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CONTENTS

| | |
|--|-----|
| UNIVERSAL DESIGN IN ARCHITECTURE – EDITORS’ NOTES | 5 |
| SIDSE GRANGAARD, CAMILLA RYHL, MARIANNE SKJULHAUG, ANNE KATHRINE FRANDBSEN, CLAUS BECH-DANIELSEN, MADELEINE GRANVIK AND ANNI VARTOLA | |
| IMPROVED SWEDISH ACCESSIBILITY HINDERED BY A HOUSING IMBROGLIO | 9 |
| JONAS E. ANDERSSON | |
| FROM ACCESSIBILITY TO EXPERIENCE: OPPORTUNITIES FOR INCLUSIVE DESIGN IN ARCHITECTURAL PRACTICE | 33 |
| VALERIE VAN DER LINDEN, HUA DONG AND ANN HEYLIGHEN | |
| ØJENÅBNERE OG ERFARING I UNIVERSELT DESIGN | 59 |
| SIDSE GRANGAARD | |
| ACCESSIBILITY AND SOCIAL INCLUSION | 83 |
| MASASHI KAJITA | |
| UNIVERSAL DESIGN INTEGRATED IN ARCHITECTURE: A PROPOSAL FOR HOUSING THE ELDERLY | 111 |
| HEITOR GARCÍA LANTARÓN | |
| UNIVERSAL DESIGN IN U.S. ARCHITECTURAL EDUCATION: SUCSESSES AND CHALLENGES | 139 |
| BETH TAUKE, MEGAN BASNAK AND SUE WEIDEMANN | |
| A NEW PROFESSIONAL MASTER IN UNIVERSAL DESIGN IN THE BUILT ENVIRONMENT | 163 |
| CAMILLA RYHL AND ANNE KATHRINE FRANDBSEN | |

IMPROVED SWEDISH ACCESSIBILITY HINDERED BY A HOUSING IMBROGLIO

JONAS E. ANDERSSON

Abstract

The quest to make Sweden accessible for all has a long tradition. Stemming from initiatives of charitable organisations in the early 20th century, accessibility became a physical requirement through the Swedish building act of the 1960s. It promoted a type of physical barrier-free architecture for the welfare state. The socio-political ambitions of the 1970s propelled Sweden to become a world-leading nation in the creation of equal opportunities and social inclusion. Architectural design was expected to meet the demands of people with cognitive, physical or sensory disabilities and, on signing the UN convention on equal rights for persons with disabilities in 2007, existing legislative frameworks were complemented with additional guidelines on removing physical barriers. By focusing on the national tripartite definition of accessibility, Sweden has paid little attention to the development of the universal design concept. Instead, accessibility has been associated with the elusive concept of usability in order to promote a user-environment fit. Since 2013, the increasing shortage of housing in densely populated areas has impeded work to create an accessible and inclusive welfare state and has fostered the notion that accessibility increases building costs. This study provides an overview of the Swedish development of accessibility in order to promote participation and social inclusion by removing physical barriers in the built environment and introducing user-oriented assistive technologies.

Keywords:

Swedish development,
accessibility, usability, universal
design, disability policy.

Introduction

In 2014, two major players influencing the goals and strategies of Swedish disability policy, i.e. removing physical barriers and promoting equal opportunities for all people regardless of cognitive, physical or sensory abilities, were merged to create a new authority. One of these players was the Coordinating Agency for Realising Politics on Disabilities (CARPD),¹ which was in charge of implementing and supervising the national disability policy. The other was a non-profit association, the Swedish Institute for Assistive Technology (SIAT),² which was tasked with development of various assistive equipment and technologies. The main reason for the merger was a structural need for a single actor within the civil administration that could assume official responsibility for both developing and supervising the implementation of national policies concerning accessibility and inclusion for infrastructure and the built environment, assistive equipment and technologies, and various media such as books, newspapers and information and communication technology (ICT) (Socialdepartementet, 2013). Although with just two active years, the Swedish Agency for Participation, in the following termed MFD after the Swedish acronym,³ embodies more than 100 years of work to include people with a vast range of disabilities on equal terms in the modern welfare society.

