War, however, Lund's shades of brown are painted with clearer contrasts. Despite its more modest format, Carl Fehrman's *Lärdomens Lund* (1984), which appeared in an enlarged third edition in 2004, and in a third English translation in 2005, with contributions by Håkan Westling and Göran Blomqvist, has more to say about international contacts. We see occasional glimpses of international currents of thought, periods of study abroad, and correspondence with foreign scholars. The only detailed studies of Lund University's contacts with the outside world – in the form of the university's travel grants 1850–1950 and of telephone calls and travel bookings in the 1980s –

were carried out in the 1990s as part of the research programme "Universities in International Networks", led by Kerstin Cederlund at the Department of Social and Economic Geography.

Internationalization, we may begin by pointing out, is based on the idea of the nation, so that internationalization means relations between nation states or the movement of certain things between them. Here, more specifically, it means transnational, boundary-crossing contacts in research and education, that is to say, beyond the country that Lund happens to belong to since 1658. Actually it is not a matter of contacts between states, but between universities, researchers, teachers, and students. This movement consists mainly of three phenomena: the movement of people (study trips, research trips, incoming and outgoing researchers, teachers, students, etc.); the movement of objects (scientific instruments, natural-history collections, archaeological and ethnographic artefacts, etc.); and the movement of thoughts, ideas, knowledge (through conversation, correspondence, things, books, texts, etc.). Ultimately, internationalization is about people, about the movements of the body through the topography and about meetings person to person, eye to eye. People did not just go to a place, but to the people who were there, to their ideas and thoughts. As collective knowledge about the world, the scientific project requires communication and shared handling of information. The world of science, in other words, can be viewed as a communication system, with the university like an island linked to other islands, other centres of knowledge, a system with worldwide connections between local, regional, national, and global networks. Certain islands are close to each other, others distant. Without being physically near, they can still be closely linked through frequent communications, journeys, and transports that convey the flow of knowledge and ideas. It is the travels and conversations of researchers, teachers, and students that connect the islands in the academic archipelago.

A fundamental question about the university's internationalization has to do with how *the pattern of travel* among teachers and students has changed. Where did people go and how did they travel? Why did they go to certain parts of the world and not others? Yet another question concerns how international *communication* has changed. Who were people in contact with, who did they speak to or write letters to? What significance has the *organization* of the university, specifically the organization of formal international contacts vis-à-vis informal personal contacts, had for changes in the international engagement? And finally, how has *thinking* about internationalization changed, as regards both official policy and the individual students' and researchers' notions and experiences? Why care about what lies beyond Lund? Why do we travel?

The geopolitics of the university

Lund University has never been as international as on 28 January 1668. Eight of the first fifteen professors were summoned from foreign universities. The majority of the students had something other than Swedish as their mother tongue, most of them born as East Danes, who had recently become subjects of the Swedish crown, strangers from another multicultural empire. All teaching and all literature was in Latin. It was international authorities that were read and admired: Greeks, Romans, evangelists, and German Protestants, Aristotle, Cicero, and Luther. Now, 350 years later, in the jubilee year of 2016, the majority of teachers and students were born and bred in Sweden, and only a small proportion of them have lived abroad or studied abroad for any length of time. Teaching and much of the required reading is in Swedish, and the university's work is governed by Swedish laws and ordinances.

Since the Middle Ages Lund had been a part of learned European culture, with the Christian message and the classical heritage at the centre. Through monastic schools, Franciscans and Dominicans – such as the widely travelled bishop Andreas Sunesen, a scholar who had studied in Paris, Bologna, and Oxford – and other learned churchmen, ideas were brought from seats of learning on the Continent to the church town of Lund, thoughts about universal and eternal truths. German and North Italian craftsmen working on the construction of the cathedral brought continental ideals of beauty and technical skills. Studies in Latin grammar put scholars in contact with a whole continent and centuries of knowledge and culture. After the Reformation and the ecclesiastical conflicts, Swedish and Danish students went to Lutheran universities. Paris, which had been important for Nordic students in the Middle Ages, was abandoned. The Thirty Years War led Swedish students to move away from war-torn Germany towards other universities, especially in the Netherlands. The travels of academics thus reflect changes in Europe's political and economic geography. But these spatial movements also changed their perceptions of the world, which in turn could lead to political and economic change. In other words, there is an interaction between thinking and movement in space.

Geopolitical changes altered the direction in which ideas and knowledge flowed. If the geopolitical situation changes, so too will thinking and academic life. With the Peace of Roskilde on 26 February 1658, when Denmark was forced to cede Skåne, Blekinge, Halland, and Bohuslän to Sweden, the school and church town of Lund was placed in a different scholarly geography. Sweden had achieved its greatest geographical extent, from the mountains and spruce forests of

the north and the Livonian granaries in the east to the chalk cliffs of Pomerania in the south. This was a multicultural society, with Scanians and Smålanders, Sami, Finns, Estonians, and Germans. Located in a newly conquered province, Lund University became an element in the Swedification process that commenced in the three newly gained southern provinces. In the empire that Sweden commanded as a great power, previously founded universities in Tartu (Dorpat) and Turku (Åbo), and the University of Greifswald had been improved in order to train officials in the provinces. By establishing new universities closer at hand, it was thought, young men could more easily acquire an education without needing to undertake long and costly journeys to the old university in Uppsala or foreign universities on the Continent. There was also an element of propaganda in the national self-assertion, displaying the Swedish great power as a cultural nation of international measure.

The Bishop of Lund, Peder Winstrup, who had studied at Sorø Academy and in Copenhagen, and also in Wittenberg, Leipzig, and Jena, advocated an academy in Lund to train clergy and teachers, citing geographical arguments. Uppsala and Turku were simply too far away for talented youths in the new southern provinces. He argued that Lund's favourable position "so near the seaboard" would attract many students to come here from Pomerania and Mecklenburg in the south, from Halland, Skåne, and Blekinge in the north, and also from Bornholm.[88] Before a prohibition had been imposed in 1661, quite a few young men from Skåne and Blekinge had gone to the former capital, Copenhagen, to study. When that path was no longer open, the flow of students turned towards Greifswald. Only a few chose to matriculate in Uppsala, and that was chiefly because free board and scholarships had been provided in 1664 to Scanian students who chose the university in the north. The distance to Uppsala recurs as an argument for placing a new university in Lund, invoked by the governor general in Malmö, Gustav Otto Stenbock, and the first deputy university chancellor Bernhard Oelreich from Holstein.

The plans of the chancellor of the realm, Magnus Gabriel De la Gardie, and of deputy university chancellor Oelreich had an express ambition to create a university with an international orientation. Of the fifteen professors appointed for the start of the term in 1668, six were German and two were Danes, recruited from places like Copenhagen, Heidelberg, Amsterdam, Paris, and Rome. The big international name, already famous over Europe, who would occupy the chair of natural and international law, was the Heidelberg professor Samuel Pufendorf, who was born in Saxony and had studied in Leipzig and Jena; he had also worked in Leiden. Also from Germany came the professor of Roman law, Nils Beckman,

The new university in Lund had a strong international character. A large share of the teaching staff had been summoned from foreign universities, such as the jurist Samuel Pufendorf from Saxony, the medical scholar Erasmus Sack from Hessen, and the theologian Christian Papke from Pomerania.

born in Heide, Dithmarschen, with a doctorate in law from the University of Orléans, the theologian Josua Schwartz from Pomerania who had studied in Wittenberg, the professor of Greek Joachim Buscovius, born in Ruppin, Brandenburg, who had studied in Rostock, and an additional two Germans, the medical scholars Christopher Rostius and Erasmus Sack (ennobled as Sackensköld). Born in Dachwig in Thüringen, Rostius would study in Rostock, Erfurt, and Helmstedt, spend some time at Sorø Academy in Denmark, work as town physician in Helsingør, and gain his doctoral degree in Leiden, before he was attached to the new academy in Lund as professor of practical medicine and the university's first librarian.[89] Sack was born in Giessen, Hessen, and had taken his medical training at the universities of Königsberg, Marburg, and Leiden. The two Danes were the Latinist Christian Cassius, who was born in the County of Tønder and had studied in Helmstedt, and the medical scholar Niels Wichmand from Odense. Among the first teachers we may also mention Christian Papke from Greifswald, who came to Lund in 1669 and later became professor of theology.

The academy in Lund was like a small Lutheran provincial university of the North German type, or as a branch of the elite Dutch university in Leiden, where many of the first teachers had received their education. The Latinized names of the Lund academy, Lugduni Gothorum or Londini Scanorum, incidentally, sound very like that of Leiden (Lugduni Batavorum) or London (Londini Anglorum).[90] The staff of German teachers, with Pufendorf as the main feature, attracted a not

inconsiderable number of German students to make their way north to Lund. A relatively large number of Danes likewise came to study in Lund during the first years, and some Norwegians. Several teachers were recruited from the grammar school and the cathedral chapter that had existed under Danish rule; all but two of these were Danes. One of them, the professor of history Ivar Vandalin, had studied in Copenhagen, Leiden, and Oxford. Only a few of the teaching staff were born in Sweden, including the professor of mathematics Anders Spole. But he too had extensive international experience. After studies in Uppsala he had undertaken a grand tour of Europe as tutor to three young nobles and had then met both the famous microscopist Robert Hooke and the chemist Robert Boyle at the Royal Society in London. They also sailed past Stromboli and Etna, and they experienced an earthquake on the way to Ragusa.[91] The new university in Lund thus acquired a distinctly international character that was remarkable for its time.

The flow from the new southern provinces went to the new university. Many young men from Skåne who had previously chosen to study in Greifswald or Copenhagen now found it instead more convenient and beneficial to study in Lund. A large share came from the former Danish-Norwegian provinces, but an even larger share from the old Swedish provinces, especially from Småland, Västergötland, and Östergötland. The primary catchment area was Götaland, the southern part of Sweden to which the new provinces now belonged. Of the 842 students inscribed during the years 1667–1676, those from Skåne made up 35.4 per cent. Students from Denmark accounted for 3 per cent and Germany 3.9 per cent, but even some students from England and Finland had found their way to Lund. Between 1668 and 1700 almost 90 foreigners studied in Lund.[92] Lund University became a meeting place for people of different cultural backgrounds, languages, nationalities, and provincial origins. There is little evidence of any serious conflict between students from the conquered Skåne and those from the old Sweden, land of the conquerors. The Midsummer celebrations in 1668, however, ended in fisticuffs, when students from Västergötland and Småland objected to being compared to a bitch's genitals (they were called *hundsvottar*) and gave as good as they got.[93]

The promising international beginnings saw an interruption when war flared once again between Sweden and Denmark. With the Battle of Lund on 4 December 1676 the war encroached on the university's lands. Teaching was discontinued and the students were dispersed. As the history professor Sven Lagerbring put it in an oration delivered on 3 October 1766 to an audience that numbered Prince Gustav: "And it would have been difficult to dispute at the Academy when the mighty monarchs of the North were disputing just outside the city gates with such severity and force that over eight thousand opponents were left lying on

the battlefield."[94] Three years after peace had been concluded in Lund, the university was reopened in 1682. This time the teaching posts were refilled with Swedes, but with one exception, the German medical scholar Sack-Sackensköld. The number of German and Danish students fell to almost zero. During the years 1705–1709 only one student from Germany matriculated. The international, continental atmosphere largely disappeared, and Lund's Caroline academy for Götaland entered a period as a Swedish provincial university. During the war the nobility, clergy, and rebellious peasantry of Skåne had shown where their true loyalty lay, as quite a few had supported the Danish revanchists. A letter from the Consistory dated 26 March 1711 to the governor general of Skåne, Magnus Stenbock, declared that the academy would be bound to the kingdom in "an unquenchable mutual love" and cease "all indecent affection for our cunning and flattering neighbours".[95] The Swedification of the southern provinces was now regarded as a necessity, and one instrument in this ethnic reschooling was Lund University, where would-be priests and civil servants would be trained to become Swedish-speaking and Swedish-minded subjects. The idea of a large international university with European ambitions was abandoned.

During the Great Nordic War, geopolitical complications once again made themselves felt. On 1 December 1709 Danish troops marched into Lund. The Consistory dispersed hastily, and those who were able fled north or took refuge in the neighbouring fortified town of Malmö. Returning from his plundering campaigns in various parts of Europe and the humiliation of his captivity in Turkey, Karl (Charles) XII set up his headquarters in the academic peasant village in September 1716, thus directing geopolitical events from the university town. The world came to Lund. Foreign diplomats paid visits, including guests from as far away as the Ottoman Empire. The emissary Ali Pasha was impressed by the university's collections, which included Turkish books. The students, however, tried to stay away for fear of enemy attack and to avoid being conscripted as soldiers. From Ystad, in February 1716, Karl XII had issued letters patent ordering that healthy youths who "under the pretence of pursuing book studies" wasted their time in lascivious life at academies, should be conscripted to serve in the infantry life guard.[96] After the Peace of Nystad in 1721, calm descended on the town once again. Lund remained Swedish and the university became a half-forgotten provincial university on the political periphery.

A characteristic feature of Lund University's history is this tug of war between internationalization and nationalization, between an extrovert search for the international, the universal, the cosmopolitan, and an introvert, national self-interest. When the aim of the university is to satisfy the needs of the nation,

the cosmopolitanism of scholarship and the quest for knowledge has to take second place. This tension between the state's narrow thinking in terms of national utility and the university's universal freedom runs throughout its history, and it has been frequently remarked on by teachers and students ever since the university was founded. In a response to a memorandum from the Education Commission in 1750, which declared that the primary duty of the university is to foster loyal officials for the state, Lagerbring complained: "The university is being confined within far too narrow boundaries, with only the needs of the state being considered; state officials make up a tiny minority of our people. The university is the property of all and should be for the benefit of all."[97]

Language and exograms

An essential factor for smooth international contacts was a common language in which to convey one's thoughts. Latin had filled this cosmopolitan role since the Middle Ages. Although this excluded most of the population, it united scholars across all national boundaries. This shared language facilitated academic mobility and the sense of community, enabling anyone to study at any university, to read all the learned literature. In Lund Latin dominated until the mid nineteenth century, in teaching, in examinations and disputations, in lecture catalogues and dissertations. Pure Latin was the desired style, which rendered honour and respect internationally, but it was also an identity marker for the guild of scholars, a social marker in a hierarchical society. There was also an increasingly prevalent notion that Latin was the ideal means to communicate new learning to an international audience, to disseminate new findings and theories to a transnational scholarly community.

For a traveller in academic settings, Latin was a lingua franca, but for a young member of the nobility, thirsting for knowledge and planning a grand tour through the opera houses, theatres, and salons of Europe it was French and Italian in particular that were needed. For this the university's ordinary range of courses could not offer any tuition. Instead modern languages were taught by language masters who offered private lessons and exercises. These masters generally came from outside, such as the Frenchman Pierre Allegre who taught not only French and Latin but also English in the early eighteenth century, or the Dane Ifvar Kraak, who taught French, English, Italian, and German later in that century. The post of university dancing master – the first occupant, Louis Decreaux, was a Huguenot from Paris fleeing from religious persecution in France – gave an air of urbane European culture and French courtly ideals.

During the eighteenth century, Swedish also made its entry into the academy, albeit still on a modest scale. Swedish was held up as a way to make knowledge available for the benefit of society, trade, and the general public. It was chiefly in economic subjects, topography, and agriculture that Swedish came into use as a language of science. In 1741 the professor of mathematics, Daniel Menlös, wrote a programme for the degree ceremony that was in both Latin and Swedish, where he described a new method of sailing without wind, sails, or oars, a practical topic for which Swedish was an appropriate vehicle. The first dissertation in Swedish was presented in 1744, that too in a utilitarian spirit, Lars Liedbeck's bilingual dissertation in mathematics, "On Shipbuilding, and Especially on the Building of Warships under Water".[98] For a few years Liedbeck had been employed at the Admiralty College in Karlskrona and had taken part in a voyage on the ship *Sverige* in 1738, but on the way to Constantinople it was shipwrecked off the coast of Spain. During the 1760s there were 59 dissertations in Swedish, or 17 per cent of all the dissertations at the university. The number then fell and did not rise again until the 1830s, when 158 dissertations in Swedish were defended. In the mid nineteenth century Latin quickly lost its role as the cosmopolitan universal language. In the first half of the 1850s the majority (60 per cent) of dissertations were in Swedish. This was a result of the constitutions of 1852 which permitted the use of Swedish, and vernacularization began in earnest, that is to say, the transition from foreign to native language. The modern European languages likewise attained a more prominent place in the nineteenth century.

In the eighteenth and nineteenth centuries scientific culture became increasingly national, and a similar trend can be observed elsewhere in Europe, where works of scholarship were increasingly written in English, German, French, and other vernacular languages, instead of Latin. The shift towards modern languages took place as an effect of the declining role of Latin on the Continent, as a way to maintain scholarly and cultural contacts with Germany and France and to learn of the latest scientific discoveries, which were being published to a greater extent in modern languages. In this respect too, Lund differed from the other seats of Swedish learning, Uppsala and Åbo, as an academy closer to the Continent. Lund was early in publishing dissertations in the modern European languages, 27 years before the first in Uppsala.[99] In 1815 three dissertations were presented, in French, English, and German, presided over by Jonas Stecksén. In 1811 the professor of Oriental languages and Greek, Matthias Norberg, had left a donation for a chair in modern languages. This was intended for his nephew, Captain Stecksén, whose voyages on the high seas – according to certain rumours capturing other ships – had given him a knowledge of living languages.[100] He had just returned to Sweden after

several years at sea when he was proposed for a professorship. After having defended a dissertation on the gender of nouns in French, along with aphorisms and theses in English and German, he was deemed component and appointed professor in 1816.

A common language in which to communicate and transmit knowledge is of course an essential factor in internationalization. But communication requires, alongside oral dialogue, various storage techniques, memory containers, known as *exograms*,[101] such as letters, books, and journals, which preserve ideas and thoughts outside the human body and with which information can be disseminated to a larger number of people, both near and far away. In other words, internationalization can be viewed as an interaction between human thinking and different cognitive artefacts or exograms, and different devices for thinking, such as instruments or communication techniques for moving people, conversations, and thoughts. Internationalization is thus connected with the way these storage techniques are created and changed, or more concretely, how printing houses, a book market, and libraries grow and change.

Books were indispensable for the spread of knowledge and as tools in education and instruction. Textbooks mostly came from Germany, and for theologians especially from the Protestant part, printed in Rostock, Leipzig, and Wittenberg. When the university was founded, it was important that it should have its own printing press, not just for internal needs, printing programmes and dissertations in Latin, but also to create a place for itself in the world of learning. Professionals were brought from abroad, such as the exiled Hungarian Vitus Haberegger, who came via Denmark to settle in Lund as the university's first printer in 1668, and Carl Gustaf Berling from Sachsen-Lauenburg, who purchased the academic printing works in 1745.[102] As for the sale of books in Lund, this was handled by the first academic book dealer, Adam Junghans from Rocklitz in Saxony. During the Great Nordic War, however, there was no book trade in Lund, but in the decades after peace was restored, Danish and German booksellers came to Lund. In 1739 the German bookkeeper Johan Ephraim Brodhagen from Danzig was given a charter to sell academic books, with his premises in "the cathedral barn". After his death the trade was managed by an agent who acquired books from dealers in Copenhagen and Stockholm. The historian of learning Johan Hinric Lidén complained in 1768 that there was no bookshop in the town, which he thought was a great obstacle for the sciences. The professors were forced to purchase books from Copenhagen, "if anyone purchases at all".[103] A significant event for the nineteenth-century book market in Lund was the establishment in 1826 by the Danish bookseller C. W. K. Gleerup of a university bookshop in Lund, and soon afterwards a publishing house as well.

