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Lawns in Sweden

History and etymological roots, European parallels and future alternative pathways

by Maria Ignatieva, Clas Florgård & Katarina Lundin

Lawns are today among the most common features in urban landscapes world-wide. The advantages of lawns are that they supply positive ecosystem services for urban environment (recreational and cultural opportunities, helping to mitigate global warming, contributing to infiltration of rainwater). Disadvantages are that they are expensive and consume resources, with millions of litres of municipal water and tons of chemicals being used. Intensively managed grass areas contribute negatively to the environment due to the need for constant mowing using machines powered by fossil fuels.

There is also recent evidence of lawns contributing to unification of urban environments. Similar green areas, consisting of a few grass species (grown in large nurseries), are used everywhere, leading to loss of local identity and homogenisation (ecological similarity) of lawns.[1] Thus, there is a growing search for alternatives to lawns that are more environmentally and economically friendly.[2, 3]

Despite of the widespread use of lawns, there is limited research on the subject. Most previous studies have examined ecological and social aspects of lawns in the USA, UK[4] and Germany.[5] Only recently, with the globalisation process bringing lawns to cities world-wide, has there been some research in other European countries, for example in France.[6] Historical and cultural aspects of Anglo-American lawns are for example described in the book *The American Lawn* edited by Georges Teyssot.[7]

There has been very little research to date on the history and development of lawns as an important garden element or analysis of reasons for widespread use of lawn in Swedish cities, although lawns comprise 50% of the total urban green areas in Sweden.[8] This means that lawns are the most visible and dominant element in all open urban areas, and need to be studied in depth from different points of view. The only study taking Swedish lawn as a subject of deep historical research is Joakim Seiler's work based on theoretical and practical analysis, as applied by reconstructing historical management regimes in Gunnebo gardens.[9] However, there is no research on the development history of conventional lawns and possible alternatives. The main hypothesis in the historical research of the LAWN project, conducted at SLU 2013–17, was that lawn is quite a young feature in Sweden and started to be the dominant type of urban green open space only about 100 years ago.

The present study, which this article is based on, takes an innovative interdisciplinary angle by attempting to connect the etymology of the word *lawn* with the development history of lawn as an important green open space element. At the same time, the study traces inspiration and the use of lawn alternatives in Sweden, which can contribute to the creation of a new

FIGURE 1. *Active use of lawn for recreation on SLU Campus, Umeå.* PHOTO: *Maria Ignatieva* 2017.

generation of sustainable green areas. Sweden was used as a case study in the analysis, to demonstrate the specific trajectory of the universal garden feature of lawn, and its dependence on local cultural, political, economic and geographical conditions.

Research questions and methods

This study examines the cultural and ecological origins of conventional lawns in Sweden, their historical development and the connection to lawns in Europe, and the evolution of Swedish terminology relating to lawn (*gräsmatta*). This work was an important part of transdisciplinary project "Lawn as ecological and cultural phenomenon. Searching for sustainable lawns in Sweden".[10] The aim was to obtain interdisciplinary quantitative and qualitative data on lawns in order to estimate the values of different lawns, critically evaluate them, and connect to people's needs and finally suggest a new planning, design and management paradigm. The aim of this particular part of the LAWN project was to demonstrate the importance of historical and etymological knowledge in an interdisciplinary study. Main research questions were: can words used for describing grasses and lawns be the key to understanding the nature and origin of Swedish lawns? Can we decode their similarities to European counterparts and identify differences related to the peculiarities of geographical and historical development of Swedish society? Another important issue was to investigate the development history of alternative solutions to conventional regularly cut lawns and examine whether ancient and more contemporary Swedish thoughts and practices can be used for development of a new generation of sustainable lawns in Sweden. The analysis also aimed to understand the historic vision of lawn as a specially created purely decorative garden element (pleasure ground) and trace its development in Europe and in parallel in Sweden from medieval times to the present day.

The main study object was lawn as an ele-

ment of private (house, mansion, palace and castle) and public green areas (park, garden and multifamily residential area) and its development through the history. Lawn management (weed control, use of fertilisers, equipment and machines) and specific questions such as the use of particular seed mixtures in Sweden are only mentioned in the context of particular garden periods. We refer the reader to Seiler's research for details of lawn management in Swedish historic gardens (see Seiler, pp. 8–25, in this issue). Aspects of lawn's biodiversity (higher vascular plants, pollinators and earthworms) were researched as part of the LAWN project and the results were used throughout this study.

The work was based on a review of the literature (sources in English and Swedish) relating primarily to the lawn's history and lawn as a garden element.

A full-scale etymological survey was not the main goal of this study. Etymological discussion is supposed to contribute to a new perspective that supports the main research question regarding the origin and development of lawns in Sweden. The main sources for etymological origins of terms were well-known sources such as SAOB, the Svenska Akademiens Ordbok[11] and the Swedish etymological dictionary published in 1922 by Elof Hellquist[12], which was the first comprehensive work of the development of the individual words in the Swedish language and the etymology of words.

Images such as paintings and engravings by Old Masters (fourteenth-fifteenth-sixteenth century, Italian, German, Dutch, Swedish, Flemish and French) and postcards from the nineteenth and twentieth centuries portraying lawns in decorative parks and gardens were researched in European museums (the Swedish History Museum, the Medieval Museum of Stockholm, Skansen Open-Air Museum, Malmö Museer, the National Gallery in Denmark, the Gemäldegalerie in Berlin, the National Gallery in London, the Louvre Museum in Paris and the Hermitage Museum in St. Petersburg). The main goal of analysing paintings by Old Masters was to chart the evolution of lawns through the imaginary interpretations of grass-dominated decorative elements and flowering meadows depicted in the gardens. Even though some painters could have used their imagination, when painting motifs such as gardens and their details, those artists obviously portrayed important events and visions of their surrounding world which we can interpret and understand.