This study focuses on the development of awareness in Sweden of the need for including people with disabilities, and the emergence during the latter half of the 20th century of the concept of accessibility as the main tool for creating an inclusive welfare society. Since the new millennium, accessibility has been associated with two other concepts, usability and universal design. This analysis of the current Swedish situation was based on a close reading process (Brummett, 2010) that included legal documents regulating Swedish building, infrastructure and planning and research-based literature on people with disabilities. This scrutiny aimed at pinpointing the definition of concepts for promoting equal opportunities in an egalitarian welfare regime. The research material was of a transdisciplinary nature and included research fields that focus on conditions for people with disabilities or accessibility issues concerning the built environment, e.g. architectural and building research, research on disabilities, and research on ergotherapy and gerontology (Åman, 1976; Iwarsson and Ståhl, 2003; Paulsson and Ringsby-Jansson, 2008; Andersson and Rönn, 2014).

Historical backdrop to Swedish organisations for people with disabilities

In Sweden, associations and non-government organisations for people with disabilities were first founded at the end of the 19th century (Persson Bergvall and Sjöberg, 2012). These associations and organisations often singled out a particular type of cognitive, physical or sensory

1 A Swedish acronym for Myndigheten för handikappolitisk samordning, Handisam.

2 The Swedish acronym is HI, Hjälpmedelsinstitutet.

3 The acronym MFD stands for Myndigheten för delaktighet.

disability as their main target group and their interest was typically in providing financial and social support for this group of people (ibid.). At that time, poliomyelitis was a considerable threat to public health and caused complex impairments among adults, but children in particular. Through provision of various orthopaedic operations, physical training and complementary assistive equipment, these patients were rehabilitated back to a level of ability whereby they became self-supporting and contributed and participated in society (Axelsson, 2004, p. 174). Following the polio epidemic in 1911, a national collection was opened that aimed at improving living conditions at large institutions that served as combined housing, education and work centres for people with disabilities. The influential author August Strindberg donated a large sum of money, but the Nobel prize-winner for literature in 1909, Selma Lagerlöf, was the main fundraiser. She also contributed by publishing a pamphlet in Swedish newspapers that stressed the need for helping the large group of young and older people afflicted by the epidemic. Having acquired a hip injury in early childhood, she spoke from personal experience of a physical disability. The campaign accumulated such generous contributions, above half a million Swedish crowns (SEK), that a national committee was founded. This was the Swedish Central Committee for Disabilities, which had the acronym SVCK in Swedish (Axelsson, 2004; Persson Bergvall and Sjöberg, 2012).⁴

During the 1940s and until 1965, SVCK hosted different initiatives to break the isolating and uprooting effect of concentrating a large group of people with just one common denominator – a cognitive, physical or sensory deficiency – to large institutions on the city edge or in the countryside (Paulsson and Ringsby-Jansson, 2008; Persson Bergvall and Sjöberg, 2012). During the 1960s, the normalisation principle, which was promoted by the Swedish sports organisation for people with disabilities (Nirje, 1992), expanded into other socio-political sectors such as appropriate housing and work opportunities. SVCK emphasised that cognitive, physical or sensory disabilities were not a barrier to a full and rich life, but rather that attitudes and beliefs among the rest of the population were the main barrier, poignantly demonstrated by an inaccessible built environment. In 1965, the Swedish Board for Disabled People (SBDP)⁵ was created to disseminate knowledge about living conditions for people with disabilities on national, regional and local level. In the same year, a parliamentary committee, the Delegation on Handicap Issues (DHI)⁶, was formed to vet living conditions for people with disabilities and oversee measures to dismantle the large institutions and replace these with appropriate housing and work environments, in order to integrate people with disabilities on equal terms.

In 1976, the DHI submitted its final report entitled *Culture for all* (SOU 1976:20, 1976), which focused on implementing the normalisation principle throughout the Swedish welfare society, and proposed equal

4 The acronym SVCK stands for Svenska Vanförevårdens Centralkommitté. The accumulated funds of 1911 corresponded to 600.000 SEK, in today's value about 28.5 million SEK. The author August Strindberg donated a sum of 5000 SEK, 240.000 SEK in today's value.