For a university with international ambitions, a well-stocked library assembling the world's wisdom was something that had to be built up through donations and purchases, even if it meant acquiring stolen property. The Gripenhielm Collection, put together during travels in Europe by Edmund Gripenhielm, teacher to Karl XI and donated to the university in 1684, contained a great deal of booty from the Thirty Years War, from plundered libraries in Poland, Austria, Germany, and Denmark. The library also grew by means of swaps and subscriptions. Among other things, Eberhard Rosén-Rosenblad ensured that the university library subscribed to *Göttingische Anzeigen von gelehrten Sachen*, as a way to bring Lund closer to the international discussion, especially in Göttingen, one of the most important cultural centres in eighteenth-century Europe. A system for international exchanges and distribution of books, and thus thoughts and ideas, was expanded in 1818 when Lund University library, as the first in the country, began a regular exchange of scholarly literature with other university libraries abroad.

Educational paths through the geography of knowledge

The road to Lund ran through cornfields, pastures, and sandy ground; from the north and east, the roads to Kävlinge, Getinge, and Dalby, from the west and south, the road to Fjelie and the main highway to Malmö. In 1705 the university and the town reached an agreement about the maintenance of the access roads. The road north, Kävlingevägen, would be the university's responsibility. The access roads were a shared concern, as they brought students and teachers, on foot or in carriages, for the start of the term, and were used by farmers and merchants bringing goods to the market. It was also on these dusty roads that they set out into the world in search of knowledge. Nils Schenmark, who measured the distance of the moon from the earth and the parallax of Venus in his vocation as professor of astronomy, also kept an eye on terrestrial roads. For a time he was the Consistory's inspector of roads. In 1767 he observed that the wattle fences set up by townspeople along the road caused it to be filled with snow in the winter. The fences were removed and the town would help with snow clearance. On the 5,568 foot long stretch of road, Schenmark noted, the academy had spent 3,500 silver dalers on stone culverts, drainage, juniper brushwood, and gravel, with the result that it was now one of the best in the country.[104]

It was presumably along that road that Docent Johan Hinric Lidén from Uppsala travelled in the late spring of 1768.[105] On 18 May he arrived in Lund, "whose marshy location, crooked and dirty streets, and draughty timber-framed houses can please a traveller as little as its many and large gardens in the summer

make it a pleasant and delightful place." In the early summer he then proceeded by stagecoach to Malmö and further to Europe: "The road between Lund and Malmö is a plain running for eight miles, leaving a free view for the eye, but the shifting sand and the absence of forests arouses pity." After an hour and a half, from the south gate of Lund, along the highway, he entered the tollgate in Malmö. After a stroll around the town he took the boat to Copenhagen, a crossing that took two or three hours in good weather.

Lund was at the crossroads between main regional and international routes. Lund was the way out into Europe, from where one could reach Copenhagen in a few hours, Germany in a day or two. The academic jurisdiction tells us something about how far in the surrounding world one could come after a day's travel from Lund. Crimes committed by students within a radius of sixty kilometres came under the university's jurisdiction. Hitherto people had relied on communications that had remained essentially unchanged since the Iron Age: one's own legs, horses and oxen, oars and sails. Locomotion was by muscle or wind power, walking, riding, rowing, sailing, in other words, movement based on a person's own biomechanical properties, or using other biomechanical systems and the possibilities and limitations dictated by the physical surroundings, such as the sea, rivers, and winds.

Most students and academic teachers in Lund came from Skåne or elsewhere in southern Sweden. Their travels took them southwards, from the southern Swedish provinces, and not infrequently on to Europe.[106] Almost 60 per cent of the students in the eighteenth century came from the provinces acquired from Denmark and Norway, followed by those from Småland. The international element was modest, 35 students in all, 0.17 per cent from Finland, and 0.45 per cent from other European countries. A certain degree of mobility can be seen in the student rolls, as some students moved between Lund and Uppsala, but only in a few cases between Lund and Åbo. As regards competition for students, that scarcely came from Uppsala or Åbo, but from Greifswald, which was still under Swedish rule. Few Greifswald students chose to go on studying in Lund, but a relatively large number of students from Lund moved on to Greifswald, attracted by the lower examination requirements. There was no waiting time there; a master's diploma could be obtained immediately after the disputation. One did not even have to go there to obtain a master's, as it was sufficient to enrol pro forma. During one year (1750) 37 students from Lund received their higher degrees in Greifswald, more than the number who did so in Lund in three years. In the 1750s only three students came from there, whereas 89 students from Lund chose to continue their studies in Greifswald. During the same decade four

students from Åbo came to Lund and 46 from Uppsala, but fewer went in the opposite direction. Between 1790 and 1814, eight came from Greifswald, but 54 went there. The students' choice of path was not only guided by the conditions for obtaining a degree and the quality and reputation of the education; political circumstances also steered the flows of students. Because of the situation in 1808, when French troops occupied the Swedish possessions in Pomerania, students from Lund were prevented from becoming masters in Greifswald, and the faculty of philosophy expected competition for places at the next degree ceremony in Lund to be particularly tough.

University teachers' travels likewise took them southwards, to centres of learning, to collections of art and natural specimens, to cities with remarkable buildings, churches, and palaces. In the apodemic tradition, travel became an educational journey, a peregrination, through the geography of knowledge, a voyage in thought and culture – for young nobles who wished to become familiar with the world and savour the good taste of continental culture, or for the inquisitive scholar in search of the latest findings in his field at academies and universities, but also for engineers eager to pick up new techniques for mining and manufacture, or physicians anxious to learn new methods of operation and treatment at hospitals and anatomical theatres. A grand tour through the civilized

A travelling student on his way to autumn term in Lund. The road is muddy and the journey long. Drawing by Johan Holmbergsson, 1833.

countries of Europe was the path to education, taste, cultural refinement, and scientific knowledge. When leaving the country, however, a person had to give proof of Lutheran orthodoxy and knowledge, to guarantee against being seduced by Catholicism or other false doctrines. The travelling academic was impelled by curiosity, wanting to see for himself the mythical places he had read about, but no doubt also by thoughts of career and esteem. Having undertaken a tour could be cited as a qualification. Among the university's professors, most had been on long travels in Europe and had come home with new knowledge, contacts, books, experiences, and memories.

Improvements in road maintenance and the organization of the stagecoach system, with inns offering overnight accommodation and a change of horses, made it easier to travel overland in the seventeenth and eighteenth centuries. From Ystad one could take the post boat across the Baltic Sea, to Stralsund, a regular line that opened in 1693, and on from Swedish Pomerania through Germany to the Netherlands and Paris. It was not uncommon to take the boat across the channel to England. Some made their way as far south as Italy, to Venice, Florence, and Rome. Academic peregrinations went especially to Germany and the Netherlands, where there were outstanding universities such as Heidelberg and Göttingen, Leiden and Utrecht, huge libraries, anatomical theatres and natural history collections. But even more important was meeting other people, acquiring contacts to further one's career, provide intellectual stimulus, and serve as a foundation for scholarly collaboration and exchange. Personal contacts were effective for discussions, knowledge building, and creative processes.

What was required was a passport and a letter of invitation that opened the doors to famous men's homes and laboratories, but naturally also plenty of money for the journey. One expedient, if a young academic had little money of his own, was to travel as tutor to well-off sons of nobles; another way was to obtain a scholarship to eke out one's travelling funds. There were a few travel grants for teachers and students. The university's oldest scholarship, the Aerylean scholarship, originally had the purpose of funding educational travel. It had been donated to the cathedral school but had then been taken over by the university to be awarded to "maintain a student abroad".[107] The grant, however, was not always used for travel. In 1766 the Consistory awarded a grant to the town postmaster for his trouble with the university's post. More travel bursaries were added in the eighteenth century, improving the conditions for trips abroad. Bonde Humerus, who had himself been on study trips to Germany and Austria in the 1690s, bequeathed a scholarship in 1727 to be used for travel. A deed of donation signed by Anna Steuch on 21 October 1734 states that the Humero-Steuchian grant is to go to

> a student who has good testimonials to living a God-fearing, quiet, and honest life, and is of such maturity that he can benefit from visiting foreign universities, enjoying twelve hundred copper dalers annually for a period of three years as a scholarship, to pursue at such foreign places the study whereby he intends, through God's assistance, to serve his native country.[108]

In 1750 the county governor of Halland, Carl Gustaf Faltzburg, instituted a scholarship to be used for domestic or foreign travel. Anders von Reiser's scholarship fund was established in 1782, to be awarded to a reader or student for six years of study, one year at the academy in Lund, the rest at universities aboard.

Most teachers in the theological faculty in the first half of the eighteenth century had studied at Protestant universities in Germany. The faculty of law had been built up on the European model by foreign teaching staff, but increasingly took on a national orientation towards Swedish law, at the expense of Roman law. Lawyers played an important part for the Swedification of the southern provinces, when Swedish law had to be introduced in the former Danish territories. But international influences and experiences were generally strong among the teachers. Pufendorf's natural law was taught and the German judicial discussion was followed closely. The big name in the eighteenth century, David Nehrman (ennobled as Ehrenstråhle), after studying in Lund, had spent the years from 1714 to 1717 at German and Dutch universities, in Rostock, Jena, Halle, Leiden, and Utrecht.

For medical scholars it was especially necessary to head south to gain experience in practical medicine and obtain the degree of doctor of medicine. For a long time the usual path to the medical profession was to take a doctoral degree abroad; it was not until the 1730s that it became more common to become doctor of medicine at Swedish universities. Several of the university's first professors of medicine had gained their doctorates in Leiden, but had also received practical education in Copenhagen. The first professor of medicine, Erasmus Sack, had studied under Thomas Bartholin in Copenhagen. Jakob Fredrik Below, who had formerly been professor of medicine in Dorpat, became professor in Lund in 1697, but he was summoned to serve with the army in 1705 and ended up in Russian captivity after the Battle of Poltava. His successor, Johan Jakob Döbelius (von Döbeln), had a doctoral degree from his home town, Rostock. After studies at German universities and in Copenhagen, partly under Caspar Bartholin the Younger, he was appointed professor in Lund in 1710. Döbelius was the last professor in the early history of the university who was of foreign birth and with

a mother tongue other than Swedish. But the series of medical professors with solid experience of foreign study and contacts would continue with scarcely any interruption. Döbelius's successor, Eberhard Rosén-Rosenblad, during a long study trip, starting in 1745, had come in contact with Albrecht von Haller in Göttingen. On arrival home in 1756 he was engaged in Lund to restore the status of medical science there after a period of neglect. Rosén-Rosenblad's pupil Andreas Barfoth, who was appointed prosector in 1768, had likewise undertaken a study trip – to England, France, and Germany in 1775–1776 – which put him in contact with famous surgeons and physicians. England became an increasingly important destination in the eighteenth century, particularly for studies in natural science, medicine, and engineering. Gustaf Harmens was enticed to go to England and its scientific focal point, the Royal Society in London, and spent no less than twelve years abroad, studying medicine not only in England but also in France, Holland, and Italy, and physics under the experimental physicist Willem Jacob 's Gravesande and chemistry under Herman Boerhaave in Leiden, finally gaining his doctorate in Harderwijk. He could look back on these experiences and memories in the 1730s when he served as professor of medicine and experimental philosophy in Lund.

In the faculty of philosophy there were numerous teachers with international experience and contacts. Conrad Quensel had previously been professor of mathematics in Pernau (Pärnu) in Livonia. Arvid Moller had been professor of law and mathematics at the grammar school in Reval (Tallinn) before he was forced to flee to Sweden in 1710 when Russian troops occupied Sweden's Baltic provinces. Kilian Stobaeus the Elder, professor of natural philosophy and experimental physics, corresponded with foreign scholars, above all in Denmark, but also with the superintendent of the garden in Bologna. In the field of economics there was a lot to be learnt from Holland and England with their flourishing manufacture and incipient industrialization. In 1746–1749 Johan Henrik Burmester studied mathematics, physics, chemistry, and botany in Holland, England, and France, knowledge that could be used to stimulate business in Sweden. This experience was cited as a strong qualification when he applied for the chair of economics on returning home, and indeed he did become professor in 1750.

Two countries stick out especially in the network of contacts and the pattern of travel, Denmark and Germany, although we also see many connections with Holland, England, and France. Despite the frosty political relations between Sweden and Denmark there were individual, sometimes lifelong liaisons and collaborations between researchers and teachers across the Sound. The historian Sven Lagerbring was in contact with colleagues in Copenhagen, coming under

the influence of the Norwegian-Danish historian Ludvig Holberg, and had a long stay there in 1770. Danish scholars also came to Lund. The Danish jurist and author Jens Kragh Høst, born on the island of Saint Thomas in the Danish West Indies, was in Lund in the 1790s, where he associated with the aesthetician Anders Lidbeck and other university teachers. It was expensive, however, to travel across the Sound. In a letter written in 1820 to Sven Hylander of the university's historical museum and coin collection, the Danish archaeologist Christian Thomsen wrote that the crossing from Copenhagen to Malmö cost 8 to 10 specier.[109] Intercourse with Danes, however, attracted suspicious glances. When Thomsen visited Lund in spring 1820, and had been seen in the company of Sven Nilsson and Anders Retzius and stayed with Hylander the assistant lecturer, this came to the attention of the police. The police report nevertheless stated that they did not appear to have discussed politics, but seemingly only matters concerning scientific subjects and antiquities, but "I shall duly observe them," the county governor Wilhelm af Klinteberg promised. From having once been founded to start the Swedification of the conquered provinces and obstruct the flow of students to the former mother country, Lund in the eighteenth century increasingly re-established contacts with the Danish capital and its university, and in the following century it was caught up in the currents of Scandinavism.

Lund had particularly significant and lively contacts with German universities. Germany was the source of philosophical and aesthetic ideas, and of modern linguistic research. Matthaeus Fremling, professor of theoretical philosophy, had a master's degree from Greifswald in 1770 and lectured on Kant's philosophy, Fichte's idealism, and Schelling's philosophy of nature and identity. Thanks to a grant from Gustav III, Johan Lundblad was able to go to Leipzig to study under the famous professor of classical literature and eloquence, Johann August Ernesti. In 1776 he received his master's degree and then continued his studies in Halle and Greifswald, and it looked as if he would remain in Germany. An opportunity opened for him, not just to succeed Ernesti but also the hope of becoming his son-in-law. However, Gustav III summoned Lundblad back to Lund and Sweden in 1778 with an offer of a professorship of Roman eloquence and poetry. Other students from Lund such as Thomas Thorild and Bengt Lidner were attracted by the pre-romantic currents in Germany, its *Sturm und Drang*. Thorild, who was in contact with Johan Gottfried von Herder, became professor of philosophy in Greifswald in 1795. The antiquarian scholar Nils Henrik Sjöborg was influenced by archaeological research in Germany and Denmark. As a young reader in history he had undertaken an antiquarian journey on foot through northern Germany

in 1791, and later as professor of history he went on antiquarian travels through Sweden and Norway.

In the eighteenth century we also find a stronger interest in cultures and languages beyond the immediate continental sphere. The theologian and Orientalist Henric Benzelius made a study tour of Europe and the Orient in 1712–1718, where he met Karl XII in Bender, after which he was taken prisoner during the skirmish there; he then moved on to Demotika and Timurtasch, spent over a year in Constantinople, continued to Cyprus, Phoenicia, and Lebanon, Damascus, Nazareth, Jerusalem, and Bethlehem, and studied Oriental languages in Cairo. Back in Sweden, he was engaged by Lund University in 1719 and later became professor of Oriental languages and Greek, as well as Vice-Chancellor and Bishop of Lund. The extraordinary lecturer in theology at Uppsala University, Matthias Norberg, was awarded a royal scholarship and in 1777 began a foreign journey together with the Orientalist Jacob Jonas Björnståhl. This took them through Germany, Holland, England, and France to Italy. In Paris he studied an Oriental manuscript, known as Adam's Book, which had been brought there by a former student from Lund, Johan Otter, who after travels in the Orient became professor at the Sorbonne in the 1740s. While they were travelling Björnståhl was appointed professor in Lund, but he was never installed, because he died suddenly in Saloniki. Instead Norberg was offered the post of professor of Oriental languages and Greek. Norberg did not take up his chair, however, until 1781, having spent another year in Constantinople, to study the Turkish language and Arabic manuscripts under the guidance of Turkish scholars. The widely travelled philologists Norberg and Lundblad would later live, as the historian Martin Weibull wrote, "enclosed within their world of books, receiving little impression from the outside world, and seldom – like the men before them – moving outside the narrow confines of the university town".[110]

After 1780 the possibility of foreign travel was limited by the political unrest in Europe. The ordinance by Gustav III, prohibiting Swedish officials from spending more than five days abroad without the permission of the King in Council, did not make things easier. The ordinance was not relaxed until 1824, when the county governor could issue a passport for ten days' leave of absence, and in 1839 the passport could be extended to be valid as long as the leave of absence.[111] The Napoleonic Wars erected almost impassable barriers to travel in Europe. It was not until later in the nineteenth century, after peace was concluded and Sweden fought its last war, and with new communications and means of transport, that opportunities for travel improved and it became easy to communicate beyond the walls of Lundagård.

The steamboat traffic that opened between Malmö and Copenhagen in 1828 made it easier to visit friends abroad. Swedish and Norwegian students arrive by paddle steamer at the student meeting in Copenhagen in 1847. Oil painting by Jørgen V. Sonne.

The steamboat song and the snorting fire-horse

"Start the engine, Captain!" was sung as the steamboat steered towards Copenhagen one day at Whitsuntide 1842. On the boat were 130 students from Lund on their way to visit their Scandinavian brethren. During the trip across the Sound, the Lund student and composer Otto Lindblad is said to have composed a "Steamboat Song" to celebrate this meeting, a song that would become the signature tune of student meetings.[112] On arrival they were received with a celebration in Dyrehaven, where the two universities' choral societies performed their songs. In the nineteenth century the circles were widened, as new means of transport and communication created new opportunities for internationalization, transport by land and sea improved, steamboat traffic and railways connected countries. The age of steam began. From having been able to travel a maximum of sixty or seventy kilometres a day, one could now suddenly cover more than four hundred kilometres in the same time. An international postal system was organized, gas

lighting was installed, telegraph lines were established, and later telephone lines were stretched between countries. Travel and contact became more intense and faster between the metropolises of Europe, and contacts with the world outside Europe became more common. New technology taking advantage of the inherent power of physics, the pressure of steam and electromagnetic currents, brought quicker and more regular connections. People no longer needed to wait for the ice to melt and the right winds to blow.

The first steamboats were introduced at the start of the nineteenth century, and it was not long before they were plying the Baltic Sea.[113] The first steamboat journey from Malmö to Copenhagen was in 1828. At ten o'clock in the morning, on Sunday 24 August 1828, the Danish steamship *Caledonia* sailed into Malmö harbour. Eighty-two passengers disembarked, but Malmö was of no interest whatever to them; they proceeded at once by horse-drawn cab to Lund, "in order to see what was worthy of notice in that old town". At eight in the evening the passengers returned from their visit to Lund and the ship could then be followed by observers as it sailed out into the Sound, even when the August darkness had fallen, thanks to the numerous rockets that were fired. A regular steamboat line between Malmö and Copenhagen opened on 31 July 1838, when the paddle steamer *Malmö*, on its maiden journey, brought 150 passengers across the Sound. Travel was made even easier in 1836 when passes were introduced, permitting people to pay 48-hour visits to Denmark. The journey over the Sound took about two and a half hours and in 1830 it cost three riksdalers, equivalent to what was paid for two or three days' work. Travel time to the Continent was further shortened in 1897 when a regular connection opened between Trelleborg and Sassnitz. After four hours you were on the Continent and could continue the journey down through Europe.