Information gained during historical research on lawns, presented in this paper, inspired the creation of practical demonstration experimental sites of alternative lawns at SLU Ultuna Campus in Uppsala (2014–2017), including tapestry (grass-free) lawns (lawns which have only low growing perennial native species and no grasses), Swedish meadows (perennial meadows consisted of grasses and flowering perennial species) and a meadow-mat bench (prefabricated turf-mat with low growing grasses and perennials). The results obtained from these alternative experimental sites have been published in a practical manual for Swedish stakeholders.[13]

Definition of lawn and its essence

Due to the very complex ecological and cultural nature of lawns, there is no single definition of lawn in recent scientific publications. It seems as though lawn is an accepted entity that is known to everyone. The situation is further complicated by the fact that the terminology relating to grassed areas is interpreted differently in different languages (e.g. in English words such as '*lawn*', '*turf*', '*grassland*', '*meadow*'). In addition, the definition and understanding of lawns seem to be dependent on the researcher's background and the purpose of the study.

Botanists and lawn practitioners, in their definition, acknowledge first of all the man-made nature of lawns. They view lawn as a "type of man-made meadow-like plant community which is made by sowing or planting of turf grasses (predominantly perennial *graminoids*) and which is used for recreational, aesthetic, sport and other purposes".[14] The approach is botanical ('*plant community*'), but the most crucial feature of lawn is considered to be its function for people (see Figure 1).

The garden history aspect of lawn is very clearly expressed in a most trustworthy source, the Oxford Companion to Gardens[15]: "Lawn is a plant community in the natural sense and lawn cultivation concentrates on maintaining the balance between the different species of grasses." One of the most crucial elements of lawn is thereby identified: the importance of cultivation and maintenance of grasses, which are often the first aspects that spring to mind when the word 'lawn' is mentioned.

Based on analysis of existing definitions and our previous research on lawns, we suggest our own detailed definition of lawns[16], where we acknowledge that lawn is a special plant community created exclusively for human pleasure, a plant community consisting predominantly of grasses (but with possibility of presence of herbaceous flowering plants) and must be maintained. One of the most important aspects of lawn is the *turf* (*sward, sod*), which is the upper level of soil closely covered by grasses and forbs with intertwined roots and in symbiosis with soil fauna, which actually makes a lawn.

A common characteristic of lawns is their specific construction technique (preparation of soil and seed mixtures, designed to achieve a certain density of sod) and management regime (mowing, fertilising and watering) aimed at maintaining selected grass species, controlling weeds and mosses, and keeping desirable grass height and even green colour.

The origin of lawn

The origin of European lawns and the word 'lawn' in English and French

There are different hypotheses on the origin of lawns. Some believe they derive from natural or anthropogenic grazed grasslands in Europe. Actually, in agriculture 'meadow' is also grassland, but is ungrazed or used for grazing only after being mown to produce fodder for livestock. Smith and Fellowes[17] believe that lawn's history most likely started in north-west Europe (Britain and northern France), because of the particular climate with mild winters and warm humid summers, which was favourable for growing certain species of grasses (*Lolium perenne, Poa pratensis, Festuca* and *Agrostis* species*, Alopecurus pratensis, Cynosurus cristatus, Dactylis glomerata*).

According to Fort[18] and Möller[19], the English word *lawn* is derived from the old French *laund* (or old French *lande*), which means heath, moor or barren land. According to Woudstra and Hitchmough[20], however, *laund* meant "a grassy compartment in a deer park". Mosser[21] suggests that *lawn* is "the corruption of the Middle English word *launde*, designating a field or place of wildflowers". There are also opinions that the word *lawn* could come from the Breton *lann* (heath).[22]

In English, the word *lawn* appeared for the first time in 1548 in Thomas Elyot's dictionary and was described as an open space among trees.[23] From that time onwards, the very important function of the lawn as a special, connected element in the landscape was recognised. In France the term *gazon*, believed to be rooted in the Frankish *wason*, was widely used for "designating a ground covered by grass".[24] *Gazon* could also be related to the word *laune* (which sounds very close to *laund*), which is associated with the French town of Laon that is famous for its interesting and irregularly textured linen. Teyssot argues that the etymology of the word lawn "captures the possible alignments between the ancestral activity of weaving and the technological activism of the industrial lawn".[25] However, the origin of the word *lawn* is still being debated by etymologists and garden history researchers.[26]

When were the first 'true' lawns created?

It is not easy to say where and when the first "true" lawn, as a grass-dominated community designed mostly for decorative purposes (pleasure ground), was created. The word *lawn* was not known in medieval times. Many authors believe that in Europe, cut turf (*sod*) from meadows or grasslands was most probably used in monasteries and castle gardens. Many European painters portrayed images of cut turf with numerous flowers (daisies, carnations, plantain and oth-

FIGURE 2 *a: 'Emilia in the garden' by Barthélémy d'Eyck* (1460–1465), *where Emilia is sitting on a grassy bench. Illustration for the Giovanni Boccaccio book* Théséide. *Österreichische Nationalbibliothek, codex.* 2617, *f.* 53, *Vienna.*

FIGURE 2 *b: 'Pleasure garden in Ruralia commoda'* (1305) *by Pietro de Crescenzi, where a couple are sitting on raised grassy turf seats.* PHOTO: *www.pinterest.se*

ers), referencing the Garden of Eden.[27] Owing to the widespread use of Latin by monks, the Latin word *pratum* was mostly employed. This word is translated into English as *mead* (meadow), from the Old English *medwe*. Each wild flower portrayed in tapestries, engravings and pictures had an important religious symbolic meaning. They were connected to Bible stories and were probably inspired by real meadows in surrounding landscapes. English garden historian Eleanour Sinclair Rohde introduced the special term "flowery mead" for medieval lawns, which had many flowering forbs among grasses.[28]

Modern garden historians argue that medieval monasteries and the gardens of the nobility contained some plots of cultivated short-grass turf. This had connections with the meaning of the colour green as a symbol of rebirth, resurrection and spiritual happiness.[29] English authors are especially successful at searching for traces of protolawns – smoothly cut grass-dominated areas. Thacker[30] believes that Albertus Magnus, in his book *De Vegetabilis* (1260), provided the first instructions for creating grassed plots. He recommended clearing the area of the roots of weeds by digging them up, then applying boiling water and finally placing turf sods cut from a "good" grassy meadow. Finally, the turfed area was rammed down with wooden mallets. The goal was to create a surface resembling a fine-textured cloth. This recommendation was familiar in many European countries, since *De Vegetabilis* was published in Latin.