5 This was Statens Handikappråd, SHR.

6 In Swedish Handikapputredningen, 1965–1975.

opportunities for education, housing, work and participation in society, especially as regards access to cultural activities (ibid.). In 1968, SVCK was divided into two new organisations. The remainder of the large sums from 1911 was entrusted to a foundation for research and support for people with disabilities. This foundation, which was named the Swedish Committee for Rehabilitation (with the Swedish acronym SVCR),⁷ still funds research on people with disability problems. In addition, a non-profit association was founded, the Swedish Institute for Handicapped people (SIHP).⁸ It focused on rehabilitative equipment, technology and work in order to integrate people with disabilities on equal terms into the welfare society. The institute was reorganised in 1998 and formed SIAT.

7 The acronym SVCR is approximate, but stands for Svenska Kommittén för Rehabilitering.

8 In Swedish Handikappinstitutet.

Architecture as an instrument for improving conditions for people with disabilities

The roots of the modern concept of accessibility can be traced back to the transition from the autocratic class society to the pre-industrialised society. Following the era of Enlightenment, the belief in architecture as a structuring element for political thinking on prosperity and social order in a welfare society continued to influence the 19th century (Foucault, 1975; Gromark, 1987). Deprived social conditions and political turmoil, especially for those in need of assistance and care, i.e. the disabled, orphans, young people and the elderly, led to the creation of altruistic and benevolent associations and companies that invested in full-scale trials of social visions, e.g. the ideal cities created by the so-called utopian socialists like Charles Fourier and Robert Owen. In order to accommodate existing social structures, society was institutionalised; large-scale institutions such as paupers' asylums or poorhouses were conceived in order to accommodate people in need of care and support (Foucault, 1975; Goffman, 1983). In Sweden, during the 1880s and 1890s large institutions providing both housing and workshops were founded on the outskirts of large Swedish cities in order to accommodate groups of people with disabilities, often a particular type of impairment (Åman, 1976, pp. 229–241).

Despite modern building materials, heating and sanitation, the conditions in these large institutions were perceived to be inhumane, especially by the fin-de-siècle movement of liberal and social-democratic thinkers. Inspired by the utopian socialists, several of the associations and organisations active in the area of social work and support for people with disabilities adhered to a belief in architecture as an essential instrument for changing lingering notions of the old authoritarian society into a modern welfare society based on egalitarian principles (Kellgren, 1916). A concrete example of this belief was the formation of architects' offices inside these organisations, so that standardised building solutions could be conceived and made available for purchase (Andersson, 2015). Sound building techniques in small-scale architectural solutions

became an integral part of a form of supportive architecture that started to evolve for children, the elderly, orphans and patients with long-term medical conditions (Andersson, 2011). These buildings were presented as exemplary models in different journals published by the associations and organisations. The Stockholm Exposition in 1930 introduced a new type of architecture, functionalism. Learning on a parable combining the human being and the machine, knowledge of user needs and patterns of spatial usage became fundamental for architectural planning, correlated with state grants promoting the construction of new housing.

Regardless of the orientation or status of the organisations, the focus of their work was to create equal opportunities for people with disabilities, either through the development of appropriate assistive equipment or by adjusting the design of the built environment. In reaction to the remaining large institutions of the pre-industrial society, associations and non-government organisations initiated a process of individualisation describing people with disabilities as individuals, rather than a collective group (Giddens, 1991). During the 1940s, the local branch of the Swedish association for people with visual impairments⁹ attempted to solve the shortage of appropriate housing for its members by initiating a new building complex with housing, work opportunities and venues for conferences and social activities in southern Stockholm. The building complex was inaugurated in 1951 and is still in use.¹⁰ Its architecture was specifically designed to consider the needs of visually impaired people. In 1959, state grants were introduced as part of a preliminary project of adapting flats for people with special needs (Paulsson, 2008). In particular, the initiative targeted users with mobility problems who relied on a stick, walker or wheelchair. The project had positive results and, in 1963, the grant was made permanent. The allocation reached a maximum level of 15 000 SEK (approximately 160 000 SEK in today's value). In 1969, grants for home adaptation were expanded to include people with visual impairments.