On 1 December 1856 the railway line between Lund and Malmö was opened, as a stage in the southern trunk line which linked the south of the country with the capital. On the maiden journey the gaily decorated engine was greeted by teachers and students of the academy. After tests to see what it was like to ride on a train, the day ended with a ball at the Academic Union with 700–800 guests. The deputy vice-chancellor, Nils Johan Berlin, raised his glass to toast the king and the railway which promised so much for the future. Albert Lysander had written a song for the occasion, performed by the Choral Society, about how the snorting fire-horse moves restlessly between the two towns, now firmly linked with iron bands.[114] This was followed by dancing, and the festivities continued until four in the morning. The railway brought the provincial town of Lund closer to Denmark and the Continent. Later, at the opening of the Lund–Trelleborg line on 23 July 1875, Vice-Chancellor Lysander expressed the hope that it would

be possible to continue the journey by rail on the other side of the Baltic Sea. Lund also became the natural first stop for foreign academics on their journey up through Sweden. Passing celebrities, such as Henrik Ibsen and August Strindberg, were hailed by students on the platform at Lund Central Station. Stressed teachers, on extraordinary occasions, could also take advantage of the express speed of the locomotive. The professor of law Johan C. W. Thyrén, who spread enlightenment to the people at his "peasant lectures", is said to have requisitioned a locomotive with an extra train so that he would arrive in time at the place where he was to lecture.[115] Nils Flensburg, professor of Sanskrit and comparative Indo-European linguistics, composed a cantata for the opening of the railway between Lund and Bjärred on 26 August 1901, about how the hardy steel links "our ancient town" to "the blue wave in the west", taking work-weary academics with "the wings of the steam horse" to a refreshing dip in the sea.[116] For others the train journey ended in tragedy. On a train in Denmark, in February 1896, the lecturer in English, David Lloyd Morgan, committed suicide together with his lover.[117]

The nineteenth century saw a dramatic increase in travelling, as Europe's railway network was expanded and steamboats ran more frequently. Transport became quicker, simpler, and more comfortable. The trunk line connected Lund and Skåne to the rest of Sweden. A journey to Stockholm that had previously taken at least four to six days, or a week by the mail coach, three or four days by boat, was shortened to 19–20 hours in 1864, by the turn of the century as little as twelve hours, and nine hours in the 1930s.[118] At the start of the nineteenth century a mail coach could cover fifty kilometres in twelve hours. By the middle of the century one could travel 400 kilometres by rail in the same time, and another fifty years later one could go twice as far. Journeys from Lund often went to one of the harbours in Skåne – Malmö, Trelleborg, Ystad – and then by steamboat across the southern Baltic to Stralsund or Sassnitz in Pomerania, sometimes with a brief stay in Greifswald, and then on down through Germany by rail to Berlin, which was often the first long stop. Ideas travelled faster and more frequently along the railways and steamboat lines. The railway deformed the spatiality of travel and the perception of space. The speed and the new connections not only improved the possibilities of travelling to other places, but also transformed the sense of distance, of near and far. As the landscape could be seen whizzing by through the compartment window, the experience of the world was altered.

Preserved travel notes convey a picture of the logistics of transport, the specific challenges a traveller faced as regards buying tickets, finding accommodation, choosing souvenirs. In 1836–1837 the algologist Jacob Georg Agardh undertook a journey to Germany, France, and England.[119] At five in the afternoon one

Thursday Agardh left on the steamboat *Frederik VI* from Copenhagen. According to what people said, he wrote, the surface was unusually kind and the weather unusually fine. "I had chosen second class, which costs only 4 specier, and therefore had rather bad company, but I did save roughly 20 riksdalers. The cabin was fairly bearable." The following afternoon at two o'clock he arrived in Kiel, where the journey across the Continent could begin; it would include a stay in Paris, where he saw Charles Green's hot-air balloon on 9 January, and a visit to the Linnean Society in London in July 1837.

The literary scholar Gustaf Ljunggren obtained a grant for an educational tour in 1849–1850, enabling him to visit universities and museums in Germany and France. Like many others, he headed first to Berlin and then continued through Germany to savour its scholarly culture and rub shoulders with prominent academics. In Tübingen, for example, he visited a leading researcher in aesthetics, the Hegelian Friedrich Theodor Vischer. At the university library in Lund there is interesting material that gives insight into the various printed matter that a person could collect while travelling by train, spending nights in hotels, and visiting theatres. In a notebook with the title "What was found at the bottom of the portmanteau after a foreign trip 1849–50". Doctor Ljunggren pasted in various documents, slips of paper, and tickets from the journey: a health certificate, visiting cards from Germany, printed advertisements and receipts from shops and hotels, a ticket from the steamship *Lübeck*, a luggage sticker for the rail trip from Leipzig to Dresden, train tickets, maps, theatre programmes, and satirical magazines such as *Kladderadatsch*.[120]

In summer 1880 the professor of zoology August Quennerstedt went on an educational tour that resulted in a notebook where we can follow the logistics of travel, what it meant in terms of means of transport, accommodation,

Dr G. Ljunggren came home from his European trip on the steamer Lübeck from Travemünde to Copenhagen on 2 December 1850. He travelled first class in berth 30. The ship was to depart at precisely 4 p.m. From Gustaf Ljunggren, *Hvad som fanns på botten af kappsäcken efter En Utländsk Resa 1849–50.*

and purchase of souvenirs.[121] On Monday 14 June, at eight in the evening, he left Lund to go to Malmö where he embarked on the steamboat *Oskar*. The following morning he could see the west coast of Rügen before they docked in Stralsund at eleven. The steamboat ticket to Stralsund cost him 36 marks, plus an additional 3 marks for coffee and breakfast, then the stagecoach to Stralsund station for 1.50 marks, plus a book, photographs, dinner, coffee, and overnight accommodation. After an hour's wait at Stralsund station he continued towards Greifswald, with the broom in flower along the way. At one o'clock he reached Greifswald, where he was met at the station by his old friends, Major Lignits, Helfrid, and little Ale. In the afternoon they went on an excursion together "to the beautiful ruined abbey of Eldena amidst splendid beech trees", where they met a group of singing and tippling Greifswald students. From Greifswald he then went on by train to Berlin, where he took a cab to his hotel. Tram tickets and tips were also noted among the travel expenses. The journey then proceeded through Germany to Wartburg overlooking Eisenach. Before the party of travellers set off again on 7 July they took one last walk:

> Went to "Eisenachsburg" from where we had an enchanting view of the splendid old fortress. The weather was a glorious as it could be. The air was delightful, redolent of summer warmth. Around 11 we said farewell to Wartburg with a *heavy* heart and strolled down to Eisenach, whence we continued the journey by rail to Weimar.

He also tells later of how he was forced to get up early one morning to catch the train, for what would be a stuffy and unpleasant journey to Prague. There he quickly checked in to a hotel and headed out again at once to acquaint himself with the city. While on this trip he bought souvenirs, including a panorama of the Rhine in Mainz and pictures of the cathedral and an old oil portrait in Cologne. But perhaps it was his inner memories and images from the journey that touched him particularly. In the late summer he returned to Lund:

> Saw old Lund once again, strolled with very mixed feelings up the dusty road and entered through the garden gate. The house was empty and shut, for Johanna happened to be out. I sat down for a while in the summerhouse and then strolled around the garden until my mother-in-law came to find me. These first hours in the home were not happy, and my gratitude to the Lord was forgotten, He who so graciously protected us on our journey and allowed us to see so much of the glorious, beautiful world.

Quennerstedt sits there in the garden in the waning summer, struck by the emptiness of his homecoming, the abrupt return to everyday life, the duties of autumn term, provoking him to long back to the freedom of travel and the experiences of the glorious, beautiful world.

In the nineteenth century the improved communications, such as the faster and more reliable postal service with steamboat and goods train, led to increased internationalization. The Swedish postal service, founded in 1636, already provided a fairly efficient system for conveying letters by horse within the kingdom and by mail boats across the Baltic Sea. Regular mail deliveries had been established via Hamburg, linking Sweden to the metropolises of Europe. The nineteenth century brought further improvements. The Swedish post office introduced uniform postal charges and then postage stamps in 1855, and with the foundation of the Universal Postal Union in 1874 the cost of sending letters abroad was further reduced. A letter from Sweden to America cost at least 188 öre in the 1860s, which would amount to more than 200 kronor (roughly 20 euros) in today's money.[122] Postal conveyance by train in 1859, by motor vehicle in 1905, and by air in 1920

From 1856 teacher and students could board the train in Lund and head out into the world. Lund Central Station, *c.* 1900.

significantly cut the time. The first electric telegraph line in the country was established in 1853 between Stockholm and Uppsala. Lund acquired its own telegraph station in 1856. The year before that, a telegraph connection with the Continent had been achieved by means of a cable over the Öresund. This linked Lund to much of Europe. Combined with steamboat lines, telegrams could be sent on to other continents and reach many parts of the world. In 1866 Europe and America were finally joined by a cable across the Atlantic. Instead of waiting for weeks and months for a reply by letter, one could get an answer by telegram on the same day.

Scholars are among the busiest letter writers in history. Correspondence with other researchers is one of science's most important tools for the dissemination of ideas and knowledge, for establishing connections, maintaining contact, and exchanging thoughts, for cooperating and networking. Correspondence was also combined with personal meetings on travels. Letters, such as letters of introduction and requests, often preceded meetings and visits, and the newly established contact was kept alive through frequent correspondence. When the professor of natural history and economics, Anders Jahan Retzius, was granted exemption from postal charges in 1784 for his foreign correspondence, it tells us something about the importance and value of maintaining this means of contact.[123]

In less than two weeks in the nineteenth century Carl Adolph Agardh could have a parcel of books sent to him from Leipzig.[124] Agardh, who was professor of botany and economics and the son of a merchant from Schleswig, had an extensive international network. His collection of letters, preserved in Lund University Library, comprises no fewer than 726 letters from 170 people, sent from more than eighty places in twenty-one countries.[125] As a rule he wrote in Latin to his colleagues in algology. They exchanged pressed algae and other plants, sent each other drawings and lists of plants. Among other things, he had a "List of seeds from the Royal Swedish Colony of St Barthélemy" sent to him by the deputy inspector Conrad Ludvig Plageman in Gustavia on 30 July 1822. For a long time, however, it was complicated and expensive, and not least of all time-consuming, to correspond with people outside Sweden. In the first half of the nineteenth century letters were exchanged above all with the nearest countries in Europe. Carl Adolph Agardh, like his son Jacob Georg, received letters mostly from Germany, but also from Denmark, France, and Britain. With the exception of Denmark, however, there were few contacts with the other Nordic countries. Later in the century, partly due to improvements in the postal service, there were more long-distance contacts. Jacob Georg Agardh's collection consists of 1,449 letters from 246 people, at 130 different places in 26 countries. Unlike his father,

Jacob Georg also had many contacts with scientists in the USA and Australia. As in his father's case, he had most contacts with Copenhagen, but also with London and Melbourne. The largest correspondence, maintained for thirty-two years, was with the head of the Botanical Garden in Melbourne, the botanist Ferdinand von Mueller. Between 1881 and 1897 he received no fewer than forty-two detailed letters, with lists of plants and drawings from a female botanist, Mrs Floretta A. Curtiss, who was particularly interested in algae in Florida. The contacts by letter covered a geographical area from Denmark through Germany, over the Netherlands, Belgium, and Britain, down towards Switzerland, in other words, with major centres of learning in Europe. At the same time, one can discern a certain incipient shift, from the father's German-oriented network to the son's increasing contacts with the Anglo-Saxon world.

We may be astonished by all the time and effort required to maintain contacts with scholars all over the world for so many years, the working hours it took to write these long letters with lists of plants, drawings, and collections, the time it took to await and answer, and the not insignificant cost for these thousands of letters, for postage, paper, and ink. All this tells us something about how important these foreign correspondents were for their scientific work and for creating a place and a name in the learned world.

Germanism and Scandinavism

Certain foreign academics made their way from the Continent, north to the little provincial university on the other side of the Baltic Sea. One morning in 1833 the assistant lecturer in theology, Henrik Reuterdahl, had just come home from the cathedral.[126] Standing there in the hall was a man he had never seen before, "a little hunchbacked old man with a big head, clear, bright eyes, and the features of a man of genius." The unknown man introduced himself: "Ich bin Professor Schleiermacher aus Berlin." Reuterdahl's colleague, Esaias Tegnér, had been to visit Friedrich Schleiermacher in Berlin and told him of his learned colleague Reuterdahl, whose address he had passed on. Later Reuterdahl himself would likewise make a tour of Europe during which he came into contact with several prominent theologians, but it was Schleiermacher, he felt, who had "solved all the most important questions of life and thought in the most correct and incontrovertible way". On other occasions Lund was also visited by famous German scholars, such as the historian Ernst Moritz Arndt from the University of Greifswald, the linguist Jacob Grimm from Göttingen, and the philologist Karl Lachmann, professor in Königsberg, later in Berlin.

The age of division is past. Esaias Tegnér places a laurel wreath on the head of the Danish poet Adam Oehlenschläger in Lund Cathedral on 23 June 1829. Oil painting by the Danish artist Constantin Hansen.

Lund could almost be regarded as a provincial German university. It was from Germany that the ideas came, where the leading scholars could be found, where the most important works were published. Ever since the start in 1668, Lund had had strong bonds with Germany, a geographical, historical, linguistic, and cultural community. The German language was well known, and until just after the Second World War it was the first foreign language taught in Swedish schools. Throughout the nineteenth century there were particularly close contacts with Germany. That was where people went; it was German philosophers, historians, and natural scientists that people read and were stimulated by. From Germany came the new philosophical influences and the new scientific findings, neo-Kantianism, Strauss's biblical criticism, Haeckel's world riddles, Humboldt's ideal of *Bildung*, and Hegel's dialectics. Many academics from Lund had personal contacts with German academics and visited them on their trips to the Continent. Germanism, the idea of a Teutonic community, a Greater Germany, and admiration for German culture, was widespread among teachers and students

in Lund. Another distinctive feature of Lund's international aspirations in the nineteenth century was Scandinavism, the community of the Nordic peoples.

One year after the first steamship from Copenhagen had berthed in Malmö, a current of internationalism started which goes under the name Student Scandinavism, a desire for fraternity and cooperation between the Nordic countries. On 23 June 1829 the Danish poet Adam Oehlenschläger was crowned with a laurel wreath in Lund Cathedral by his Swedish colleague Tegnér, who declared: "The age of division is past (and it ought never to have existed in the free, infinite world of the spirit)".[127] Carl Adolph Agardh said of this symbolic event: "It was a sight for Italy, hardly for Scandinavia". During Tegnér's time the affinity between Lund and Copenhagen was consolidated under the aegis of the emerging Scandinavism, as a desired Nordic unity, an end to the separation of the Scandinavian countries. After the degree ceremony the Swedes resolved to visit their Danish friends, and chartered the steamship *Caledonia* to take them across the Sound, with participants from both Lund and Malmö, including Tegnér and his family. The 300 Swedes who took part in this first Swedish-Danish meeting of academics were received by teachers and students at Copenhagen University in Dyrehaven, where they had arranged a party at Bellevue. They were met with a song that Oehlenschläger had written for the occasion, "Greetings to Our Swedish Friends", followed by speeches in the spirit of Scandinavism. The mood was described in the weekly paper in Lund:

> Handshakes were exchanged, brotherhood was sworn between the students of both nations: glasses chinked to rich libations, and the names of Tegnér and the Swedes flew a hundred times over the glasses. To the sound of cannon shots from the *Caledonia* the two nations were then parted – although in a milder sense than with cannon shots hitherto.[128]

Later, in connection with a student meeting in Kristiania (now Oslo) in 1869, the Oehlenschläger-Tegnér Scholarship Foundation was established, to give students the chance to study at other Nordic universities. The Danish author Hans Christian Andersen was also brought into the Scandinavist spirit. On 17 April 1840 he visited Lund where he was hailed by the students. Two weeks later he published the poem "The Student from Lund (Never Shall I Forget Lundagård)".[129]

Student Scandinavism had its heyday in the 1830s and 1840s. These Nordic currents, although they were cosmopolitan, can be viewed in the light of nineteenth-century ideas of national identity and the political repercussions of the Napoleonic Wars. The origin of Scandinavism can be traced back to Danish

efforts to engage the other Nordic countries in a league to ward off the German military threat to Schleswig. The students' political involvement and international associations would have consequences for foreign policy. During a couple of decades Scandinavian students, especially from Lund and Copenhagen but also from Kristiania and Uppsala, would meet fairly regularly. One cold winter's day at the end of February 1838, thirty or so students crossed the frozen Öresund on foot. At the approach to Copenhagen they were met on the ice by the Danish fellow-students. But otherwise, as we have seen, it was the steamboat – the one about which the students sang at their meeting in 1842 – that facilitated Scandinavia fraternity. Students from the former Swedish province of Pomerania also visited their fellows in Lund. In August 1844 fifty students came from Greifswald, headed by their vice-chancellor, on a visit planned at short notice, which took the people in Lund by surprise. They had one day in which to prepare the reception. The following year, Scandinavian student meetings took place in both Lund and Copenhagen. In January 1845 a "Nordic Feast in Memory of the Forefathers" was celebrated in Lund. Gustaf Ljunggren was profoundly impressed by this meeting:

> Never have I, never shall I, witness enthusiasm comparable to that prevailing during this meeting. It was as if my favourite idea, the Scandinavian idea, had suddenly become flesh and blood and we swam in the dazzling glory that radiated around it. These days were among the finest moments in my life.[130]

When the war for Schleswig broke out between Germany and Denmark in 1848, Scandinavian brotherhood was put to the test. A few students and former academics volunteered to fight for the Danes. The former Lund student and poet Gustaf Lorentz Sommelius fell at the Battle of Dybbøl on 5 June 1848 after just a week in Danish military service. Scandinavian students continued to meet in the coming decades, but with the German attack on Denmark in 1864 Scandinavism lost its political credibility. Few students from Lund volunteered to fight for Denmark in that war. Even though the Scandinavist currents waned, academic cosmopolitanism lived on. The radical student group The Young Fogeys protested in 1890 against the patriotic torchlight parade on the last day of November in memory of Karl XII. Instead they held a celebration of internationalism and peace with a march by torchlight in honour of Robert Koch's bacteriological discoveries.[131] At the end of the nineteenth century there were also visits by the Lund University Male Voice Choir, mostly to other places in Sweden but also to Copenhagen and Ålborg, Hamburg and Berlin, Kristiania and Stavanger. In June–July 1904

there was even a tour of the USA, taking in New Haven, Denver, Minneapolis, Chicago, and New York.[132]