Woudstra and Hitchmough believe that from the Middle Ages on, there were "two types of grassy sward: either a kind of green velvet ('lawn') or a flower-rich sward".[31] The latter was achieved by planting additional native and exotic herbaceous plants in existing grass-dominated turf. Existing garden images from medieval times confirm the existence of two types of grassy surfaces. In some pictures, it is easy to see more or less short-cut grasses (Figure 2).

In other paintings there are clearly depicted turf benches with flower-rich turf surfaces, as shown in the painting from the fifteenth century portrayed in Figure 3.

Turf benches or raised turf banks were made from timber, brick, earth or stones and filled in with rubble and some soil, and finally topped with turf (cut from the nearest available pasture or grassland) or planted with scented plants. It is important to understand that short-grass areas in European gardens were created as a pleasure ground and were directly connected to notions of safety and political stability. For educated and wealthy people of the sixteenth century, it started to be possible to create new gardens in

which larger spaces, such as lawns, were dedicated solely to pleasure and aesthetics.

The origin of Swedish lawn: Etymological roots

The Swedish word for lawn is *gräsmatta* (pl. *gräsmattor*), a compound word that means "grass carpet". The word *gräsmatta* was first used in the Swedish dictionary in 1852 in the current meaning of a green grass carpet or "mat-like quilt made by (fine and impenetrable) grass covering the ground".[32]

Before that date, other words were used to describe grass-covered surfaces.[33] The use of the word *gräs* from ancient times reflects the development of Swedish agriculture, where grass-covered areas had great significance for stock rearing since 4000 BCE. Grazing of cattle was performed not only in meadows, but also in forests (wood-pasture), and resulted in domination of grass species and heather, which replaced the original ground cover vegetation.[34]

It appears that the word *gräs* was generally used in a broader meaning in old Swedish than nowadays.[35] In old German, *Gras* could contain the meaning *grao* (eat), *grastis* (green fodder, fodder-plant) and *gro* (grow).[36] *Gräs* also meant something edible and good for grazing animals. Nowadays, the first meaning of the word *gräs* is a ground cover with a large proportion of species belonging to the family Poaceae (grass family).

In the Swedish Bible (1526 translation), the compound word *gräsplats* is mentioned: *Och the satte sigh j roota taal på gräszplatzanar*[37], meaning a place overgrown with grass. Words relating to *gräsmatta* are also noted in the word *gräsplan*, 'grass field'. It was used already in 1761 to refer to a field in a garden or park covered with grass.[38] The related word *gräsplats*, 'grass court', i.e. 'grass place' was used in 1807 to refer to a place/court covered with grass, with specific added information regarding a type of grass considered particularly nutritious among English species of grass when feeding animals.[39] This corresponds with observations by British authors, who argue that areas of uniform cut grass regarded today as lawns were "referred to as *grass plats* or *plots*" in medieval times and up to the eighteenth century.[40] However, the word *gräsplats* is not commonly used nowadays in Sweden.

FIGURE 3. *'Madonna by a grassy bank' (1425/30), by Robert Campin workshop, where the Virgin Mary is sitting in a flowery meadow. The turf-topped box brick seat behind the figures contains wild flowers (dandelion, plantain, violet, wild strawberry).* PHOTO: *Maria Ignatieva in the Gemäldegalerie in Berlin, 2017.*

The origin of Swedish lawns: Historical conditions

The oldest known form of deliberately cultivated land in Sweden was *lövängar,* grazed meadows with trees. *Trädgård* (a tree-covered place) is now the Swedish word for 'garden'. At the beginning, it was probably a meadow with fruit trees.[41] The cut grass was already part of Swedish culture when lawn as a special garden decorative feature arrived in the country, probably after the acceptance of Christianity around the eleventh century. Because of the development of churches and monasteries, the Latin word *pratum* (meadow, hay-field) was also known in Sweden. For monastery and castle gardening, patches of sod were probably lifted from pastures. Sweden has a long tradition of using cut turf from existing grasslands for green roofs (*torvtak*). In that case, however, the turf was strictly utilitarian

FIGURE 4. *Reconstructed green roof on one of the wooden buildings in the Disagården open-air museum in Uppsala.* PHOTO: *Maria Ignatieva,* 2015.

and aimed to protect a waterproof layer made of birch bark sheets. This practice was used in some houses in Scandinavia up to the end of the nineteenth century.[42] (Figure 4)

Turf benches and meadows can be found in some paintings acquired by Swedish churches. One example is the altar paintings dating from the 1500s and attributed to the Antwerp masters. The painting in figure 5 was obtained by Vaksala Church in Uppland, Sweden. In one of the parts of the triptych, St. Clare is portrayed sitting next to the Virgin Mary on a turf surface (Figure 5).

Lawns in European gardens of seventeen century and their influence in Sweden

Lawns in formal gardens

Lawn played an important role in the development of the French formal garden style of the seventeenth century. Smooth short grass surfaces were essential features in open space elements: *tapis vert* (literally 'green carpet') and *parterre* – open space adjoining the house, laid out in a regular decorative pattern with use of live (plants) and inert elements (coloured earth etc.). The formal French park was a continuation of a palace under the sky, where parterres were seen as garden floors within which lawns were essential living elements.[43] The acceptance of the French garden style in all European countries by the late seventeenth-early eighteenth century resulted in the introduction of the particular French words (*parterre, bosquet* and *gazon*), into other European languages. For example, in Russia the word *gazon* was first recorded in the written Russian language in 1708 as a word of French origin[44] and related directly to the time of the introduction of European garden culture to Russia by Peter the Great in the early 1700s.

In Sweden one of the first appearances of the word *gazon* was probably in the *Le Jardin*

FIGURE 5 *a, above: 'St. Clare and Virgin Mary'* (1500s)*, by Antwerp workshop, Altarpiece. Courtesy of the Swedish History Museum, Stockholm.* PHOTO: *Maria Ignatieva,* 2016.

FIGURE 5 *b, below: Inspired by medieval images, this meadow-mat picnic bench with native Swedish plants was installed in Ultuna Campus in* 2016. PHOTO: *Maria Ignatieva,* 2016.

de Plaisir by André Mollet, published in French, German and Swedish in 1651. Mollet aimed to introduce, to the Swedish kingdom, his experience of French gardening and to adapt his knowledge to Swedish conditions. He describes several types of parterres. One of these was the *parterre de broderie*, which uses a continuous flowing line of box (*Buxus sempervirens*). Another was the *compartiments de gazon* ('embroidery of grass'),[45] parterres composed of different geometric pieces filled in with short cut grass (Figure 6). The latter was Mollet's attempt to offer alternatives to a very complicated embroidery parterre and employ patterns that would be easier to achieve in the cold Nordic climate. Except from southern Sweden, the boxwood could not withstand the harsh conditions.[46] According to Swedish art historian Göran Lindahl[47], the technique of working with cut surfaces of grass was used in Swedish gardens and was known as *gräsritningar* (grass designs). Mollet particularly mentioned the importance of keeping turf in the parterres "after the English manner"[48], *i.e.* of very high quality, thus recognising English leadership in the cultivation of lawns. The English definitely favoured lawns with very short and evenly grassy surfaces, taking advantage of their favourable climate.[49] Lawn was a very time- and money-consuming element. It required use of special seed mixtures (or good quality turf from pastures) and establishment techniques and an intensive maintenance regime.

Triumph of lawn in European and Swedish landscape parks

Most authors claim that lawn really came into its own as a closely-tended, short grass, which could cover quite extensive areas, in the middle

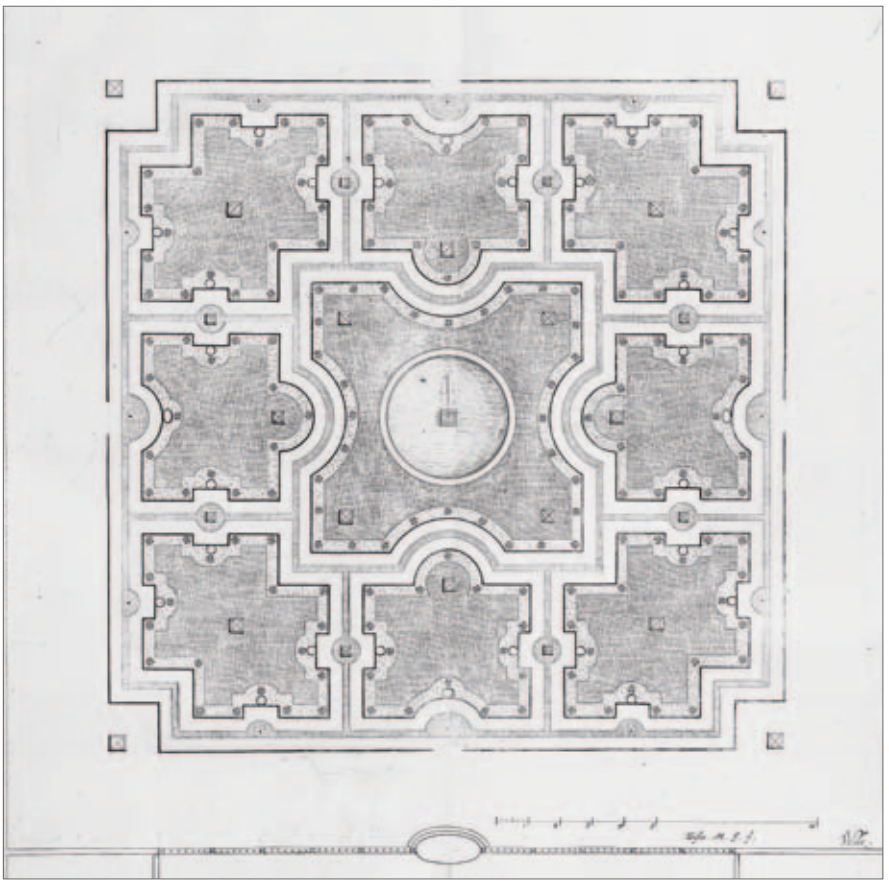

FIGURE 6 *a. Compartiments de gazon. Parterre composed of different geometric pieces filled in with short cut grass.* FROM: *Mollet* [1651], *facsimile edition* 2006, *Gyllene Snittet* HB. *Plansch XXII.*

FIGURE 6 *b, next page: Example of Compartiments de gazon in Vaux-le-Vicomte Park, France, 17th century design.* PHOTO: *Maria Ignatieva,* 2017.

of the eighteenth century.[50] The English landscape or "natural" style, based on serpentine lines of lakes and green belts, openings with grazed grasslands and natural shaped groves, replaced the geometrical ideology of parterres and bosquets. Laird[51] described division of landscape gardens into three parts: the park, the pleasure ground and the flower garden. The landscape ideal was to position a house within the pleasure ground on the short, smoothly mown or occasionally closely grazed grassy surfaces. Thus pleasure grounds had most intensively managed lawn areas. English scholars recently confirmed that in the time of Capability Brown, it was not possible to sow pure grass seeds.[52] For more intensively maintained "dressed" pleasure ground[53] lawns and more relaxed parkland grass areas, they used ready turf or had to collect seeds from a "clean" pasture.[54] Thus, such lawns in England always had several grass species, as well as some herbs, for example *Achillea millefolium*, *Sanguisorba minor* and *Plantago lanceolata.*[55]

Smooth, green surfaces with fine grasses that were closely mown or grazed became easier to create with the development of special nurseries for producing lawn seed mixtures in the second half of the eighteenth century.