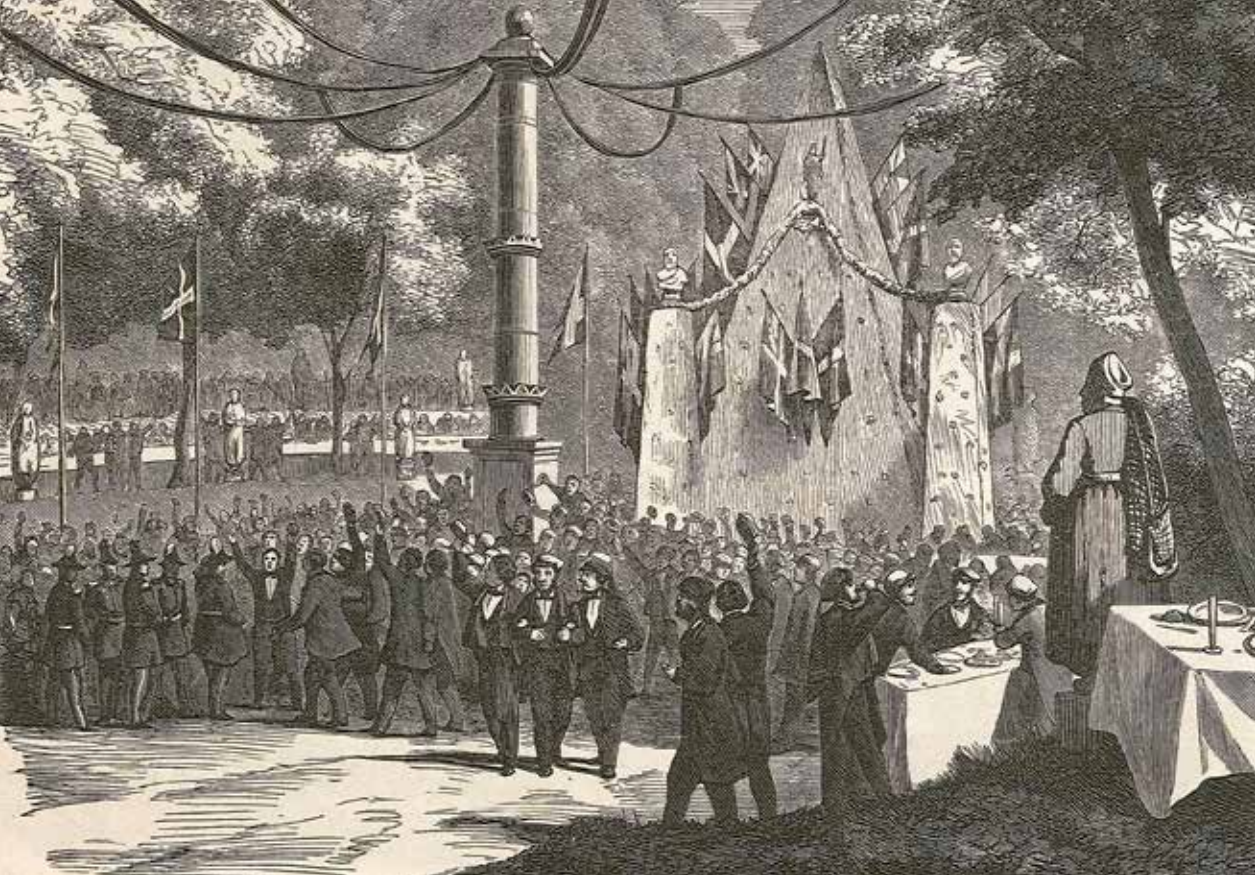
The Scandinavian student meetings, like the international meetings of researchers and the official contacts between universities during the nineteenth century, may be viewed as the start of an increasing formalization of international contacts. Kings and crown princes had previously paid their visits to the academy, as Karl XII had done in 1716 and Crown Prince Gustav for the jubilee in 1768, but even foreign royals visited Lund. In 1860 the Danish king Frederik VII arrived in Lund by train to be met on the platform by students. A new element, however, was an increasingly organized form of "state visits", not by kings and bishops but by students, and also vice-chancellors. The university jubilee in 1868 was attended by delegations from several Nordic universities, as well as from Greifswald and Dorpat; their numbers included the vice-chancellor of Rostock University, the Danish philologists Johan Nicolai Madvig and Niels Ludvig Westergaard, and the Finland-Swedish poet Zacharias Topelius. Gustaf Ljunggren, who was now the university vice-chancellor, said in his speech at the jubilee celebrations that

> For a people that is so small in material respects as the Swedes it is important to show the world that its authority to assume a seat and a voice in the assembly of nations lies precisely in its undiminished spiritual power. The universities' purely scientific task can thus be simultaneously a truly patriotic one; indeed, this scientific task gains further in patriotic significance if one views it in relation to the task of teaching.[133]

A few years later Lund returned the Danish visit by sending a delegation to Copenhagen University when it celebrated its 400th anniversary in 1879. An agreement was reached to strengthen contacts between the universities and establish more regular meetings. The following year, in September 1880, the first meeting was held in Copenhagen, with fifty or so academic teachers from Lund participating. The year after that, the meeting was held in Lund, and so the academic exchange continued more or less regularly until the 1960s.

Study trips on the Continent

The age of steam provided new opportunities for travel to centres of learning on the Continent. A journey abroad, powered by will and steam, became a journey to knowledge and new ideas, a course to pursue for anyone aiming at an academic career. At bottom these journeys were perhaps a more existentially and intellectually



Student Scandinavism tried to promote a sense of Nordic community. A feast with H.M. the King in Normandsdalen at Fredensborg, 16 June 1862. From *Mindeblade om det femte nordiske studentermöde i Lund og Kjöbenhavn juni 1862* (Copenhagen 1862).

reshaping experience than today's conference trips with two or three days of papers and half a day's sightseeing. In the nineteenth century, as in the eighteenth century, it was a matter of a self-educating study tour that lasted months, even years. By steamboat and locomotive one could conquer larger territories intellectually, rarely staying in one place, but travelling from one university to another in Europe. One could be influenced by new research, meet admired research giants, browse in bookshops, search libraries, study collections of natural history and art. But the tour did not only take people to physical places, buildings, and cities; it brought them to social and cognitive nodes, to people and their thoughts. Travel in geography and personal encounters were of the utmost significance for establishing deeper cooperation and contact networks.

Many teachers and students left Lund for Europe in search of the sources of knowledge. Linguists were influenced by the Nordic renaissance, the currents of national romanticism, the interest in Old Norse and Oriental languages,

comparative linguistics, and the new philological methods and theories. The Lund student Pehr Henrik Ling absorbed the romanticized view of the Old Norse past during a stay in Copenhagen at the start of the nineteenth century, before he came to Lund to become the university fencing master in 1805. The philologist Anders Otto Lindfors also studied in Copenhagen under the linguist Rasmus Rask, a pioneer in modern historical linguistics. In 1835–1836 Carl August Hagberg undertook an educational tour of Europe during which he met some of the great names in literature and philosophy in Germany and France, and he attended lectures at the Sorbonne. A few years later, in 1840, he was appointed Norberg professor of aesthetics and modern languages, introducing French to the German-speaking Lund, or as he wrote: "Germany lives in the past, France in the future."[134] Yet he is particularly remembered as a mediator of English culture through his translations of Shakespeare. The Orientalist Carl Johan Tornberg, before he was appointed extraordinary professor in Lund, had been on a study tour through Germany, the Netherlands, Britain, and France, where he studied Arabic, Persian, and Turkish. Further travels followed in the 1850s and 1860, taking him to libraries in Paris, London, and Berlin in search of Oriental manuscripts. His election as a member of several European and American learned societies reflects his international status.

Highly interesting destinations for physicists and astronomers were foreign laboratories, model chambers, and observatories. New research fields such as electromagnetism and spectroscopy could be brought home to Sweden. For example, Jonas Brag, who taught physics and astronomy, had studied under Hans Christian Ørsted in Copenhagen. The professor and director of the Lund observatory, Carl Charlier, who had performed observations at the Pulkova observatory in Russia and the observatory in Berlin, became a member of the board of the Astronomische Gesellschaft in Germany and presided over the international astronomical congress in Lund in 1904. Foreign travels were particularly significant for botanists, zoologists, and geologists, who could browse in foreign collections of natural history, of stones and minerals, plant and animal specimens, or they could do scientific fieldwork, searching for new species. The travels helped them to establish personal contacts that led to years of correspondence in which samples and observations were swapped. The algologist Carl Adolph Agardh, who had journeyed on the Continent in 1810, set off in April 1827, together with his son Jacob Georg, on a research trip to Venice and Trieste, to study the algal flora of the Adriatic Sea, with large dividends for science in the form of new genera and species. Carl Adolph was not only influenced by Linnean systematics but also by German romantic philosophy. He travelled home via Karlsbad, where he met the

much-admired philosopher Friedrich von Schelling. The journey also gave him new pedagogical ideas. During his work on the Education Committee, which had the task of reviewing education in Sweden, he wrote to Tegnér: "I have seen pedagogical Germany, and have seen how *it* has built, on its rotten foundations, the finest, strongest building, yet inside it conceals only wretchedness, pedantry, laxity, and charlatanism."[135]

It is obvious that foreign travel meant a great deal for the exchange of ideas, for establishing contact and collaboration, but it was also significant for teaching, and not only because travelling language teachers, new pedagogical ideas, and new ways of teaching also found their way to Lund. During a study trip in Germany in the summer of 1864 Carl Wilhelm Linder, professor of Greek, learned of a new form of teaching that had been developed in Germany: the seminar. Instead of passive students taking dictation, a more active teaching method was elaborated. On arrival home he wrote a suggestion, together with the professor of Roman eloquence and poetry, Albert Lysander, to set up a philological seminar on the pattern of the one in Göttingen.[136] At this seminar students would get practice twice a week in textual criticism, and every other week one of the participants would present an essay for discussion. The first seminar began its work in classical languages in 1866. The seminar form then spread to other subjects in the faculties of philosophy, theology, and law. The seminar has since then become the core of academic life, with its community, its disagreement, its encouragement, at times its intense emotional strain, fear, and anger.

Another new feature in nineteenth-century international scholarly culture was the organized meetings of natural historians and other scientific conferences where researchers from different countries assembled. When peace was restored after the Napoleonic Wars, scientists – particularly medical scholars – gathered for regular meetings where they discussed scientific issues. International collaboration began, with congresses and conferences, international journals, and collaborative organizations. The first meeting of Scandinavian natural historians was held in Gothenburg in 1839, followed by several meetings, especially in Copenhagen and Stockholm. The big Naturforscherkongress in Berlin in 1828, led by Alexander von Humboldt, was attended by several delegates from Lund, for example the mycologist Elias Fries, who got into conversation with the German natural philosopher Lorenz Oken. Another participant was Sven Nilsson. Born on a farm in the plains of Skåne, he became one of the more internationally oriented teachers in Lund. His colleague in Lund, the philosopher Lorentz Fredrik Westman, described him as "half peasant and half lord, half Asmundtorp and half Oxford".[137] A scholarship allowed him to study anatomy, mineralogy, and zoology in Copenhagen. He took part in many

scientific congresses; besides the one in Berlin, those in Bristol, Oxford, and Bath, and he promoted the Scandinavian naturalist conferences, as well as participating in archaeological congresses, such as the one in Paris in 1867. Through this international work he established extensive contacts. In his extant collection of letters, which comprises 800 correspondents, 300 of them outside Sweden, we find Charles Darwin and the English geologist Charles Lyell. The latter actually visited Sven Nilsson in Lund during his research tour of Sweden to study land uplift. There are also around thirty letters from John Lubbock, publisher of the English edition of Sven Nilsson's major work, *The Primitive Inhabitants of Scandinavia*.

The botanist Fredrik Areschoug studied plant anatomy with Hugo von Mohl in Tübingen in 1860–1861.[138] During the years 1855–1875 he undertook several trips, to England, Germany, Switzerland, the Balkans, and elsewhere. Bengt Jönsson, another botanist from Lund, introduced plant physiology to Lund after visits to Albert Bernhard Frank's Institute of Plant Physiology in Berlin in 1883. Fredrik Wahlgren, professor of zoology, had studied in Germany and Holland in the mid nineteenth century and had learnt microscopic examination techniques. The zoologist David Bergendal had studied with the anatomist Carl Gegenbaur in 1884, with continued studies at the departments of zoology in Leipzig and Berlin. Bergendal would later go on research trips to northern Greenland in 1890, Italy in 1890–1891, and a summer journey through Europe in 1893. The botanist Bengt Lidforss lived a bohemian life in Berlin in the 1890s, drinking with August Strindberg, Edvard Munch, and other intellectuals in the diaspora at the tavern Zum schwarzen Ferkel. He came home with lasting memories of night life in Berlin. Lidforss contracted syphilis, which later ended his career prematurely.

Long foreign travels were almost the rule for teachers in the medical faculty. All four professors of medicine at the start of the nineteenth century had pursued studies abroad. Three of them had studied in Copenhagen. The professor of anatomy Arvid Florman had read comparative anatomy in 1783–1786 under the veterinarian Peter Christian Abildgaard; the professor of theoretical medicine Eberhard Zacharias Munck af Rosenschöld had obtained his clinical knowledge at the Royal Frederik Hospital in Copenhagen, and Carl Fredrik Liljewalch had likewise begun his studies in Copenhagen but then continued in France. The fourth, Johan Henrik Engelhart, undertook a study tour in Europe during which he made the acquaintance of the Scottish physician William Cullen and became a member of the medical societies in Edinburgh and London, or as a statement in the faculty about him ran: "his modesty […] and his moral character have gained him the friendship and trust of foreigners."[139] And so it continued through most of the remaining years of the nineteenth century. Travel was an indispensable way

to learn of the latest discoveries and theories, which usually could be found in the German cultural sphere. Gustaf Sven Trägårdh studied under the originator of cell theory, Rudolf Virchow in Berlin, and the pathologist Karl von Rokitansky in Vienna. Victor Odenius likewise followed lectures and autopsies by Virchow for four months in Berlin, and on his foreign travels he visited Vienna, Bonn, Würzburg, Paris, Brussels, and Leiden. It was somewhat less common to do as Jacques Borelius did: he went on a study trip to the USA in the 1910s, where he came into contact with leading surgeons.

Among female medical travellers we find Hedda Andersson, Lund's first woman student. After gaining her licentiate degree in medicine in 1892, she continued her clinical studies in Copenhagen and Leipzig. Travel was also significant for female emancipation and the changes that were now being glimpsed among Europe's universities – the access of female students to the academy.[140] But opposition was strong. On a visit to Berlin in 1896 the Lundensian author Axel Wallengren, discovered, with some irritation and surprise, that women there were not entitled to gain degrees, nor even to attend lectures, whereas Lund had had female students since 1880. Wallengren witnessed how the historian Heinrich von Treitschke had suddenly broken off his lecture when he saw a woman among the audience. He led her out, politely but firmly. On a steamboat crossing to Copenhagen in 1894 some students ended up discussing whether female students should wear a hat or a student cap. Three bold women put on the white student cap. There on the boat they felt the freedom provided by a foreign trip, an escape from regulated social hierarchies.

A recurrent worry was how to finance travel. In the eighteenth century people had been forced to rely in large measure on the generosity of rich patrons, on the willingness of young noblemen to travel, or on their own funds, but the nineteenth century saw the growth of an increasingly organized and centralized grant system. Among the travel grants there was the large and the small scholarship from the National Budget (Riksstaten), and other grants named after the donors, such as Bokelund, Fratzburg, Letterstedt, Paulson, Ribbing, and others. The application procedure was fairly simple. One had to state the purpose of the trip, the estimated time, and the choice of places to visit.[141] The requirement for Riksstaten travel grants was that a scholar at the university should spend at least 6 or 10 months in a foreign place and submit, within six months of returning to Sweden, a full report to the Consistory and the University Chancellor. The purpose of the journeys was generally to visit universities and prominent scholars in one's own subject, to attend lectures and disputations, visit libraries, collections, museums, and botanical gardens.

The University Library's manuscript department preserves travel narratives of varying length, from one page to a couple of hundred, comprising 289 trips

recorded by 159 different travellers between 1850 and 1950. These describe, above all, the routes taken and the length of the trips. Not a few of them were impressive tours through several European countries, visiting a large number of university towns and lasting several months, sometimes even a year or two. We are also informed about what the travellers saw, the prominent scholars they met, and the research pursued in the course of the journey. We glimpse the hardships of travel, the privations and obstacles, travellers at the mercy of the elements and the changing seasons, epidemics and political developments, and the troublesome logistics of travel. Endless waiting for trains and boats that failed to come, feeling lost, trying to find a pony or a place to spend the night, falling sick. Some tell of how they travelled through war-torn Europe. Political events, as during the Franco-Prussian War and the First World War, and other obstructions on the way forced travellers to change their plans. Docent Rudolf Wickberg had planned to go direct to England in January 1881, but when communications were interrupted on account of the severe winter, he was unable to leave Sweden until 5 February. The professor of geography Hans Hugold von Schwerin – who had made his way to Germany, which he described as "the promised land of geographical sciences" – wrote that the cholera was assuming threatening dimensions, and that the start of the term was drawing near, but he managed to catch the last boat from Copenhagen back to Malmö before a quarantine was imposed.[142]

The travel reports from the years 1850–1950, according to Kerstin Cederlund, display a clear pattern as regards travellers and destinations. As much as 70 per cent of the travel grants went to professors. Just over 45 per cent were humanists, especially in philosophy, art history, history, Scandinavian languages, and German, while 30 per cent belonged to the natural sciences, especially botany and zoology. Medical scholars accounted for just 7 per cent. One country was overwhelmingly dominant as a destination: Germany. More than half of all journeys, 811 out of a total of 1,560 places visited, went to that country, to be compared with the country that came second, Italy with 154, and number three, France with 132 journeys. Only 77 trips went to Britain. The Anglo-Saxon world was peripheral and not particularly important. The prime destination was Berlin, followed by Leipzig, but the visits covered much of Germany, more than a hundred other places. And whereas students were interested in Scandinavism, the professors and researchers were not at all interested in the Nordic countries; only 53 trips went to Denmark, 9 to Norway, and just 4 to Finland. Copenhagen was the gateway to Europe. The journey often began with a short visit there and then continued down through the Continent, on a well-trodden path through Germany, the Netherlands, Belgium, and Switzerland to northern Italy. The travels broadly

reflect the cultural and scientific geography of the time, but also the political and economic power. Visits to the eastern parts of Europe, east of Berlin, Dresden, Prague, and Vienna, are virtually absent from the material. Only 38 foreign visits were paid to countries outside Europe, above all to the USA, but also to Algeria, Tunisia, India, Pakistan, Australia, and New Zealand. Three persons, two professors of botany and one of zoology, had visited the USA, the most remarkable of which is the journey by the professor of botany Sven Berggren. He left Lund on 21 August 1873 to go first to New Zealand and then to Australia and the USA, finally returning to Lund on 22 November 1875. He had been away for two years and three months and had completed one round of the earth.

Travel grants also made it possible for foreign students to visit Lund. The Oehlenschläger-Tegnér Scholarship, which enabled Danish students to study in Lund, was awarded to people such as the mathematician Niels Erik Nørlund and the historian of religions Edvard Lehmann.[143] Lehmann, who would later become professor in Berlin, was summoned to Lund in 1913. This made him one of the first Danes since 1668 to serve as professor in Lund. On a ferry to Copenhagen this scholar of religion is said to have introduced himself to a travelling salesman: "I'm a travelling salesman too. I deal in articles of faith."[144]

The earth's blank spots

Up until the time before the First World War it was unusual to travel outside Europe. In the nineteenth century the world still had its blank spots. The coastlines had been mapped but the innermost regions of the continents had not seen much exploration. To the far north there were uncharted white expanses of snow and ice. Scientific expeditions from Lund extended that far, in search of new research material, new species, geological formations, glaciers, mountains, and lakes, but can also be seen in the light of economic and geopolitical interests in the national aspirations and the colonial race of the nineteenth century. Unlike earlier journeys in search of remarkable and curious things, the nineteenth-century research trips showed a greater interest in exploring a limited area.