From that time, many countries began using the French word *pelouse*, meaning "the surface of the lawn".[56] This word originated from the thirteenth century adjective *pelous*, meaning "hairy" from the Latin *pilosus,* "covered with hair". The use of this word in the Swedish language relates directly to the development of landscape parks in Sweden by the end of the eighteenth century. The most famous *pelouse* was established in the royal park Hagaparken in the 1780s for Swedish King Gustav III. The king was fond of French culture, so adoption of this French term seems logical. In Sweden, the lawn

in Hagaparken is known by its definite form, *Pelousen*. It was never grazed, except for a short period of sheep grazing in the 1930s (Figure 6). In the eighteenth century, it was cut by scythe.

The development of Swedish landscape parks has its own peculiarities, especially in the countryside. Hagaparken was the first "real landscape garden in Sweden"[57] with *pelouse* and other irregularly shaped open grassy spaces being essential elements of park design.

In Swedish country estates there were examples of a hybrid approach, where some elements of formal gardens (for example closely mown grassy parterres) were partnered with landscape garden features such as meadows and pasture.[58]

Based on documentary evidence from the Gunnebo estate, it has been concluded that in the eighteenth century, grass-dominated areas in the Swedish parks were managed by three major garden tools: scythe, roller and broom.[59]

The era of the lawn: Nineteenth century Europe and Sweden

Triumph of lawns in England

John Claudius Loudon, the true father of the nineteenth century gardenesque style and modern Western gardening, gave a first clear definition of lawn: "The term 'lawn' is applied to the breadth of mown turf formed in front of, or extending in different directions from, the garden in front of the house."[60] In the nineteenth century, the lawn was one of the absolutes in gardening. It offered a perfect match with the Victorian philosophy of eclecticism and exoticism, demonstrating the triumph of art over nature. The art of the skilled gardener was most clearly visible in the care of lawns. The Victorian attitude towards improving people's lives resulted in finding a particular "format" and cat-

FIGURE 7 *a*: *Hagaparken's Pelouse, Stockholm, being grazed by sheep in the* 1930*s.* PHOTO*: Wikipedia.*

egorisation for the lawn.[61] Introduction of the lawn mower in the 1830s launched the era of the "industrial lawn" and contributed to its mass adoption.

From the nineteenth century, lawn was given metaphors such as *carpet*, *canvas* and *green velvet*. Lawns in the gardenesque style were definitely the canvas upon which the house, trees, shrubs, sculptures and exotic unusual flowers should be "painted" and demonstrated in the most effective way.[62] Lawns were the essential part of the public parks, which also employed the gardenesque principles.

Lawn in Swedish public parks

Sweden was among the European countries which adopted the gardenesque fashion, making lawns an essential part of Swedish public parks. There was even a special word, *gräsmatta*, which was introduced to designate this important garden element. The initial meaning of the Swedish compound word *gräsmatta*, when first published in 1808, was not a living cut-grass surface, but a rug or mat made of dried grass: *matta förfärdigad av (torkat) gräs*.[63] The second part of the word, *matta* (from the old German *matte* or old English *maette*, in both cases stemming from the Latin *matta*), had the specific meaning 'a mat of rush' (Swedish *sävmatta*). When the word *gräsmatta* was first introduced in the nineteenth century, its component *-matta* related to textile mats used on floors or walls. The etymological origin, however, was 'a mat of rush', where rush botanically is a semi-grass (*Schoenoplectus lacustris*). *Matta* (noun) in Swedish in its first meaning denotes various crude or thick textiles, produced through weaving, braiding or knotting, and probably from the Phoenician and Hebrew noun *mitthah*, meaning "cover".[64] In its transferred meaning, as in *gräsmatta*, it is a figurative expression, denoting a 'grassy court' or 'grassy yard', referring to a

FIGURE 7 *b*: *The Pelouse as it was in* 2012. PHOTO: *Maria Ignatieva.*

ground cover consisting of growing (fine) grass or similar material: *mattliknande täcke av (tätt o. fint) gräs som täcker marken* (mat-like quilt made of fine and impenetrable grass covering the ground).[65]

The appearance of the special Swedish word *gräsmatta* entirely dedicated to lawn as a decorative garden and park surface was directly correlated with the spread of public parks in Sweden. A new upcoming class, the bourgeoisie, had become the main driving force in city planning, instead of the former upper class in Swedish society. In a democratic spirit, this class needed parks and thus lawns became available to everyone. Establishing lawns was a way for the Swedish bourgeoisie to show their wealth and significance. These lawns conformed to the nineteenth century English meaning of lawn as a green carpet for use, since Swedish parks at that time were particularly valued as places for socialising, good health and "moral education". Here, bourgeois families had their showground. Parks provided a pleasant environment and played a role in "strengthening the family", because they were said to take people's minds off drinking and gambling.[66] More broadly, urban parks played a role in improving hygiene and living standards in towns and decreased the fire risk. The even green carpet of lawn, with its neat and clean appearance, was an excellent aesthetic enhancer of urban public spaces. In many early photos of urban parks, lawns are typical gardenesque displays framing rich flowerbeds and bordered by gravel paths (Figure 8).

However, lawns in Swedish public parks were not really truly accessible for public recreation (walk and play) until the very late nineteenth and early twentieth century[67] and in some places even later. In private gardens, lawn began to be seen as a place for leisure activity and as a matter of prestige. A perfect lawn was a kind of a testament to the owner's skills and status.

FIGURE 8. *Lawn in one of Uppsala public gardens.* PHOTO 1905. *Carpet beds, shrubs and trees are displayed on lawns as in a museum exhibit. Colored post card.* Provided by *Roger Elg,* SLU.

Lawns in Swedish cities in the twentieth and twenty-first centuries: Towards a Swedish 'model'

From the second half of the nineteenth century, the process of transformation from an agrarian country to a highly industrialised nation began and resulted in accelerating urbanisation.

The Swedish economy developed rapidly in the early twentieth century due to democratisation, industrialisation, urbanisation and creation of a strong welfare state. In the 1940s, urban development was socially orientated and public housing received very strong government support. After World War Two, a new generation of housing areas and apartment blocks were built throughout Sweden. There was a call to improve living standards and specifically for greater attention to the outdoor environment in residential areas.[68] The idea was to bring light and air by using blocks of houses with a small footprint located in a park-like outdoor environment where lawn was a dominant feature. Such an environment was expected to play a major role in 'saving nature' in cities. Holger Blom, head of Stockholm's park administration from 1938 to 1971, wrote: "The park loosens up the city; the park makes space for recreation; the park is a meeting place; the park preserves nature and culture."[69] In that time of overcrowded living conditions with no space at home for activities other than cooking and sleeping, parks were seen as the living-room of the poor. Blom and his colleague Erik Glemme created parks where large lawns were essential. These lawns were designed for use as informal areas for football or rounders, places for sunbathing or picnics, or simply open spaces giving the city a comprehensive "green" structure. Thus lawn practically replaced the notion of "real" nature. The political policy of providing the Swedish people with affordable housing during the time of the Swedish welfare state, in the 1930:s to the 1950:s, resulted in large numbers of new dwellings ("folkhem"). Many of these were designed in the form of three-storey houses with publicly accessible large courtyards with lawns and playgrounds. (Figure 9). However, there was still a dearth of residential houses. Therefore, an ambitious public housing, the "Million Programme" (*miljonprogrammet*), was implemented between the mid-1960s and mid-1970s. In order to minimise the cost of construction and maintenance (cheap but functional spaces), lawns were a perfect component of the surroundings. Extended lawns, together with uniform plant material, shaped almost every Swedish city. This standardised psychology fitted well with the modernist rationalistic aesthetic of simplification of landscape elements (even prefabrication) and limited variation in design and plant material schemes. Even city and castle parks were influenced by the modernistic design and used the simplified conventional lawn.

By the beginning of the twenty-first century, lawn was firmly entrenched in all types of green areas in Sweden. In 2001, regularly cut grass lawns, which are called "utility" lawns in Swedish municipal documents, covered about 55 per cent of grassed areas in Swedish towns and cities.[70] In a time of globalisation and urbanisa-

FIGURE 9. *Lawn in multifamily housing area in Tunabackar, Uppsala.* PHOTO: *Maria Ignatieva* 2017.

tion, lawns have become an indispensable element of open space design. One of the latest trends in Sweden is the use of artificial (plastic) lawn in playgrounds, exhibition gardens or even private gardens.

An alternative perspective on lawn in Sweden

Despite following European garden fashion, especially from England and Germany, countries with which Sweden traditionally has strong garden and horticultural links, there were attempts to implement some authentic Nordic ideas into the development of lawns during the nineteenth and twentieth centuries. One of the traditions included the use of parts of native landscapes (which Sweden has in abundance) preserved in parks and other green areas.[71] This included natural or semi-natural vegetation such as forests and woodlands, as well as meadows and pastureland. This approach was part of the Nordic School and Nordic classicism, which were also searching for a national identity in the early twentieth century. Thus, grasslands were very much authentic natural elements in some public parks (Figure 10).

One example of the preservation of indigenous vegetation is Slottsskogen Park in Gothenburg, which was established at the very end of the nineteenth century. Meadows and natural tree-covered hills were included in the park. The most important feature was a lawn for picnicking and recreation. In the Municipal Park in Jönköping, established in the same era, it was decided to clear a forest glade and provide space for more natural vegetation rather than designed and trimmed lawns with flowerbeds and groups of decorative flowering shrubs.[72]

The use of native meadows and grasslands instead of lawns was one of the doctrines of the so-called Stockholm School of Parks developed in the 1930s and 1940s. This school advocated a new park style, in contrast to the neoclassical regular and well-proportioned ideals.[73] To a large extent, green space development was

adapted to the existing landscape. This planning and design approach also included preservation of semi-natural pastures, although proper management was absent in many cases.[74] Native meadows were used in addition to conventional lawns. This approach became very popular in the urban landscape and had also influences on corresponding green space development in Norway and Finland. One of the best examples of a park of this kind is that in connection to Norr Mälarstrand in Stockholm.[75]

At the end of the twentieth century, alternative lawn solutions developed abroad became quite influential in Sweden. English experiences were particularly popular because of the long-standing cooperation between UK and Swedish municipalities and researchers.[76] For example, there were studies on the maintenance of urban meadows.[77] In many park administrations and garden companies, new management regimes for lawns were developed. In addition to conventional lawn (regularly mown), new types of high grass and meadow lawn have been introduced to Swedish municipalities.[78] Awareness of the harm of using herbicides and pesticides on conventional lawns has resulted in a ban on chemicals on public lawns in all Swedish municipalities since the 1990s. However, this sustainable attitude on municipal level was largely dictated by the poor economic situation in Sweden in the 1990s and related endeavours to reduce the maintenance costs.

Since 2000, there have been several attempts to identify alternative urban ground-cover vegetation, for example Mårtensson reviews experiments on urban meadows in Sweden in the 1980s and 1990s.[79] Moreover, private companies producing exclusively Swedish wildflower seeds have been started.[80] They aim at saving natural grasslands and promoting use of different meadow plants around Swedish urban dwellings. Seeds are collected directly from native plant communities in different districts of Sweden.

Grass-free lawns

The LAWN project prioritised models inspired from natural grassland ecosystems and medieval gardens, where meadow and ground

FIGURE 10. *Former grazed area in which lawn (gräsmatta) was established. Such a lawn consisted of 50 per cent non-grass species.*[81] PHOTO: *Sten Florgård* 1947.