At the start of the century Sven Nilsson made a journey north that took him along the west coast to Kristiania in Norway and on through Hedemarken and Gudbrandsdalen, over Dovre mountain and Trondheim, up to Bodø, a journey that he compared to Pytheas' voyage to Ultima Thule. Norway had recently become Swedish and the Swedes needed to acquired knowledge of their acquisition. On 23 April 1816, at ten in the morning, Sven Nilsson set off in a light two-wheeled cart with a double-barrelled shotgun and other hunting equipment. The

lapwing was tumbling with its cheerful spring song and the melodious tones of the lark could be heard from the azure-blue sky, Nilsson wrote.[145] His travel funds amounted to 600 riksdaler banco, half of which came from His Majesty the King, 150 from the Academy of Sciences, and 150 from Lund University through the university chancellor Lars von Engeström. This money was supposed to be used for the intended purpose. At Trondheim there was an attempted robbery, but the robber mistook the case of the portable barometer for a rifle and fled. At the far north he described the mood of intense happiness in a magnificent alien landscape. He sat on a cliff in Northern Norway, surrounded by untouched nature, as the sun set behind the high, grey, white-speckled mountains. But he came back to Lund the following spring "sickly and crestfallen".[146]

Arctic research developed into a strong tradition in Lund in the nineteenth century. Sven Lovén, reader in zoology, went on an expedition to Finnmarken, visited Spitsbergen in 1837, and performed zoological dragging in the waters along the west coast of Bear Island and Spitsbergen. The zoologist and geologist Otto Torell made several research trips to the Alps, Iceland, Spitsbergen, Greenland, and northern Finnmarken to study glacial formations, which served as the foundation for his glaciation theory. He led the Arctic expeditions to Iceland in 1857

Otto Torell led an expedition to Spitsbergen in 1861, with two other researchers from Lund taking part, the chemist Christian Wilhelm Blomstrand and the astronomer Nils Dunér. Here they have set up camp at Isfjorden. As they observe the glaciers, the coffee pot steams over the fire and a reindeer rests on the ground after a day on the move. Green Harbour in Isfjorden, Spitsbergen, 24 August 1864. Lithograph by Gerhard von Yhlen in Karl Chydenius, *Svenska expeditionen till Spetsbergen år 1861* (1865).

and Spitsbergen in 1858, accompanied by the Finland-Swedish polar traveller Adolf Erik Nordenskiöld and the Lund zoologist Quennerstedt, which yielded rich geological, botanical, and zoological collections. Quennerstedt wrote about the trip to Spitsbergen:

> Anyone who has experienced and lived in regions more favoured by nature will find it difficult to imagine the mighty – and simultaneously sorrowful – impression given by a landscape in, one could almost say, all its primeval desolation and emptiness. I have been able to experience this impression in fullest measure during my stay on Spitsbergen this summer.

He had been visiting those friends of solitude, the polar bears, walruses, and seals. He had experienced the horrors of the polar world: wild animals, cold, storms, and impenetrable nights. "But there is a lumen internum that shines in man, which no storm can quench and no darkness can grasp. And therein lies the great secret, the secret of mastery over nature, defying all external weakness." With this comforting thought he took farewell of the wide wilderness of Svalbard.[147]

In the following year, 1859, an expedition set out for western Greenland to study the ice sheet. The great polar expedition of 1861 went to Spitsbergen and the north coast of Nordaustland; it consisted of a multidisciplinary team of scientists – besides Torell and Nordenskiöld the chemist Christian Wilhelm Blomstrand and the astronomer Nils Dunér (the zoologist Fredrik Adam Smitt, who had previously studied in Lund, also took part in the journey). One afternoon in autumn 1862 Quennerstedt happened to meet Torell in the street in Lund and was invited to the Academic Union for a cup of coffee and a glass of punch.[148] The talk came round to polar matters: "If only one could get to Jan Mayen!" Quennerstedt exclaimed, referring to the isolated island between Spitsbergen and Greenland. "Do you want to go to Jan Mayen?" Torell asked with interest. Quennerstedt said yes. "Then I'll try to get you there!" And so he did. Torell, with his connections, was able to keep his word and Quennerstedt received an offer early the following year to join a polar expedition.

Nordenskiöld led several polar expeditions in which scientists from Lund took part, such as the Spitsbergen expedition of 1864 during which Nils Dunér drew the first map of Bear Island. A new polar expedition was led by Nordenskiöld in 1868, where the botanists Theodor Magnus Fries and Sven Berggren took part. The cryptogam researcher Berggren went on several polar expeditions; besides exploring Spitsbergen in 1868, he was also with Nordenskiöld's Greenland expedition in 1870. Another legendary polar explorer was Alfred Gabriel Nathorst,

who made expeditions to Spitsbergen and Greenland. He had studied in Lund, received his doctorate in 1874 with a dissertation on plant fossils, became reader in geology, but later worked as professor and curator at the National Museum of Natural History in Stockholm. Taking part as a botanist on Nathorst's expedition to Spitsbergen and King Charles Land in 1898 was Gunnar Andersson, who had obtained his doctorate in Lund in 1892. Also on the same expedition was the zoologist Axel Ohlin, who had previously been part of the search in 1894 for the missing Björling-Kallstenius expedition to Greenland and who had travelled with Otto Nordenskjöld to Patagonia in 1895–1897. In addition he took part in the first Swedish Antarctic expedition of 1901–1903. The botanist Herman Georg Simmons was a member of the Norwegian polar expedition on the *Fram* in 1898–1902, which resulted in a number of publications on plant geography and flora. Another Lund botanist, Thorild Wulff participated in the Swedish-Russian Arc-of-Meridian expedition to Spitsbergen in 1899, which was the foundation for his dissertation on the plant life of Spitsbergen. Wulff, who later became more of an adventurer than a researcher, also made trips to India, China, Japan, and Indonesia, and finally died in tragic circumstances during an expedition to Greenland in 1917. Polar explorers were the national heroes of the time, scientists who risked their lives on hazardous research in inhospitable regions. Lund University Male Voice Choir welcomed the *Vega* expedition in 1880 after the successful voyage through the North-East Passage, and sang in memory of the members of the Andrée expedition when the remains were brought back to Sweden in 1930.[149]

Research trips also took people to other parts of the world. Charles John Andersson studied for a short time in Lund in 1847, but he tired and set off for southern Africa, where he explored Lake Ngami and the Okavango River in present-day Botswana, collected plants in the Namibian deserts, studied the rich animal life on the savannahs, worked as a mining official, participated in tribal combat, and was appointed chief of a Herero tribe. He was made an honorary doctor in Lund, but the news of this did not reach South Africa until ten months after his death in 1867. The geographer Hans Hugold von Schwerin travelled in Central Africa in 1885–1887, explored the estuary of the Congo River, Angola, and the islands in the Bight of Biafra and published nature scenes from the west coast of Africa in 1893. The botanist Svante Murbeck received the Battram scholarship for studies of flora in Bosnia and Hercegovina in 1889, travelled to Algeria, Morocco, and Tunisia in 1896, 1903, and 1908, and around 1900 he published a five-volume work in French about the flora of North-West Africa and Tunisia. South America was the destination for Eberhard Munck af Rosenschöld, bachelor of medicine, as ship's doctor on the *Oscar* expedition to Argentina. He

stayed on in South America, moving on to Paraguay where he became personal physician to the dictator Francisco Solano López, but he fell out of favour, was tortured and executed in 1869. Nils Johan Andersson was on the frigate *Eugenie* as botanist when it sailed around the world in 1851–1853. He brought home rich botanical collections, gained his doctorate with a dissertation about the vegetation of the Galapagos Islands, and was appointed assistant lecturer in botany in 1855, but instead took up a post at the National Museum of Natural History the following year. Several of the travellers from Lund published accounts of their journeys when they came home. At this time some hastily written impressions of travels in Lapland or Paris were considered worth publishing, but they were also a suitable target for parody. Axel Wallengren helped to write a guide to the 1890 carnival, *Lund Just Now! Snapshots from the International Exhibition in Lund 1890*, which parodied an account of the International Exhibition in Paris the year before written by the columnist and *flâneur* Gustaf Gullberg: "This little book is the grandchild of a moment. It was written down in less than eight minutes – and printed in an even shorter time."[150]

Fragments of these travels in the world are still preserved in the university's collections. Travel yielded pieces of the world's nature, history, and culture, as research material, for teaching and museum purposes. Instruments, natural specimens, and works of art conveyed perspectives on the world, an essential part of internationalization. With minerals, stones, plants, molluscs, and animals, the world was expanded in its wealth of natural samples from foreign shores, mountain regions, and forests. With ethnographic artefacts, works of art, and everyday objects, the world was extended to foreign cultures, from the cradle of civilization, ancient temples, the workshops and studios of France and Italy to distant continents and islands beyond the horizon of Lund. Collecting fragments of the world, as reflections of the world outside the walls of Lundagård, also helped to end Lund's isolation, linking the lecture theatres and studies with foreign countries and continents.

The first foundation for the university's chamber of natural history was the collection of natural specimens donated by Kilian Stobaeus the Elder in 1735. The quest to find new species, and the whole subject of plant geography, forced naturalists to travel. Botany in Lund was heavily influenced by German science in the nineteenth century and at the start of the twentieth century, but later forged stronger links with Britain and France and then the USA. "Because of geographical conditions, new branches of research have often been introduced in Sweden via Lund, where they first became significant," Hakon Hjelmqvist observes in his history of botanical research in Lund.[151] The Botanical Museum

in Lund has a great many samples from different parts of the world, collected on expeditions and travels or through swaps with other botanical collections, gardens, and institutions. According to an inventory from 1862, the herbaria of the Department of Botany already included specimens from Mexico, Colombia, Trinidad, Venezuela, the Amazon, Juan Fernández, East Africa, North America, Australia, and Fiji. One of the prime collections is Agardh's algal herbarium, consisting of 51,000 specimens from much of the world, collected by Agardh father and son. The botanical demonstrator Nils Johan Andersson, two years after arriving home from having sailed around the world, donated plants collected in the Galapagos Islands, Sven Berggren contributed mosses collected in New Zealand, and Svante Murbeck presented 40,000 sheets of plants from Bosnia and Hercegovina, North Africa, and the Middle East. Botanists from Lund also brought home collections from several Swedish expeditions to Spitsbergen and Bear Island. From southern Africa came plant material collected by people like Thore C. E. Fries. Among other botanists, Hjalmar Möller collected plants in Java and Otto Holmberg in the Caucasus. The botanical collections also grew through purchases, swaps, and gifts. From Alexander von Humboldt there are plant specimens from the Orient, Nubia, Madagascar, and the Comoros. Large herbarium collections were acquired by purchase or by donation from travelling amateur botanists, sometimes of a curious kind, such as a bamboo cane donated by the wandering apothecary Hans Nicolaus Ris in 1828 or an exemplar of the remarkable plant *Welwitschia mirabilis* from Namibia's deserts which Charles John Andersson sent home to Lund.[152]

It was not only dead things that were collected, but also living specimens. The botanical garden collected foreign medicinal plants, herbs, and trees. From a trip to Germany the director of the garden, assistant lecturer in medicine Eric Gustaf Lidbeck, brought seeds of white mulberry, and a few years later, in, 1753, he was able to make the first silk. Lidbeck's successor, Anders Jahan Retzius, planted trees and bushes from Siberia and North America in the increasingly verdant botanical garden. Living plant material also travelled out in the world and found its way to Lund through exchanges of seeds with foreign botanical gardens and research institutions. Nordic species – the twinflower (*Linnaea borealis*) was especially popular, being named after Linnaeus himself – were swapped for tropical and subtropical species. The botanical garden established a global network of contacts, not least with Copenhagen. The palm house in the botanical garden is like a microcosm of the planet's plants world, divided into different rooms for different climates: Southern Europe, Cape Province, Australia, rain forests and deserts. In the parody guide to the 1890 carnival, *Lund Just Now!*, we read: "We ought not to forget the huge Botanical Garden, where all the plants are ordered

in a pleasant muddle, which makes one feel one is in a primeval forest in Africa, or on the plains of the Pampas, or in Africa's great big Sahara."[153] The path taken by the yellow skunk cabbage (*Lysichiton americanus*) and other North American plants to Lund's botanical garden was dramatic, to say the least. The botanist had travelled in Kamchatka, Russia, Mexico, Alaska, Klondike and the Aleutian Islands. He came home after travelling in North America, arriving by boat in Gothenburg in 1932 to continue by train to Lund. He had with him a heavy crate containing 100 kilos of living plant material. He had obtained permission from the Plant Protection Institute to import plants, but he had failed to notice that he was obliged to pay customs duties on the import of cut flowers. Yet he refused to pay the exorbitant duties, saying: "Then I'll dump the contents in the harbour, but be aware that this story will be in the papers tomorrow morning."[154] The customs official yielded. In November the same year the yellow skunk cabbage was planted in the botanical garden.

The collections of the Zoological Museum are also the result of Lundensian research trips and several major expeditions, of surveying, hunting, dragging, and netting. The zoological collections grew during the nineteenth century, not least through the efforts of Sven Nilsson and through hunting trips and expeditions mounted by people from Lund. Charles John Andersson contributed bird skins from southern Africa, and the Swedish polar expeditions increased the collection of Arctic species. Even King Oscar II made his addition in 1875 when he donated a collection of molluscs from Java. There on the shelves, in boxes and alcohol jars, fragments of the living and the dead world are assembled, giving a hint of the things now living in the world and those that once existed. The collections contain a number of extinct species, such as the great auk (*Pinguinus impennis*) donated by Sven Nilsson, and a complete skeleton of the heavy-footed moa (*Palaeopteryx elephantopus*) from New Zealand, a gift mediated by Sven Berggren.[155] From the *Vega* expedition there is an almost complete skeleton of the extinct Steller's sea cow (*Rhytina stelleri*) donated by the leader of the expedition, A. E. Nordenskiöld. The collections also contain several exemplars of the extinct Tasmanian tiger (*Thylacinus cynocephalus*) and exterminated bird species such as the passenger pigeon (*Ectopistes migratorius*) and the Caroline parakeet (*Conuropsis carolinensis*).

New instruments also changed the conditions for thought; they functioned as exograms, as external tools with which to think and observe the world. Besides purchasing scientific instruments from workshops in London, Paris, and other cities, the university had its own instrument makers, such as the German Friedrich von Mandern, who settled in Lund in 1728, and the Italian glass blower Baltzar Stecci (Stäck), employed in 1760.[156] A magnificent addition was the Triewald

There are several exemplars of the extinct Tasmanian tiger (*Thylacinus cynocephalus*) in the collections of the Zoological Museum. The last animal died in captivity in 1936.

collection, assembled on travels in England, which ended up in Lund in a somewhat roundabout way when Daniel Menlös became professor of mathematics.[157] In 1839 the professor of physics, Adam Wilhelm Ekelund, was granted leave of absence to visit various instrument makers in Paris with the purpose of obtaining apparatus for experiments in acoustics, electromagnetism, electrostatics, optics, and thermodynamics. He also brought home a device for Daguerre's photographic method.[158] The things around us help us to see, remember, and deal with the world. This applies, of course, not only to collected natural specimens and scientific instruments, but also in the social sciences, the humanities, and theology, with which we can understand other ways of living and thinking. In the nineteenth century and the early twentieth century valuable collections were built up, put together by philologists, historians, archaeologists, anthropologists, and ethnographers, who documented foreign cultures. For example, the art historian Ewert Wrangel went on a number of study trips where he also took the opportunity to collect prints by masters, chiefly in Western Europe, but he also travelled to Russia, Cyprus, and Syria. Gunnar Jarring's collection of Turkish manuscripts is unique. The objects, the collections, are not passive objects that merely represent ideas about the world; they are active objects that change the world and our way of thinking.

Thoughts through copper wire and airwaves

In the university's catalogue for autumn term 1904 one can read that the professor of political economics and financial law, Knut Wicksell, living in Linero, "can be met at the university after every lecture, at home best time 4–5 p.m., most easily by telephone".[159] Arthur Stille, reader and clerk at the faculty of philosophy, could likewise be reached by phone at national number 347. The oldest note about the telephone in the university catalogue refers to the same Arthur Stille in autumn term 1902. Of the university's 93 teachers, Wicksell and Stille were the only two in 1904 who could be reached by telephone. The number of telephone subscribers grew rapidly, however. At the start of the 1910s the vast majority of academic teachers had obtained this means of communication through copper wires. The first two-wire circuit for telephone traffic in Sweden had been installed in 1883 between Lund and Malmö, and in the 1890s more and more places were linked by national lines. Telephony had certain limits, however, as regards how far one could reach. The signal was seriously weakened between distant places, and connections with other countries were also strictly limited.[160] Telephone links with Norway and Denmark opened in 1893. Ten years later, in August 1903, telephone traffic to Germany opened, via Denmark. Lund had geographical advantages. From Stockholm it was not possible to reach beyond Hamburg and Lübeck, whereas from Malmö one could also reach Berlin. Calls to Germany multiplied twentyfold by 1910 thanks to technical improvements. In 1919 the first underwater cable was laid between Malmö and Germany, thus opening a direct link with Germany, and traffic increased considerably after the country had been cut off for so long during the First World War. Cable technology for long-distance traffic was improved, and the maximum calling range was multiplied during the 1920s. Telephone exchanges were automated in the 1960s, and in 1967 even foreign calls could be connected automatically. During the twentieth century the telephone became an important support in any researcher's or teacher's foreign contacts. Foreign trips and visits from abroad were preceded and followed by telephone calls. By 1900 the number of telephone calls already exceeded the number of letters in Sweden.[161] The heyday of the stationary telephone was manifested in the great fortress built by the national telephone authority, Televerket, in Stora Gråbrödersgatan, opened in 1915, a building that exudes gravity and permanence. Today Televerket is only a memory, and the building now houses the Department of Law.

The new communications of the twentieth century meant a dramatic change to academic travels and contact networks. It became possible to spread oneself over more of the world, as Sam Ask, a rather corpulent eternal student, wrote (with

some self-irony) on a postcard to the author Frank Heller: "Having just been squeezed through the Brenner Pass, I am now expanding over the Po Plain."[162] Communications became faster and cheaper, in a network that was becoming increasingly extensive. Information and contacts could be mediated through telegraph, telephone, and the airwaves. The breakthrough of radio and television created new opportunities for spreading knowledge, so that university people could contribute to popular enlightenment, encompassing much of the country and reaching different groups in society. With lectures on the radio, professors from Lund could speak directly into people's living rooms. The television programme *Ask Lund* is usually cited as the real breakthrough of Lund in the broadcast media. Travel times were reduced and new forms of locomotion came, from horse and carriage, via motor traffic, to flying. A journey that in the early nineteenth century could require months of discomfort on muddy roads and swelling waves could be achieved in one day by air in the late twentieth century. New lighting, from torches, via gaslight to electric light, made it easier to find one's way home on dark autumn evenings. The first car in Lund is said to have been driven by Sam Ask in the carnival procession of 1904. In this respect too, Lund had technical advantages. A road paved with cement concrete was constructed between Lund

Air travel by Lund's researchers began with Enoch Thulin, PhD in physics and aviation acrobat. Photograph taken at a flight display in Landskrona on 5 August 1915.

The enchanted automobile. "With a dreadful roar the engine started. It filled the whole Valley of Kidron with its infernal racket, echoing from the walls of Jerusalem, the Dome of the Rock, and the Mount of Olives." Drawing by Gunnar Lindvall in Fredrik Böök's *Resa till Jerusalem (*1925).

and Malmö in 1926, and Sweden's first motorway was opened in 1953 between the same cities. The car in particular has changed everyday life for an academic teacher, on the way to and from the university, but some have also used the car for research journeys. The literary scholar Fredrik Böök made trips by car in Europe during the 1930s. Erik Holmberg led an expedition to the Caucasus in 1936 to study the eclipse of the sun, which lasted 91 seconds.[163] They travelled the whole of that long distance in a truck filled with instruments: astrograph, spectral camera, and so on. They set up camp at the village of Dzhubga on the Black Sea. Preparations went according to plan, and on 19 June the eclipse was due, but a heavy cloudburst came. So they had to return home with no results.

The pioneering aviator Enoch Thulin gained his doctorate in 1912 with a dissertation "On Air Resistance against Thin Plates at Changeable Speed". Two weeks after the conferral of his degree he went to France and took his pilot's licence, after which he did air displays as "the flying doctor" and started manufacturing aeroplanes, but he was killed when his plane crashed in Landskrona in 1919. An original element in Lund University's range of courses is the training that is

still given at the School of Aviation in Ljungbyhed. Aeroplanes further reduced travel times, bringing much of the world within easy reach as regards both time and cost. Around 1900 an average Swede travelled 230 kilometres during a year by the different means of transport then available, whereas in 1990 the average was about 13,000 kilometres.[164] The increase in travel is largely due to improved air connections, in the case of Lund with the opening of the Bulltofta airport in 1924 and Sturup in 1972. Kastrup, Copenhagen's airport, became an important flight hub for foreign traffic when SAS was founded in 1946, and since then it has been the gateway of Lund academics out into the world, in the same way as Copenhagen has been for more or less the whole of the university's history.