FIGURE 11. *Visitors enjoying the experimental tapestry lawn on Ultuna Campus, SLU, Uppsala.* PHOTO: *Maria Ignatieva* 2017.

cover plants played an important role. One suggested solution was the tapestry/grass-free lawn. The idea was influenced by recent British research,[82] which claims that such lawn can combine sustainability aims (less energy input in maintenance and achieving a biodiversity-rich plant community) with 'cues to care' (visibility of human care)[83] and at the same time a pleasant aesthetic appearance of the ground surface (decorative perennial species with attractive foliage and flowers).

Nordic planning traditions can be a good breeding ground for these new ideas.[84] The Swedish version of tapestry lawns involves using appropriate low-growing native perennial species that can provide a similar level of dense plant cover to a conventional grass lawn and at the same time cope with the harsh Nordic climate (Figure 11). Such lawns require less cutting, since the plants are not very high and most of our suggested plants already spontaneously appear in conventional lawns.

Discussion and conclusions

The history of Swedish lawns as dense and regularly mown grassy areas created purely for pleasure has many similarities with lawns in other European countries. Trade, royal and religious connections contributed to Sweden accepting the same artistic styles, garden terminology and even garden maintenance technology. It is especially important to note the native origin of the main grass species in Swedish pastureland, which were later used in artificially created lawns. In Swedish, the authentic word *gräs* peacefully coexisted with the word *pratum* used by medieval Christian monks. Swedish monasteries and castle gardens most likely used lawns for decorative purposes (turf benches for sitting and contemplation) and were based on cut turf with grasses and flowering perennials. In comparison with many other European countries, the Nordic nations already had a long tradition of using pieces of cut meadow for roofs.

The use of "true" lawns in the modern un-

derstanding of smooth, dense, decorative surfaces came to Sweden via its royalty and nobility, which had close connections with fashionable France and England. This led to the use of French words such as *gazon* and *pelouse*. However, these fancy foreign words were not part of the everyday life of Swedish peasants, who comprised the majority of the inhabitants in the country. Moreover, decorative lawns were very time- and resource-consuming and thus affordable only in small amounts and in certain garden places (parterre or intensively cut lawn next to the house). Unlike England, Sweden introduced a special word, *gräsmatta*, in recognition of this new social and cultural phenomenon, quite late in the history of lawn. *Gräsmatta* clearly landmarked a new political, cultural and economic era in Sweden. From this moment, lawn started its reign and conquest of Swedish cities. In the twentieth century, the Swedish model of economic and cultural development gave lawns particular democratic status as one of the most accessible and most common elements of all urban open green spaces. Compared with the Anglo-American planning model with urban sprawl and development of private individual housing (where private lawns play a crucial role), Sweden used the approach of creating publicly accessible lawns in multi-family residential areas. Private gardens still exist in Swedish cities, but multi-family residential housing neighbourhoods are the most common typology. Due to the political and economic specifics of Swedish life, municipalities play an important role in outdoor environment regulation, including management and maintenance of lawns. This brings many advantages. For example, awareness of the negative consequences of using pesticides and herbicides for the environment and people's health forced Swedish municipalities to prohibit use of chemicals in lawn management. This is quite different from the situation in other developed and developing countries, where harmful lawn management practices are still quite common.

Our research shows that due to the climate and practice of using sods from grasslands, Swedish lawns even in the seventeenth, eighteenth and nineteenth century were quite diverse and had several grass species and other herbaceous plants such as clover, yarrow or plantain. After World War Two, many of newly established conventional lawns with the succession process transferred into more species-rich surfaces.

Nowadays, many Swedish lawns, especially in residential areas, also look quite 'relaxed' and contain not only original grass species but also many spontaneously appearing forbs. Sweden even has a very progressive classification of lawns, which by the early twenty-first century included the categories "high grass" and "meadow-like areas". On the other hand, too much centralised control by communities and municipalities does not provide an opportunity to review the existing rules or offer any alternative vision and solutions on lawns in a large scale. In the past decade in Sweden, lawns have been the first victims of the densification process, with dramatic loss of green areas. A new phenomenon in outdoor housing space is synthetic lawn, which has appeared in parks and housing areas as part of a new era of ecological simulation.[85] The justification for this replacement of nature is that the material has better durability and can withstand the high recreation pressure in dense urban environments. Thus, by 2010 the second part of Swedish word *gräsmatta* acquired its literal meaning, as a green mat or rug.

In Sweden and many other European countries (UK, Germany, France, the Netherlands), there are traces of past searches for an alternative to conventional short-cut monoculture lawn. The recent environmental crisis and climate change have dramatically intensified the search for sustainable solutions and have resulted in the emergence of Swedish firms growing and advertising native meadow plants and introducing various types of alternative lawn vegetation in urban environments.

Our recent interdisciplinary study of Swedish lawns showed deep attachment to lawns among the public[86], since from their very first steps urban residents see green carpets everywhere. However, the same study showed that people and municipal authorities understand the necessity and importance of providing more variety in

the urban environment and of introducing new sustainable solutions. One of the important preconditions for success in changing the existing lawn paradigm is education and, in the Swedish case, providing demonstration sites showing alternative lawns in municipal parks and university campuses. This is the perfect moment for changing human lawn psychology, by exploiting the tremendous potential of Sweden's meagre nature and its garden history of biodiverse meadows and pasturelands and resurrecting the notion of national identity.

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Notes

1 Wheeler et al. 2017.
2 Smith and Fellowes 2014.
3 Bormann et al. 2001.
4 Thompson et al. 2004.
5 Müller 1990.
6 Bertocini et al. 2012.
7 *The American Lawn* 1999.
8 Hedblom et al., 2017.
9 Seiler 2017.
10 Ignatieva 2015.
11 The Swedish Academy is an independent cultural institution founded in 1786 by King Gustav III to advance

Swedish language and literature. The regulations of 1786 require creation of a dictionary on every word in the Swedish language published since 1521, a task expected to take some years. By 2016, Svenska Akademiens ordbok (SAOB) staff had reached the letter V, while revising facts relating to words starting with previous letters. (Svenska Akademien homepage, 2017).

12 Hellquist 1967.
13 Ignatieva 2017.
14 Laptev 1983, p. 5.
15 *The Oxford Companion to Gardens* 1991, p. 331.
16 Ignatieva 2017, p. 6.
17 Smith and Fellowes 2013.
18 Fort 2000.
19 Möller 1992.
20 Woudstra & Hitchmough, 2000, p. 31.
21 Mosser 1999, p. 50.
22 *Online Etymology Dictionary* 2016.
23 Fort 2000.
24 Teyssot 1999, p. 7.
25 Teyssot 1999, p. 7.
26 Mosser 1999.
27 Hobhouse 1992; Mosser 1999.
28 Rohde 1928.
29 Ignatieva 2011.
30 Thacker 1997.
31 Woudstra and Hitchmough 2000, p. 30.
32 Lundström 1852.
33 The letter G, covering *Gräs* (grass), was published in *Svenska Akademiens Ordbok* (SAOB) in 1929. Etymologically, the old Swedish word *gräs,* corresponding to the old Danish and Norwegian *græs,* is derived from the ancient Nordic *grasia,* in turn probably from the Germanic *grasa-*. The word *gräs* in Swedish appears in the New Testament, dated 1526, spelled *grasz*. This radix can be found in the old Swedish *gras,* old German *gras* and old English græs (SAOB), today's English *grass.* The original meaning of the old Germanic and old Swedish prefix *gra-* is something that literally sticks out, sticks up, crops out and appears. It is related to the Swedish word *gran*, which in turn is composed of a radix meaning *sticka fram*, 'stick out'. *Gran* means the tree *Picea abies* (Norwegian spruce), which is believed to have been named for its needles sticking out from the twigs, like grass sticking up from the ground.
34 Vera 2000.
35 Hellquist 1967.
36 Kluge & Seebold 2002.
37 Mark 6: 40, referred to *Svenska Akademiens ordbok* (SAOB), 1929.
38 SAOB 1929, 2009; Hellquist 1967.
39 SAOB 1929, 2009.
40 Woudstra & Hitchmough 2000, p. 31.
41 Andersson et al. 2000.
42 Jim 2017.
43 Ignatieva 2011.
44 *Dictionary of Russian Language of the 18th century,* 1989.
45 Lindahl 2004a, p. 169.
46 Lindahl 2004a.
47 Lindahl 2004b.
48 Jakobsson et al. 2007.
49 Mollet 1651, plansch XXII.
50 Dawson 1959; Schultz 1999; Jenkins 1994.
51 Laird 1999.
52 Phibbs 2010, p. 42.
53 Pleasure ground is specially dedicated space (usually next to the house) within the English landscape style garden where colourful flowers and flowering shrubs as well as more intensively managed lawn area can be located. Laird, 1999.
54 Dawson 1959, p. 15.
55 Phibbs 2010, p. 48.
56 Mosser 1999.
57 Olausson 1993, p. 562.
58 Olausson 1993.
59 Seiler 2017, p. 43.
60 Fort 2000, p. 72.
61 Smith and Fellowes 2013.
62 Ignatieva 2011.
63 SAOB 1929, 2009.
64 Hellquist 1967.
65 Lundström 1852, SAOB 1929, 2009.
66 Andersson 2013.
67 Nolin 1999.
68 Dahlberg 1985.
69 Blom 1947.
70 Svenska Kommunförbundet 2002.
71 Florgård 2009.
72 Nolin 1999.
73 Sernander 1926; Florgård 1988.
74 Florgård & Forsberg 2010, p. 84.
75 Sundström 2004.
76 Tregay & Gustavsson 1983.
77 Hammer 1987.
78 Andrén 2008.
79 Mårtensson 2017.
80 http://www.pratensis.se/; https://www.vegtech.se/
81 Florgård 2009.
82 Smith & Fellowes 2014.
83 Nassauer 1995.
84 Gustavsson & Ingelög 1994; Florgård 2009.
85 Francis 2018.
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Lawns in Sweden

History and etymological roots, European parallels and future alternative pathways

by Maria Ignatieva, Clas Florgård & Katarina Lundin

Summary

We live in a world of lawns. They are among the best loved and well-used eco-friendly features in all types of green area, urban and even rural. The positive aspects of lawns are widely recognized, but concerns have been raised about their costs, consumption of resources and contribution to climate change. To date there has been little research on the history and development of lawns, or the reasons for their prevalence in Swedish cities. We have examined their relationship with Swedish natural grasslands, and have looked at the origin and historical development of decorative lawns, including parallels with European examples. We have also analysed the evolution of Swedish lawn terminology (*gräsmatta*, *gräs*, *gräsplats*). Moreover, we have examined the literature; the etymology of terms in Swedish dictionaries; visual sources (paintings in art galleries and museums, and postcards); and the results of interdisciplinary research on the lawn as a Swedish ecological and cultural phenomenon. This has allowed us to compare the meaning of Swedish words with the evolution of English and French lawn terminology.

Our results demonstrate the importance of history and etymology in interdisciplinary research. We show that the lawn in Sweden is a quite recent phenomenon, which followed developments in Europe from the very small turf benches of medieval gardens, to Baroque parterres de gazon, through to English-style parks with wide pastures and lawns. The introduction of a specific word for lawn, *gräsmatta,* in 1852 marked a new political, cultural and economic era in Sweden, which would lead directly to the development of the 19th-century public park. In the 20th century, the Swedish model of economic and cultural development gave the lawn a distinct democratic status as one of the most accessible, common elements of all urban open green spaces. Yet the 21st century has seen an increasing search for complementary, more eco-friendly options such as tapestry lawns or meadows consisting of native Swedish plants, harking back to ancient meadows. The task of developing a new generation of Swedish lawns is underpinned by modern environmental ideas and a desire for greater biodiversity.

Keywords: History of lawn in Sweden and Europe, lawn and *gräsmatta* etymology, alternative lawns