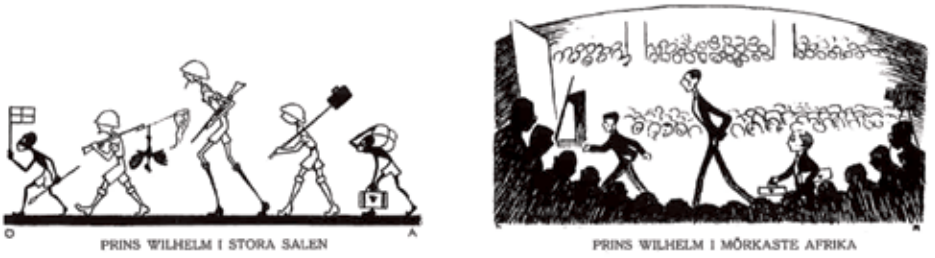
Telegraph, telephone, air travel, the Internet, and other forms of communication shortened time-space in the twentieth century, extending space through shorter time spans between geographical points. The world has come closer. This has led to improved opportunities for meetings between people, for the exchange of thoughts and ideas, for participation in conferences and congresses, and for delivering lectures in foreign places. Apart from the increased frequency of travel and the more extensive coverage of the globe, the way of travelling and meeting the world appears to have changed too. If academics in bygone centuries undertook only a few journeys in their lives, they were away for longer, travelled slowly through the landscape, had longer stays in the same place, and the world was able to sink in slowly and more thoroughly. At the end of the twentieth century travel is different, more superficial. You fly to the destination, not seeing much more than the airport, the conference venue, the hotel room, and a few restaurants, and then fly home again after a couple of days when the conference is over.

War and global politics

The outside world affected academic life. Political events in the twentieth century had palpable repercussions even in Lund, far from the trenches, safe among the cornfields and meadows of Skåne. The dissolution of the union with Norway in 1905 was debated. At the feast to welcome new students in 1905 Verner von Heidenstam gave a patriotic speech, while the radical Wicksell – living with the Norwegian feminist and pacifist Anna Bugge – criticized Swedish policy on the union issue. The First World War led to broken contacts and delayed deliveries of scientific instrument and books. Although Sweden was never drawn into the war, there were teachers and students with experience of combat.[165] A French university lecturer fought in the war and was wounded. Before the armistice the university celebrated its 250th anniversary in 1918 with just one representative

from war-torn Europe – from Greifswald. Instead the jubilee took on a more Scandinavian character thanks to representatives from Denmark, Norway, and Finland. An express ambition of the Royal Society of the Humanities in Lund, founded in connection with the 250th anniversary, was to restore the contacts with scholars in Europe that had been interrupted by the war. Among the student associations we find the Lund branch of Clarté, founded in 1922, which was part of an international socialist and pacifist movement promoting closer peaceful cooperation between nations. Other associations, such as Lund's National Student Club, established in 1924, tended in the other direction. The Foreign Policy Association was founded in 1935. Another activity that opened the world for Lund was the student evenings.[166] Since 1905 there had been student evenings at the Academic Union, and many of the lectures on these occasions were about events and phenomena in the surrounding world: the First World War, the Russian Revolution, and Hitler's Germany. Adventurers told of their research trips to South America, Greenland, Tibet, and New Guinea. International giants such as Albert Schweitzer, Leni Riefenstahl, Karen Blixen, and in the post-war years Louis Armstrong, Dag Hammarskjöld, Ravi Shankar, Günter Wallraff, and Ilona "Cicciolina" Staller were guests at student evenings.

The necessity of travelling and maintaining contact with foreign colleagues was obvious after years of isolation. "No professor in a clinical subject can sit still in his clinic waiting for impulses from the world to come to him," Erik Ask-Upmark writes in his memoirs.[167] Ask-Upmark, reader in practical medicine in Lund, later professor in Uppsala, had been a Rockefeller scholar in Boston during his time in Lund, but he had also visited Mussolini's Italy in 1938 and had volunteered as a doctor during the Finnish Winter War. Literature studies are important, of course, but they lag at least one year behind reality. Quite simply, he says, it is one's professional duty to maintain contact with foreign colleagues, which can



Prince Vilhelm talked to a large audience at a student evening on 3 February 1922 about his travels in darkest Africa. Drawing by Oscar Antonsson in *Lundagård* 1922.

The carnival procession in May 1934 made fun of Hitler and his Nazis. The third day was called "The Day of the Third Reich" and the carnival area was called "Animal Park" or "The Concentration Camp".

be done in three main ways: through congresses, symposia, and private visits. The congresses had swollen to unmanageable size and, Ask-Upmark feared, would face the same future as "the dinosaurs or mammoths." Symposia are better, but best of all are private contacts.

Travel increased in the 1920s and 1930s and contacts were re-established with Germany, still the leading scientific nation, but people were also finding their way to the world beyond Europe. Martin P:son Nilsson, professor of classical archaeology and ancient history, had studied in Basel and Berlin, and lectured in both England and the USA. The classical archaeologist Axel W. Persson led the excavations of the city of Asine in Greece in 1922 and of the royal tomb of Dendera in Egypt. The professor of botany Thore C. E. Fries led an expedition to southern Africa, but contracted pneumonia and died in Mutare in present-day Zimbabwe on New Year's Eve 1930. In the years between the wars one can see an incipient interest in the research being done in America. The Sweden-America Foundation, founded in 1919 to forge research contacts between the countries, awarded a grant in 1920 to the astronomer Knut Lundmark to enable him to

study for two years at the Lick and Mount Wilson observatories in the USA. The geneticist Arne Müntzing was impressed by the efficient cooperation in American scientific research, with huge financial resources and a large staff.[168]

Germany remained the most interesting country for scientists and students from Lund. There were strong trade ties with Germany. Flows of tourists went in that direction. Books were imported from Germany, which was also the country to which more post and telephone traffic was directed than any other, and German was the most important foreign language. During travels in Germany, however, one could not avoid noticing what was happening. Developments in Germany in the 1930s were followed from Lund, but the interpretations and assessments of future prospects differed. Fredrik Böök, who was seduced by Hitler Germany, saw the burning of the books in May 1933 as "a plucky demonstration". Some people suspected that purges of books could soon lead to purges of people. Others found the Nazis more ridiculous than anything else. In the carnival parade in May 1934 there were three small nazists: Hitler, Göring, and Goebbels. When Heidelberg was celebrating its 550th anniversary in 1936, a debate arose about whether it was right in principle to send a delegation to a university where academic freedom was being trampled underfoot. Anders Cavallin, who took part in a choir excursion to Lübeck in 1937, told of how they were met by military music and SA soldiers. During a "singing journey through Greater Germany" in 1938, at each new place they reached they had to listen to a Nazi official screaming "his rigmarole about 'Blut, Boden' and 'arische Gemeinschaft'." That same year, Bertil Block had obtained a travel grant to attend a theological conference. In Berlin he saw park benches with the text "Juden nicht erwünscht". One of the most notorious events in the history of Lund University was a meeting of the student union in March 1939 when a majority (724 people) voted against a proposal to let ten Jewish doctors enter the country, with the excuse that "immigration which entails the incorporation of alien elements in our people appears injurious to us, and indefensible for the future". Only 342 were in favour of admitting the Jewish refugees.[169]

In spring 1939 the astronomer Frida Palmér received the Lindahl Scholarship from the Royal Academy of Sciences. She had just set off when the war started. She wrote from Brussels on 28 August 1939 that the observatory where she was working was being used as a mobilization centre: "Horses and soldiers are running around among the instrument buildings. One can scarcely believe that this is reality."[170] She was forced to break off her stay, and later during the war she would work at the National Defence Radio Institute. It is clear that the war caused a great strain on academic life, research, and teaching: shortage of supplies and equipment, an

uncertain and uneven flow of scholarly journals, no visits by foreign lecturers, difficulties in studying abroad, financial cutbacks, postponement of new buildings, and men called up for military service. Certain activities were given top priority. Medical training was to continue without disturbance, and there were plans to move the teaching to the north in the event of invasion.[171] In spring 1943 the deputy chairman of the student union described the interruption in communications in the words: "Lund is breathing with just one lung."[172]

The debate in academic Lund also followed the war in part. Böök held what was interpreted as a pro-Nazi speech at the Tegnér Feast in 1940. A "crypto-Nazi" editorial board took over the student magazine *Lundagård* for a short time in 1941–1942, giving column space to a national socialist student association, but had to resign after a tame protest in 1942 against the way the Germans treated the University of Oslo. The German occupation of Norway and Denmark did have the consequence that three learned societies in Lund broke their connections with Germany in 1943. And there was no shortage of voices against Nazism. In the book *Tidsspegel* ("Time Mirror", 1942) ten professors from Lund defended democracy and freedom of thought, warning against totalitarian doctrines. But otherwise there was widespread anxiety, uncertainty, and fear. Sverker Oredsson argues that there were more examples of pro-Nazism in Lund at this time than at other universities.[173] One explanation would be Lund's geographical location and its heavy dependence on Germany in comparison with other Swedish university towns.

Although Lund was spared from any direct events of war, apart from fifty bombs that were dropped by mistake on a transformer station and a market garden on 18 November 1943, the war was highly palpable in the neighbouring countries. Some students volunteered to serve as medics in the Finnish Winter War in 1939–1940. The world war was not far away. The German occupation of Denmark began in April 1940. Danish refugees crossed the Sound under cover of darkness, and some ended up in Lund as students. Jewish refugees arrived from Denmark in autumn 1943. Even the famous atomic physicist Niels Bohr passed through Lund. The anti-Nazi literary critic Olle Holmberg played an active part in organized actions in Germany to assist Nordic scientists in concentration camps. Help was organized for students affected by the war in Denmark, Norway, and Finland. Many refugees would be significant for Lund after the war. Manfred Moritz left Germany in 1934 on account of the racial laws, came to Lund the same year, and became professor of practical philosophy in 1959. Hellmuth Hertz fought as a German soldier in North Africa, was a prisoner of war in the USA, came to Lund in spring 1947, and was appointed professor of electrical measurements in

1963. Karin Ryde (née Oelsner) fled Germany after the Night of Broken Glass in 1938 and in 1978 she founded Lund University Foreign Friends (LUFF).[174] In the closing phase of the war, 1944–1945, Baltic refugees came to escape the Soviet army; their number included Edgar Kant, who later became the university's first professor of economic geography in 1963. After the liberation of Denmark and the German capitulation on 8 May 1945 there was a procession to the monument to the Battle of Lund – which thereby became something of a monument of reconciliation for Danish students in exile and hibernating Lund students.

After the war contacts with Germany were established again, but with the western parts. An iron curtain now cut through Europe. East Germany and Eastern Europe disappeared behind it. Lund's contacts were shifted westwards, from the central parts of Germany (what became the German Democratic Republic) to the area around the Rhine. Destinations which had been very popular among Lund academics before the war, such as Leipzig, Jena, Halle, Greifswald, and Dresden, became almost non-existent places until 1989. During the decades after the Second World War there was instead increased travel to and contacts with the USA. In the period 1850–1950 visits to the USA accounted for only 1.5 per cent. In 1983 it was 16 per cent. Another clear change in the pattern of travel was that travel within Scandinavia became more common. Nordic collaboration was increasingly emphasized in government bills on education, and research cooperation in the Baltic Sea region, not least in environmental matters, increased.

The decline of German culture and science after the war has few counterparts in the history of scholarship. Germany lost in political and military terms, but also as regards culture and science. The ideology of German university policy in the 1930s had effectively ruined the foremost academic nation. Purges of teachers and researchers at the universities, ideological steering of science, and the events of the war destroyed German scholarship. German intellectuals fled to places where they could find greater academic freedom. One country now took over as a scientific superpower: the USA. Immigration of academics escaping war-torn Europe and totalitarian Germany also contributed in part to the USA's scientific and technological development after the Second World War. Yet Sweden's and Lund's orientation away from Germany towards the Anglo-Saxon world did not happen abruptly when the war turned in 1943; Germany's scientific and cultural hegemony had already begun to weaken at the time of the First World War. The pattern of scholarly contacts thus reflects the links between political, military dominance and cultural, scientific dominance. Economic and material factors play a not unimportant role for the international orientation of science and research cooperation.

A distinct international reorientation can be seen in the changed language skills and publication trends. German, like French and other foreign languages, lost in importance. English, which had formerly been a rather obscure language, became the dominant language of scholarship after the war, with a role reminiscent of that once played by Latin. The places of publication for the literature used at Lund University are a good reflection of the shift over time. The books borrowed by Esaias Tegnér from Lund University Library display a rather limited spread in this respect. Two thirds of the books were printed in Sweden; the next country in terms of frequency was Germany, with Denmark, France, Holland, England, Finland, and Italy coming far behind. If we look more closely at the set books in humanities and social sciences from 1933 to 1935, one third were Swedish and a third German. Britain accounted for 15 per cent, but no literature came from the USA. If we then move forward to the 1960s, the picture has changed radically. According to the course requirements in 1963, more than half of the literature was now in Swedish. Britain and the USA account for 27 per cent, but Germany only 11 per cent. The literature had thus become more Swedish and Anglo-Saxon. Literature references in medical dissertations show a similar pattern. In 1935 Germany

German and Indian students in front of the university building in connection with an international student course in Lund in 1955.

dominated with roughly half, but four decades later, in 1975, only a tenth of the literature was German, while Swedish had gone from four per cent to a quarter. Altogether, then, the literature has shifted from Germany and the Continent to the Anglo-Saxon world, or as the geographer Torsten Hägerstrand put it: "The Continent of Europe is almost sinking beyond the horizon."[175]

The increased dominance of English in scholarship reflects the redrawn post-war economic and political map, and the increasingly globalized economy. Nowadays academic articles and books seldom contain references in any language other than Swedish and English. Lund's self-image of growing internationalization is in fact one of Anglicization. Although Lund is part of a global world today, the knowledge of languages and references to other scientific environments has become more limited. The same trend is visible in the language of doctoral dissertations. More and more are published in English, fewer in Swedish, and other languages are extremely rare. In 2003 we find 78 per cent of Sweden's dissertations in English. If we look at those presented at Lund University in 2015 we see the total preponderance of English, even in the humanities, theology, and social sciences, with 94 per cent. Only five per cent are in Swedish and one per cent in other languages (Danish, French, and Italian). The development has thus been from Latin in the early modern period, to Swedish in the modern period, to the post-modern English university, a trend that reflects the rise and fall of the nation state and the return to a cosmopolitan order. This difference, according to the historian of ideas Bo Lindberg, between a national vernacular (Swedish) and a cosmopolitan universal language (Latin or English), illustrates the different functions of scholarship: on the one hand as applied knowledge for society which is spread vertically in a native language, and on the other hand as theoretical and universal scholarship which is spread horizontally to the scientific community in an international language.[176] English articles in peer-reviewed international journals, through their form of publication and their language, enjoy greater respect and priority than articles and monographs in Swedish for a broader readership, so that certain research fields which are of interest to a general national audience no longer fit into internationalized scholarship.

Student mobility was still low in the mid 1950s. Undergraduate education had for a long time been chiefly a national concern. In 1870, for example, no foreign students were enrolled. During the first half of the twentieth century we see two peaks, just after the two world wars: in 1920 when 43 foreign students matriculated (12 per cent of the total number of enrolled students) and in 1950 with 67 students (10 per cent).[177] Teachers and researchers of foreign origin were not common either, with interesting exceptions, such as the Hungarian mathematician Marcel Riesz,

who came to Sweden on a scholarship in 1910, or the Englishman Charles Ernest Overton, who was brought in to be professor of pharmacology. A more distant visitor was the Indonesian-Chinese guest researcher Joe Hin Tjio, who collaborated with the geneticist Albert Levan in 1955 to identify and determine the correct number (46) of human chromosomes.[178] In the post-war years there were also major expeditions to different parts of the world, not in the same way as before by individual researchers, but more centrally organized with several researchers cooperating, moreover often involving local representatives. Lund University organized, for example, an expedition to Chile in 1948–1949, the Department of Zoology, with Per Brinck and Gustaf Rudebeck, organized an expedition to South Africa in 1950–1951, the ethnologist Anna Birgitta Rooth studied the Athabasca Indians and the Eskimos of northern Alaska in 1964, and a number of other expeditions from Lund brought home collections to the Zoological Museum, such as those to Sri Lanka in 1962, to the Arctic in 1965–1970, and to Senegal and Gambia in 1977.

The post-war years saw a growing interest in international student exchange and cooperation. An international student day was arranged by the Lund student union in autumn 1945, and an initiative was taken to open the university towards the world. In a text written for the inauguration of the International Student House – formally opened on 4 May 1959 by the secretary general of the United Nations, Dag Hammarskjöld – Gunnar Jarring asks whether international cooperation is growing stronger, alongside and despite conflicts and hostility between governments, nations, races, and religions.[179] A few decades ago, he writes, Sweden was somewhat beyond the international arteries, but since then the distances have shrunk and new means of communication have been developed. Per Stjernquist, who would later become the university's vice-chancellor, writes in the same publication that a need was felt after the Second World War to travel abroad and learn something about other people. For six years or more, people in Europe had been isolated from each other. But isolation within geographical boundaries and fixed ideologies, Stjernquist says, creates distrust and suspicion. The first international student course at Lund University was given in 1949, with the aim of supporting international understanding and friendship. Many of the participants would later attain leading positions in their countries. The students, it was felt, were also of an age when their minds were still young and receptive to impressions. They could thus learn to understand and respect each other. It was particularly social and international topics that were on the course programme, such as "Democracy in Post-war Europe", "Contact with Sweden", "University and Society", and "Co-operative Man". The courses held in the 1950s gathered between thirty and sixty students from about fifty countries, from every continent.

During the 1960s students increasingly sided with the Third World. Here a group of Lund students call for a boycott of the apartheid regime in South Africa.

In addition, an international scholarship fund was established in 1959, above all for students from Africa.

The post-war mood, the sense of leaving the divisions of war behind and building up a new society of peace, social reforms, and international cooperation, permeated international aspirations at the university. But cold new winds were also blowing in over Lund from the divided Europe. There was the threat of an atomic winter – atomic bombs had fallen on Hiroshima and Nagasaki in 1945, and a hydrogen bomb was tested in the Bikini atoll in 1954 – but there were also hopes that nuclear power would benefit society. A Swedish atomic bomb and nuclear power were on the research-policy agenda. The university accepted refugees from the Eastern Bloc, and also from other parts of the world as well, for instance after the military coups in Latin America. Political events in the surrounding world were discussed and also had repercussions in Lund, such as the Prague coup of 1948 and the Hungarian revolt in 1956.

Solidarity with the Third World became an increasingly important issue in the fifties and especially in the sixties: for human rights, revolution, and equality, against colonialism, racism, imperialism, and the capitalist exploitation of the Third World. Algeria and the Berlin Wall were discussed. Protests were staged against apartheid, against the USA's war in Vietnam and the junta in Greece. When the industrial magnate Marcus Wallenberg was to talk about Swedish industry's international operations in December 1966, he was met by demonstrations. When the prime minister Tage Erlander was the guest at a student

evening in 1967, the protests were instead against South Africa. Left-wing students celebrated the fiftieth anniversary of the October revolution in 1967 and hailed Mao and the cultural revolution in China. In 1968 there was even a trip by a group from the Association of Foreign Affairs to Mao's China. At the Academic Union in December 1967 the American civil rights leader Stokely Carmichael criticized US genocide in Vietnam. And the students of Lund were urged to support a collection of books for students in Hanoi. During the revolutionary year of 1968, Lund was drawn into the wave of student protests which was a truly international phenomenon. In Lund 1968 is associated with the burning of student caps and protests at the university jubilee. Rudi Dutschke, active in the student riots in West Berlin, gave a lecture at a student evening on 5 March. On 3 May the tennis match in Båstad between Sweden and Rhodesia was the scene of protest. In the same month there was an international symposium at Lund University about science and politics, which gathered academics from Europe and the USA, and a dozen ambassadors including the USA's William W. Heath – whose presence was found to be provocative at the height of the Vietnam War. In November when a South African diplomat was visiting, the event was disturbed with "We Shall Overcome" and the sandwiches intended for the guests were eaten up.[180]

Official journeys in the West and in cyberspace

At the start of the 1970s the Higher Education Authority (UKÄ) conducted an extensive inquiry into the internationalization of university education. The Swedish government set up a working group in 1972, the first country in Europe to do so. Swedish export companies were expanding abroad, which increased the need for education for international activities. The internationalization of education was one way to meet this need, but it was also a consequence of the increased interest in global issues at the time. The final report of the inquiry in 1974 was to be of great significance for the universities' international orientation.[181] The universities' annual reports and memoranda now highlighted international issues and gave them high priority. New educational programmes were established in Lund, such as one in international economics in the mid 1970s, and a range of area studies, such as Middle Eastern studies, East Asian studies, Denmark studies, and so on. There were also increased efforts to look after foreign students. Lund University Foreign Students Organization (LUFSO) was founded in 1972, and information in English geared to visiting students and academics became more common, for example *The Lundian*, published since 1988 by the American-born lawyer Madubuko Diakité. In a report from the Higher Education Authority (now

UHÄ) in 1982 the former vice-chancellor of Lund, and now the national university chancellor, Carl-Gustaf Andrén, pointed out that internationalization could mainly be considered in terms of four factors: the content of education – that it is up-to-date and relevant in international respects; the availability of textbooks in an international language; the presence of visiting researchers and lecturers from abroad; and that students have experience of study abroad. The work of higher education, he wrote, is by nature international. Scientific discoveries are global property, knowledge knows no boundaries, but "the global perspective is not always as easy to experience from the worm's-eye view with which we often see it – but it must be there and constantly aimed for."[182]

University employees' official trips increased heavily in the 1980s. By collecting material from the two offices of the SJ travel agency in Lund from the 1983 and 1988, Cederlund was able to show that travel frequency had increased during the period, even taking into account the growth in the number of employees, from just over 2,500 foreign trips in 1983 to 3,800 in 1988.[183] One explanation could be that it had to do with the drive for European research cooperation and exchange. The European Community was putting more research matters on the agenda. Not unexpectedly, travel within Europe dominated while journeys to Australia, South America, and Central America were rare. Some more surprisingly, the journeys more often took place in the spring and early summer. In the period April–June there were twice as many trips as in the winter months. In 1988 some 80.8 per cent of the trips went to Europe, 27.5 per cent to other Nordic countries, but only 0.1 per cent to South and Central America. North America was the destination for 15.9 of the journeys. One third of the trips in Europe were thus to the Nordic countries, and the number was probably even greater, since trips to Copenhagen were not always arranged through a travel agency. As much as 85 per cent of all journeys were to ten countries, headed by the USA, the UK, West Germany, and Denmark (the others are Norway, France, Switzerland, Finland, the Netherlands, and Italy). Western Europe was thus dominant, while some countries in Eastern Europe were not visited at all in 1983 and 1988, such as Albania and Romania. Visits to certain countries in Southern Europe, such as Spain, Portugal, and Greece, were also rare. The travels seemed to follow a geographical belt from Denmark south through West Germany, the Netherlands, eastern France, and Switzerland to northern Italy. Often the journeys were to metropolitan regions, on the one hand to cities in monocentric countries (often states in the Eastern Bloc), on the other hand to polycentric countries (such as West Germany, where there were 56 different destinations in 1988).

Differences between the patterns of travel in the different faculties are also evident in the material. The faculties of technology and science accounted for

about 60 per cent of all foreign travel. The faculties of humanities, theology, and law together stood for just seven per cent of the total travel. A comparison with the number of employees in the different faculties showed that the faculties of technology and science had more frequent travellers. One explanation why humanists travelled less could be that they had poorer economic conditions, while medical scholars arranged their travels not through the university but at the expense of the county council. The difference between the faculties chiefly concerned the frequency of travel, whereas it was largely the same countries that were visited by people from all faculties. Most people stayed within Europe. Law scholars and theologians did not travel outside Europe at all, and indeed they did not travel much either in Europe or even within Sweden. Medicine and technology had most journeys outside Europe, about 25 per cent, the majority to the USA. If we compare this with what was found for travel grants 1850–1950 – not entirely comparable material – the humanists had proportionally reduced their travel while the natural scientists had increased theirs.

A comparison between the different periods also shows, interestingly, that the countries most often visited in 1850–1950 were still popular in the 1980s. The same pattern of travel is seen as a line through Germany and Central Europe down to northern Italy. There were, however, some distinct changes in travel tendencies, with a shift to the west. Before the war eastern Germany was highly popular, places like Berlin, Dresden, Greifswald, Halle, Jena, and Leipzig, but trips to these cities had now almost ceased. The redrawn political map of the Cold War had an obvious impact on the travels of university employees. Instead there was a dramatic increase in the number of journeys to English-speaking countries such as the UK and the USA. There were also more trips to other Nordic countries. In the past it was virtually only Copenhagen that was an interesting destination. Not even in the days of student Scandinavism were there many study trips or research visits to other Nordic universities. In the 1980s, however, there were significantly more Nordic universities on the map, such as Århus, Oslo, Trondheim, Bergen, and Helsinki, which reflects the expansion of education and research in the Nordic countries. Berlin, Leipzig, Paris, and Munich, which had dominated in the older material, were replaced in 1988 by Copenhagen, London, Oslo, and New York – in other words, English-speaking and Nordic cities. Lund was still clearly oriented towards Germany and Denmark, to a greater extent than other universities in Sweden. Uppsala was oriented more towards Britain and Finland, and Umeå towards the Nordic countries, especially Finland.

University employees' telephone contacts with countries outside Sweden displayed a similar pattern to the official journeys.[184] Of 12,000 registered calls that

Professor Kjell-Åke Modéer in Lund with one of the first two serially produced Apple computers that he and Skotte Mårtensson brought home from the USA in 1984.

went through the university's switchboard between November 1987 and October 1988, 90 per cent were to countries in Europe. As with the travel, very few of the calls were to Eastern Europe. The ten most frequently contacted countries were exactly the same as we saw above. The patterns of travel and telephony also corresponded as regards region and city. In other words, the countries frequently visited were also the countries to which telephone calls were made. The most frequent travellers, teachers in the faculties of science and technology, were also the most talkative.

A new tool in internationalization came along in the 1980s and 1990s: the use of computers for communication, to share and process information and to create and maintain research contacts. Computers had been employed since the 1950s for data processing, but their broad use in the 1990s as a communicative tool was new.

The first computer in Lund, and one of the first in Sweden, was "The Numerical Machine in Lund" (Siffermaskinen i Lund, abbreviated as SMIL or "smile"), an advanced calculator ten metres long, which was built in the Department of Numerical Analysis in 1955–1956, making it one of the first in Sweden. In 1965 the Lund University Computer Centre was established.[185] Personal computers were acquired by researchers and students in the 1980s. The first Macintosh computers in Sweden reached Lund as early as 1984. The following year Lund became a partner of the Apple University Consortium Europe. Apple's founder, Steve Jobs, also came to meet representatives of Lund University in June 1985, making a rather spectacular entrance from above by helicopter. At the banquet at Svaneholm Castle that same evening, Vice-Chancellor Håkan Westling prophesied that the World Wide Network could become a new type of seven-league boots.

One of the greatest advantages of computers and electronic networks was the ability to communicate over large distances. The development of various systems for electronic communication gained momentum in the 1980s, with Datex, the Datapak network, and the video conferencing network, yet it was not the state-owned Televerket but chiefly Swedish universities that built up the Internet.[186] At the start of the 1980s a Swedish university network (Sunet) was established to connect computers at different universities, and in 1988 Sunet was hooked up to the Nordic university network (Nordunet) with a 56 kbit/s Atlantic link to Princeton University. In summer 1984 Lund University Computer Centre installed an ethernet, connecting a couple of computers by cable, and on 17 January 1985 Lund University registered the domain lu.se. But the Internet and e-mail were used to a very limited extent. In autumn 1989, however, all employees were given an e-mail address, which was rather unique for that time. It was during the 1990s that the digital revolution really happened. The World Wide Web (www) was launched in 1991. An official website for Lund University was put up in autumn 1993. The following year the web became more accessible to ordinary users through the browser Netscape. In autumn 1995 the student computer project was started to make computers and networks accessible to students. In 1997 web technology had caught on so much that there were now over 200 web servers at Lund University with information, documentation, and systems such as Locus for booking rooms for teaching, and the staff directory Lucat.

The way of writing and thinking has changed with the different communication devices that happen to be available to people. How the Internet and electronic communication have changed science and human thinking it is perhaps premature to state in detail. But it is obvious that the days are gone when people

waited for snailmail and pale copies from duplicators. The possibility of spreading and learning of knowledge (along with misinformation and junk mail) has increased significantly. One can now communicate more information faster and to more people than before, which has led to larger contact networks and ever stronger international and global dissemination of information.

Demolished walls

The fall of the Berlin Wall on 9 November 1989, the disintegration of the Soviet Union and the Warsaw Pact in 1991, and Sweden's accession to the European Union in 1995 tore down some of the walls that had separated Lund's scholars from those elsewhere in Europe. The internationalization of higher education gained momentum in the 1990s. International secretariats were established at every university. Sweden's accession to the EU meant more formalized cooperation through participation in various programmes for research and higher education. International collaboration thus underwent something of a geographical shift to the EU member states, at first Western Europe, but with the fall of the Berlin Wall and the extension of the EU it became possible to visit countries in Eastern Europe and start research cooperation with them. Scholarly internationalization is one aspect of the EU's aspirations for a Europe without borders, the free flow of goods, services, capital, and – until very recently – also people. Traditionally, international cooperation was based on scientific motives, with researchers combining forces in a shared field of interest. Moreover, some issues transcend boundaries, global matters of environment, climate, and space research, requiring international cooperation if they are to be solved. Bureaucratic elements, however, had made international student exchange and research collaboration cumbersome and time-consuming. Another reason for international cooperation, which has grown in significance in the post-war years, was economic. Research, especially in science, called for expensive equipment and large, costly research facilities which no single university, or even a single country, could finance on its own. In Lund we find, for example, Max IV and the European Spallation Source (ESS), which could never have come about without international cooperation. Another important reason for scientific cooperation across national boundaries was the goal of political integration, one of the aims of EU research policy.

Through history, borders have been significant obstacles to scholarly exchange and the free movement of ideas. Even if science says that it is international and boundless, there are many barriers or thresholds, both natural and human, impeding scholarly collaboration.[187] Expense and time are often pointed out as obstructions

to internationalization. Various physical barriers to internationalization, such as forests, mountains, rivers, and oceans, have acted as national borders and impediments to transport, but they have also served as links; the Öresund and the Baltic Sea are examples. Physical distances have long been an obstacle to interaction, and they still are to some extent. An interview survey among foreign students in Lund in 1994 showed that many had chosen Lund precisely because it was near the Continent.[188] Other places, such as Mid Sweden University, found it more difficult to recruit foreign students on account of its less favourable geographical location. Contacts appear to decrease in intensity with increased physical distance. But with the development of new means of transport and communication in the nineteenth and twentieth centuries, such as steamboats, trains, aeroplanes, and telegraph, telephone, and the Internet, physical distance has become much less significant. On the regional level, for cooperation between Lund and Copenhagen, the opening of the Öresund Bridge in July 2000 connected the cities physically. The cost of travel has also fallen over time, and various technical obstacles, such as different transport systems, railway gauges, telephone exchanges, and the like, have been gradually overcome. The friction of distance, one could say, has been reduced.

If the physical barriers have declined in significance, others have emerged as the main challenges to internationalization, such as political and cultural differences. Political boundaries created by humans, altered through war, alliances, and mutual exchange and dependence, have been considerable obstacles in the university's history. For much of the twentieth century, fiscal and institutional barriers have palpably obstructed scientific internationalization. Passports, visas, residence permits, work permits, currencies, laws, and other factors have impeded international cooperation. Eastern Europe, for example, was long cut off behind an iron curtain of fiscal and institutional obstacles. Nationalizing tendencies in our own days, however, with border checks reintroduced and with fees for foreign students, are setting up new barriers. By far the most impassable obstacles to internationalization in scholarship, it seems, are the cultural ones, such as differences in language, traditions, cultures, religions, ethnic and social conditions. It is often people's knowledge and attitudes to other individuals and cultures that create obstructions. One of the more obvious hindrances is the lack of language skills. In the past Britain was not far away but the language was an obstacle. Today the inability to speak other languages is a growing barrier to interaction between researchers of different cultural backgrounds. In other words, it is the cognitive, mental, cultural distances – things that have to do with similarity and trust – that appear to be the greatest challenges to internationalization, which lead to differences in the

way we live in, perceive, and experience the meaning-making world around us, the life-world, and therefore we have an inadequate understanding of other life-worlds. Increased cognitive and cultural understanding of other ways of thinking and living is one of the most important contributions that international scholarly cooperation can make to the development of society.

In recent decades, research policy on internationalization, and Lund University's international work, has placed increasing emphasis on formal and organized research cooperation. Research has become more regulated and steered by politics, with detailed instructions as to which research fields Sweden should be involved in internationally, which research fields Swedish researchers are and should become world leaders in, and which organizations Swedish universities should participate in. The clearest expression of increasingly formalized research cooperation is seen in the various agreements that have been signed between universities, countries, and organizations. This formalization is propelled by the idea that internationalization is of such importance that it is not possible to leave international exchange solely in the hands of individual researchers; formal agreements must be reached between universities, over the heads of researchers and teachers. Formal agreements also give higher status to the cooperation, as one can forge links with other, more prestigious universities, and a rich network of international contacts is regarded as a sign of a good reputation in the research world.

The signing of agreements between universities is a recent phenomenon.[189] It did not become common until the mid 1980s. Lund's first bilateral formal agreement in modern times was signed in 1966 with the University of California, to increase student exchange between the universities, one result of which was that the American partner universities set up a California Study Center in Lund. After that no cross-faculty agreements were signed until 1986, when an agreement on student exchange was signed with Zheijiang University in China. A further eight agreements were signed in the 1980s with universities in the Netherlands, Poland, Estonia, Australia, Georgia, Indonesia, Canada, and the USA. In spring 1994 Lund University had signed 117 international agreements with other universities around the world. In spring 1996 this amounted to agreements with a total of 50 universities in 23 countries. Over half of the agreements in the 1990s were with countries in the former East Bloc, revealing an effort to forge closer ties with countries that used to be out of reach behind the Iron Curtain. Since the 1990s Lund University has also had a growing orientation to East and South-East Asia. Alongside bilateral agreements, Lund has joined major networks of universities, for example the Öresund University, a collaborative venture involving nine Danish and Swedish universities during the years 1997–2012, and since 1999 the

research network Universitas 21 (U21) and since 2006 the League of European Research Universities (LERU).

Formal agreements are often a requirement for student exchange, but research cooperation does not need the same formal organization. The best-known is the EU exchange programme European Region Action Scheme for the Mobility of University Students (Erasmus), established in 1987. In the year after this was followed by a Nordic programme for teachers and students (Nordplus). In 1989 it also became possible to use student loans to study abroad, which significantly improved the conditions for foreign studies. In an appropriations request for 1993/94–1995/96, Lund University set up as a quantitative goal that 20 per cent of the university's students in the next five-year period should spend at least one term at a foreign university. A qualitative goal at the same time was that Lund should offer programmes in English and free courses in Swedish and about Swedish culture, and also provide accommodation for exchange students. At the start of the 1990s only about seventy students from Lund went abroad to study as part of the different exchange programmes. But that number would grow rapidly. By the academic year 1995–1996 there were already almost 800 students spending one or more terms abroad. At first there were more students going out than coming to Lund, but towards the middle of the 1990s the balance became more even, partly because more courses were now offered in English. Lund students chose to go to places where the major European languages are spoken: Germany, Britain, Canada, and France. Lund's orientation to Germany persists today. As regards both incoming and outgoing students, Germany easily topped the list; 20 per cent of exchange students went there and roughly the same proportion came from there. The balance was not as good with Britain, Canada, and Australia; many Lund students went to these countries but they did not send many students to Lund. Few went to Eastern Europe, Asia, or Africa. In 1995 most students came from Germany, France, the Netherlands, and the USA, but only 30 from Asia. At the same time, Lund received more teachers and doctoral candidates than it sent out; 56 doctoral students went abroad while 183 came to Lund. The question is, what did these foreign studies mean for the individual students? Returning Erasmus students have usually emphasized the importance of the time abroad for their personal development rather than the academic value of the studies.

When in Lund, do as the Lundians do. A group of international students are photographed holding local Lund sausages (*lundaknakar*) in *LUM* in 1993. From the left: Pablo Perez, Maria Rodriguez, Silvia Treichel, Ion Fernandez de Pinedo, and Hagen Weigl.

In recent years the work for internationalization and student mobility in Europe has been intensified. For instance, Lund has tried to adjust its education to the Bologna agreement in order to ensure common and comparable academic programmes and degrees, thus facilitating student mobility in Europe. But internationalization has also suffered setbacks. In 2011, for example, tuition fees were introduced for students from outside the EU/EES, which many people feared would reduce the number of foreign students. Lund has often been cited as the university in Sweden that has most exchange students. According to the annual report from 2015 Lund sent out 1,237 exchange students and received 2,074. Outside the exchange agreements, an additional 3,300 students came to Lund, 898 of whom had to pay tuition fees. As regards both incoming and outgoing students, the majority were women.

Agreements and financial resources can facilitate international contacts and cooperation, but these cannot be achieved by administration or by order. International cooperation is about meetings between people, about conversations, bridging cognitive and cultural distances. Informal contacts between researchers are perhaps the most fruitful, most likely to break new paths, establish lasting social relations, and develop shared life-worlds, whereas formal contacts and agreements reinforce already trodden scientific paths. Sometimes the formal agreements are criticized for being paper products, "cocktail agreements", which do not lead to any real cooperation. Internationalization has become a part of the university's rhetoric, a way to present itself in marketing, where international agreements, publications, and rankings are viewed as a sign of competitiveness, quality, and reputation. A large international network of contacts brings prestige, especially if they are with high-ranking universities, and a large number of publications in foreign journals is cited as a measure of quality. A university needs to show that it has contacts with the surrounding world, and it is a plus if it receives visits from statesmen, Nobel Prize winners and other world-famous names. Honorary doctorates can also be regarded as a means to forge international ties. Lund University's self-image includes a view of itself as a multicultural university town that has extensive contacts with the surrounding world and a central position in international science.

Internationalization is a key word in the latest strategic plans. Lund University's annual report for 2015 focuses on internationalization, which is held up as a strategy to achieve the highest quality in education and research. The opening paragraph of the section emphasizes that "Work with internationalization strengthens the university's competitiveness in the national and international arena." Much of today's rhetoric about internationalization is in large measure about marketing, as the annual report explicitly states: the aim is "to make Lund

University more attractive and improve the trademark internationally."[190] Some of the factors highlighted as boosting the university's international positioning are co-publication and citation indices. Co-production or joint authorship of scholarly articles has increased significantly since the 1970s. The annual report for 2015 states that between 2005 and 2015 co-publications increased from roughly half to 63 per cent. Of all the articles and book chapters published in 2015, then, over 60 per cent were written together with researchers in other countries. Of these more (20 per cent) come from the USA than any other country, followed by Britain, Germany, and Denmark. Lund's traditional international pattern – oriented towards Germany and Denmark – thus remains. An interesting change, which would have surprised a scholar a century ago, is that China is in ninth place on the list of the countries with which Lund collaborates. Another measure in international competition is citations. In the period 2011–2014 the mean citation rate was nine per cent more than the world average.

In the information brochure *Lund University 2016: Education, Research and Collaboration since 1666* the university terms itself as "A World-Class University". You do not need to read many lines before it is underlined that Lund University is ranked as one of the world's top hundred universities, that it is a world leader in more than thirty research fields, that no other university in Sweden attracts so many students from abroad, that it has agreements on cooperation with over 600 partner universities in 70 countries all over the world, that it is the only Swedish university that is a member of LERU and U21, that it has programmes for international students and has world-leading research resources like MAX IV and ESS. During the jubilee, the brochure goes on to say, the university will look back and remember but, above all, it will look forward, into the future, create the conditions for remaining a leading international university that works to understand, explain, and improve the world and the lot of mankind. And so it goes on: the university is constantly the most popular in Sweden among international students. With its students from all the corners of the earth, the university is a meeting place for international commitment, cultural exchange, and global networks. Of 2,046 free-standing courses, 700 are given in English, of 223 master's programmes 100 are in English. Lund is the most active Swedish participant in the EU programmes for technological and economic development. Lund will have the world's prime laboratory for synchrotron light in MAX IV and the world's most powerful neutron source in ESS, strengthening Lund's position as an "international research hub". Students and researchers from 130 countries create "a truly international and vibrant atmosphere." In total the university consists of 15 per cent international students, on master's programme as much as

50 per cent; moreover, 40 per cent of research students, 20 per cent of the teachers, and 40 per cent of the researchers are from outside Sweden. According to these official documents the picture is clear. Internationalization has become one of the most important constituents of the university's self-image, for marketing, for attracting students and research funding, for climbing in the hierarchy of universities, or simply for asserting its right to exist. In the international race, traditional values such as *Bildung*, self-fulfilment, curiosity, truth, and wisdom seem to be of relatively little weight.

The world that changes thought

Lund University's self-image is that it is more international than other comparable universities. This essay gives partial support for that image, but Lund University's internationalism is nothing new. It was international from the very beginning. The world is and has been the university's very lifeblood. Unlike other universities in Sweden, Lund has always stood out as somewhat exotic, as more continental, southern, with a whiff of Denmark and Germany. This study can also confirm that image in part. Lund's geographical proximity to Denmark and the Continent, as regards both physical distance and means of communication, gives its university a unique position. Lund University shows a fairly constant, tenacious pattern in its contacts with the Continent, having close connections especially with Denmark, Germany, and Western Europe. Scholarly travels have largely gone to central nodes in Europe of economic and political significance, prominent centres that combine service economies with knowledge-intensive production, with a well-developed infrastructure and good communications, making them accessible. The orientation to German-speaking countries is still clear, resulting not only from the geographical proximity but also from old cultural, linguistic, and religious ties to the Germanic cultural sphere. The German dominance has, however, faded considerably since the nineteenth century. After the Second World War Lund reoriented itself more towards the Anglo-Saxon world, and in recent decades also towards Eastern Europe and Asia.

As a sample of the situation as it appears today, one can look at the travel grants awarded by the faculties in spring 2016. The recipients travelled to 38 countries and to all the continents, but one country dominates by far: the USA. The science faculty shows a wide spread of countries, with eight trips to the USA, but no other country accounts for more than two trips. In the faculties of humanities and theology the USA is also the major destination (19 trips or 20.4 per cent), followed by Sweden, Britain, Germany, Italy, France, and Norway. An

interesting pattern that would have surprised a scholar just thirty years ago is that it is now not unusual to travel to Eastern Europe (Hungary, Poland, Russia, and the Czech Republic), but also to other continents (Mexico, China, Japan, and South Korea). It is worth noting that just one trip went to Denmark, and this cannot be explained by claiming that most trips to Denmark are at people's own expense, since 16 trips were to various conferences within Sweden.

Some conclusions can be drawn from this look at 350 years of international contacts at Lund University. Interest in travel and contacts with the world outside Lund has existed more or less the whole time, as a natural part of the academic project. It is rather the opportunities for travel that have changed over time. At first the main barriers to contact were physical distance, travel time, and expense, but also for a long time religious, political, legal-fiscal, and institutional circumstances. Many of the physical restrictions have been removed, however. The greatest challenges to internationalization now are the cognitive, mental, and cultural restrictions and barriers.

The *pattern of travel* during these 350 years has been remarkably tenacious and stable, directed towards the academic, economic-political nodes in Western Europe, which for Lund means especially Denmark and Germany. Most teachers had been on long tours through Europe already in the seventeenth and eighteenth centuries, but travel in absolute numbers expanded vigorously as communications improved and the university grew. More people are travelling, more often and further afield. The way of travelling has changed too, owing to faster means of transport and lower travel costs; in the past there were longer journeys to several places, but now trips tend to be more frequent and shorter, with a limited number of days and destinations.

International *communication* has changed over time. It is not that the willingness to communicate with foreign researchers has changed to any extent, but rather that the changed communicative exograms (letter, telephone, e-mail, and so on) have made it possible to communicate with more and more people, more often and to more distant corners of the earth. Here too, the manner of communicating appears to have changed, from longer, more considered letters written by hand, or weeks and months of private conversation in one and the same place, to quickly posted e-mails and short, fleeting conversations during intensive, rushed conferences lasting just a few days.

The *organization* of international cooperation is yet another factor that is changing. It is of course individuals who meet and maintain contact, not universities or organizations, but official bodies, associations, agreements on collaboration between universities, and other formal cooperation can encourage international

contacts. Informal contacts on the initiative of researchers themselves, through travel, conversation, and correspondence, are and have long been the most important factor for internationalization. In the last few decades, however, internationalization drives have increasingly focused on formal contacts, on written agreements between universities to regulate and coordinate education, degrees, research finance, and so on.

Finally, the way of *thinking* about internationalization has also changed. The importance attached to internationalization, foreign contacts, travel, and cooperation across national borders has traditionally been based on the certainty that it is beyond the little town of Lund that the great thinkers, the ingenious ideas, the leading research environments, the most valuable collections, and the richest libraries can be found. Other arguments for internationalization that have been put forward over the years are that it overcomes political division, that it enables cooperation on matters that transcend borders, or that it allows joint financing of expensive research facilities. Internationalization has always had national motives as well: positioning the nation among the cultured, "civilized" nations, or increasing the nation's international competitiveness. In recent times internationalization has also been considered important not only for the practical, scientific, economic, or political gains it can bring, but also as an expression of the university's self-assertion, its self-image, as a marketing tool. Instead of emphasizing the scientific ideas and findings the university's researchers have produced, the university now counts how many agreements, foreign students and researchers, English publications, and so on it can boast.

Some of the most significant factors in internationalization have to do with transport technology and changes in infrastructure, such as boat connections, railways, aviation, but also changes in global politics. If we look at travel over time, we see that innovations in means of transport and communication and changes in the world order have created new possibilities, but have also restricted or steered travel in a particular direction. Broadly speaking one can see four periods in the history of Lund University as regards internationalization. During the first period between 1666 and 1828 travel was on foot, by horse and carriage, by sailboat or rowing boat. Correspondence was by letter. Sweden was more or less constantly involved in war and was a power factor in Northern Europe. A second period began in 1828 with steamboat traffic across the Sound, followed by railways, telegraph lines, and the international postal service. The period was one of increasing nationalism, along with Scandinavism. The third phase may be said to have begun in 1902 when telephones were installed in the homes of academics. Scholars in twentieth-century Lund lived in a time when international

telephone traffic was developed, soon followed by increasingly fast means of transport, such as cars and planes. It was also a time when the democratic nation state navigated between raging world war and the frosty international relations of the Cold War. Finally, the fourth period began in 1989 when all employees of the university were given e-mail addresses, marking the start of the digital revolution and the growth of the Internet. The fall of the Berlin Wall also brought a new geopolitical landscape. All in all, one can discern a number of long-term tendencies in the pattern of travel: from slower means of transport to faster; from expensive to cheaper travel; from short to longer distances; from infrequent to frequent travel; from longer to shorter times away; from visits to many places on one journey to fewer stops.

Three factors especially in the internationalization of scholarship have affected students' and teachers' pattern of movement and contact: (1) *Exograms*: how people have used and developed new exograms for storing and conveying thoughts, such as books, letters, journals, photographs, computers, and the Internet. Here we can also include various forms of artefacts with which one can think and experiment, such as museum collections, natural history specimens, instruments, and laboratory equipment. (2) *Communications*: the availability and development of different means of transport for people and goods, such as horse-drawn cabs, trains, cars, and aeroplanes, and different means of long-distance dialogue and information transfer, such as telegraph, telephone, radio, and e-mail. (3) *Geopolitics*: how political changes have redrawn the map and created new possibilities for contacts, while simultaneously limiting other possibilities. When new artefacts (exograms) come into use, when the conditions for movement in space change, and when the space itself changes (for geopolitical or other reasons), that is to say, when the conditions for situated and distributed cognition change, then thinking changes too. Internationalization, in other words, is a way to change thinking, through exograms, communications, and geopolitics. So if you are standing in Lundagård with a ticket in your pocket and a suitcase in your hand, ready to head north, south, east, or west, you are also ready to change your own thoughts.

67 Caldenby (1994) published by White Coordinators, the firm of architects that has done so much in university architecture; Liedman (2009), pp. 26 ff. 68 See Fehrman, Westling & Blomqvist (2004), p. 82.

69 A comparative presentation of more than twenty universities is Larsson (2008).

70 Langholm in Barton & Raudsepp (2000).

71 Thomas Karlsohn, "De högre studiernas känslohistoria", projekt Vetenskapsrådet (2012–14). Cf. Broberg (1985–86). The emotional dimension is also discussed by Ehn & Löfgren (2004).

72 http:// haggstrom.blogspot.se.

73 See Weibull (1868–76), 316; Eriksson (1991)

74 Ottosson (2014).

75 Cf. Palmborg (1987); Frängsmyr (2013).

76 Fehrman (1984), Epilogue "Lund and Europe: The Quintessential Lund", pp. 337–344. For general works about creative environments see various publications by the geographer Gunnar Törnqvist (e.g. 1989); Sörlin (1994).

77 The most obvious change is that from elite university to mass university, a development that is easy to prove, since Sweden has a long tradition of keeping statistics: in 1950 there were 16,612 students at the country's institutes of higher education, in 1970 the figure was 127,480, and by 2007 it had reached 387,733. In the student population there were remarkable shifts through the establishment in 1965 of the Faculty of Social Sciences, which by 1970 was almost twice as big as the Faculty of Humanities, 45,000 versus 23,000; also worth noting is the number of women in higher education, exceeding men, with 61% in 2007. Statistics from Gunnar Richardsson.

78 Fehrman, Westling & Blomqvist (2004), p. 330.

79 Cf. Östling (2015). His account is based on a Swiss model with four parts: (1) Systematic organization; (2) Representations and media forms; (3) Actors of knowledge; (4) Genealogy of knowledge. To this Östling adds: (5) Knowledge institutions, universities, etc.; (6) Knowledge culture. He sees four motives for the history of knowledge: (1) A new object of research; (2) A way to see where history is headed; (3) Critical scrutiny of today's society; (4) The relevance of the humanities for the future. Östling refers to Burke (2012) and Benner & Widmalm (2011). *Wissensgeschichte* can be found in Berlin and Zurich. The definition is by Philip Sarasin. A fresh survey of scholars currently active in research policy can be found in *Tänk vidare: RJ:s Årsbok 2015–2016* (2015), two dozen essays with a foreword and afterword by Göran Blomqvist, director of Riksbankens Jubileumsfond (RJ). Already in 1869 Annerstedt, in his review of Martin Weibull, declared that, if a work is to be solid, one person must have the overall responsibility, but he needs helpers, and division of labour is necessary if the picture of the past is to be "rendered in its fullness and truth".

80 Dissertations: Svensson (1987); Larsson (1982); Niléhn (1983); Blomqvist (1992); Cederlund (1990); Kristenson (1990); Åhsberg (1995); Holmberg (1999); Tunlid (2004); Pålsson (2003); Heidegren (1999); Wikhall (2001); Carls (2004), Hallonsten (2009); Sjöström (2007); Melander (2006); Stohlander Axelsson (2001).

81 Fehrman (1987), epilogue.

82 "Flyttningen", in Tegnér (1925), p. 127.

83 Fehrman, Westling & Blomqvist (2005), p. 295.

84 Olin & Wedberg (1959), pp. 33 f.

85 At the fiftieth anniversary of the Swedish Academy, 5 April 1836, in Tegnér (1923), p. 9.

86 Brissman (2010), pp. 11 f.

87 Dhondt (2015), p. 5.

88 Rosén (1968), p. 15, see also pp. 22 f.

89 Sjöberg (1997).
90 Stobaeus (2013).
91 Ahnfelt (1859), p. 310.
92 Törnqvist (1996), p. 270.
93 Rosén (1968), p. 137.
94 Rosén (1968), p. 2.
95 Weibull (1918), p. 209
96 Johannesson (1982), p. 15.
97 Fehrman, Westling & Blomqvist (2005), p. 33.
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99 Östlund & Örneholm (2013), p. 10.
100 Gierow (1971), p. 341.
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102 Möller (1945); Johannesson (1982), p. 143.
103 Leide (1971), p. 66.
104 Johannesson (1982), p. 168.
105 Karlson (1954), p. 63; Leide (1971), p. 49.
106 On students' travels, see Weibull (1918), p. 283; Gierow (1971), pp. 380 f., 430; Johannesson (1982), pp. 376, 382.
107 *Samling af testamenten* (1810), p. 21; Johannesson (1982), p. 429.
108 *Samling af testamenten* (1810), p. 57; see also Johannesson (1982), pp. 425, 430.
109 Weibull (1868), p. 345.
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111 Weibull (1868), pp. 293 f.; Weibull (1918), p. 334.
112 Möller (1931), p. 69.
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114 Lysander (1863), p. 62.
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118 Weibull (1993), p. 45; Cederlund (1995), p. 36.
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122 Cederlund (1995), p. 32.
123 Weibull (1918), p. 284.
124 Fehrman, Westling & Blomqvist (2005), p. 295.
125 Cederlund (1999), pp. 145–152.
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127 Weibull (1993), p. 49.
128 *Lunds Weckoblad*, 1 July 1829.
129 *Kjøbenhavns Morgenblad*, 3 May 1840, pp. 65.
130 Gierow (1945), pp. 254 ff.
131 Fehrman, Westling & Blomqvist (2005), p. 116.
132 Möller (1931), pp. 245–252.
133 Weibull (1968), p. 6.
134 Fehrman, Westling & Blomqvist (2004), pp. 123 f.
135 Wallerius (1975), p. 119.
136 Weibull (1968), p. 60.
137 Weibull (1968), p. 56.
138 Hjelmqvist (1958), p. 9.
139 Gierow (1971), p. 268; Fehrman, Westling & Blomqvist (2005), pp. 74 f.
140 Fehrman, Westling & Blomqvist (2005), pp. 118–121.
141 *Samling af stiftelsebref* (1862), pp. 16 f.
142 Cederlund (1999), p. 155.
143 Svensson (1972), pp. 42–46, 63.
144 Fehrman, Westling & Blomqvist (2004), p. 208.
145 Nilsson (1879), p. 5.
146 Nilsson (1923), p. 325.
147 Quennerstedt (1863), pp. 123, 154 f.
148 Quennerstedt (1918), pp. 148, 153.
149 Skogh (1981), p. 69.
150 Lindström (2015), p. 83.
151 Hjelmqvist (1958), p. 30.
152 Törje (1968), p. 121; see also Törje (1958).
153 Bjerstedt, Magnusson Staaf & Tersmeden (2014), pp. 30 f.
154 Engstrand & Widén (2012), pp. 112 f.
155 Löwegren (1968), p. 73; see also Ingelög (2013), pp. 88 f.
156 Johannesson (1982), pp. 312, 314.
157 Kaiserfeld (2013).
158 Fehrman, Westling & Blomqvist (2005), p. 78.
159 *Lunds kungl. universitets katalog* (1904), p. 6.

160 Heimbürger (1931), p. 217; Heimbürger (1953), pp. 39, 41, 91.
161 Castenson (1992), p. 12.
162 Fehrman, Westling & Blomqvist (2004), p. 192.
163 Schalén, Hansson & Leide (1968), p. 115.
164 Castensson (1992), p. 11.
165 Fehrman, Westling & Blomqvist (2005), pp. 134, 174 f.
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181 *Utbildningens internationalisering* (1974); Cederlund (1999), pp. 53 f.
182 Andrén (1982), p. 1.
183 Cederlund (1990).
184 Holmberg (1990); Cederlund (1990).
185 On the history of the Lund University Computer Centre (Lunds datacentral, LDC), see <http://www2.ldc.lu.se/div/ldc-historia.html> (accessed 6 August 2016).
186 Hamngren, Odhnoff & Wolfers (2009), p. 23.
187 Cederlund (1995), pp. 45–49; Törnqvist (1996), pp. 159–163.
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189 Cederlund (1995), p. 44; Cederlund (1999), pp. 100–107.
190 *Lunds universitets årsredovisning* (2015), p. 41, see also p. 57. A shortened version of the *Annual Report 2015* is available in English, see <http://www.lunduniversity.lu.se/files/annual-report-2015-lund-university.pdf> (accessed 25 October 2016).
191 The official presence of Lund University on Facebook and Twitter began in 2010, the same year as the talking web. Instagram was used in 2012. Up until 2003 there was just one person with central responsibility for the web, now there are eight posts, acccording to an e-mail from web strategist Petra Svensson, 25 June 2015.
192 Rosén (1968), frontispiece. The seal is the only illustration on the programme for the tercentenary celebrations, 16 June 1968. *Lunds universitet: program, kurser & studentliv* (2014), p. 3.
193 Fehrman, Westling & Blomqvist (2004), p. 398; (2005), p. 282. Three variants are shown: before 1998, the proposal from 1997, and the new version.
194 *Grafisk manual* (2015)); Rosén (1969), p. 130. Further alternative interpretations are offered by the old faculty seals (pictures p. 14). These retain the lion, but the theologians combine the book with a crucifix, the lawyers supplement the sword with a set of scales, the medics pull a thorn from the lion's paw, and the philosophers' lion is holding up a shield with a laurel wreath.
195 *LUM* 1976:17–2002:6, initially on the second last page, from 1995:9 at the end of the black and white "inside pages". A compilation can be found in *LUM* 1986:14, pp. 18 f. The writer was the head of communication, Christer Hjort, and the drawings were by Carl Foung, according to an e-mail from Petra Francke, 19 August 2015.
196 Meurling (1999), p. 13.
197 Textiles by Bengt G. Lindberg.
198 The cover of the staff magazine *LUM*, from 1974 and for many years to come, showed a photograph of the university building.
199 The university building has been listed as a historic monument since 1935. Nilsson (1994), pp. 40–45.

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Abbreviations used in the references and notes:

AB, *Aftonbladet*
DN, *Dagens Nyheter*
HD, *Helsingsborgs Dagblad*
KvP, *Kvällsposten*
LUM, *Lunds universitets magasin*
Nutek, Närings- och teknikutvecklingsverket
SDS, *Sydsvenska Dagbladet Snällposten*
SFS, Svensk författningssamling
Sister, Swedish Institute for Studies in Education and Research
SOU, Statens offentliga utredningar
SvD, *Svenska Dagbladet*
Vinnova, Verket för innovationssystem

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