During the 1960s, the Swedish Building Act was reformed to include building regulations that focused on the physical layout of housing and public buildings and the provision of necessary space for those who used a wheelchair to access the premises (SBN67, 1967). In 1964, a televised documentary on the lamentable housing conditions for people with disabilities led to a second national collection, which raised a sum of 13 million SEK.¹¹ In order to shed new light on the fit between people with disabilities and architectural design, an architectural competition for architecture students was opened in 1965 (Brattgård, 1972). This resulted in the construction of some 288 new flats at 14 different locations around Sweden (ibid.). These were named the FOKUS houses, after the TV show (ibid.). The development of a generous approach to housing adaptation for people with disabilities coincided with a strong tendency in building legislative reforms to define exact requirements, so that what

9 This is an approximate translation of Synskadades Riksförbund, www.srf.nu.

10 The building complex is situated at Gotlandsgatan 44–46 in Stockholm with 54 flats, studio flats and four room flats. The complex also houses work places and the head office for Synskadades Riksförbund.

11 In today's value this corresponds to approximately with 122 million SEK.

were believed to be ideal housing and workplaces could be engineered. The Million Houses Programme in Sweden during the period 1965–1974 became the ultimate challenge in demonstrating that human needs were compatible with the requirements for mechanical machinery.

Forging the concept of accessibility for the welfare state

The background presented above was formative in forging the concept of accessibility. In the beginning of the 1970s, there was one key concept for the work of creating accessible environments for people with disabilities: access through necessary space for running and turning a wheelchair. However, a series of conflicts surfaced during that decade. Due to large-scale townscape plans from the 1930s, private property owners suffered heavy restrictions. Generous expropriation rights for the state and local municipal authorities restrained private ownership. Properties were blocked due to pending future investments in infrastructure or re-developments of the existing built environment. The Building Act, introduced in 1947, was out of date and mainly orientated towards regulating physical requirements on detailed level and in a local situation. In 1965, a parliamentary commission, the so-called PBL Committee,¹² was formed in order to draft a new building act. From 1968 to 1988, Swedish building regulations underwent three sets of changes that implemented strictly regulated and computable requirements for architecture. These requirements were aligned with state grants for new housing, and municipal authority officials checked compliance through building permits and when signing off on construction work. During the 1970s, grants for housing adjustments were continuously developed and finally reached an unlimited level.

12 PBL stands for Plan- och Bygglag (Act on Building and Planning).

New building regulations redefined access through necessary space into a new and single concept, that of accessibility. The beneficiaries of accessibility in the built environment targeted by the regulations were a vast group of users with disabilities: mobility problems, visual impairments and cognitive issues that generated problems in navigating built space (SBN75, 1975). Grants for housing were refined in order to include a vast group of people with disabilities (SOU 1972:30, 1972). Growing vehement public criticism of the Million Houses Programme demonstrated a considerable weakness in the social-anthropological approach of the functionalist architecture (Pech, 2011). Housing standards per se were not criticised, but the public abhorred the large scale, the low aesthetic value and the lack of sensory attractions of the new accessible housing projects. As a consequence, large-scale city reorganisations were abandoned and a multi-layered city structure with new and old buildings was embraced. Existing architecture was recognised to constitute an essential value. This meant that existing flats underwent refurbishments and were adjusted to new demands on accessibility. Vernacular traits were

integrated into a low-scale type of architecture, in an attempt to humanise the austere look of functionalist town planning. Two-storey detached or single-occupancy houses, in which the ground floor was designed to be accessible in case of future disabilities, were developed on virgin land. Grants for home adaptation were extended and the upper restriction on the grant was removed in 1983. In the following year, Swedish municipal authorities took over administration of these grants from the county administration boards. Unlimited state grants for adapting existing housing for people with disabilities fed an erroneous idea that this group enjoyed extremely favourable living conditions. In 1980, the Minister of Health of the second liberal democrat government, which had followed a series of social democrat governments from 1930 to 1976, echoed this idea in a public speech. The polemic resulted in a national inquiry into living conditions for people with disabilities. The final report in 1984 refuted the false beliefs and demonstrated that this group experienced difficult living conditions, with poor health, low housing standards, limited financial means and weak integration in the jobs market. In 1979, the United Nations (UN) declared that 1981 would be the international year for disabled people. The Swedish government quickly followed and national preparations were made (SOU 1982:46, 1982). In 1982, Sweden also signed the UN programme of action concerning disabled persons, which was in line with the Swedish normalisation principle and promoted health, rehabilitation and integration in society by removing barriers caused by judgmental beliefs in society and physical barriers in the built environment and infrastructure.

Going from mandatory demands to the lowest acceptable level of accessibility

From 1974 to 1987, the PBL Committee prepared the new Swedish Building and Planning Act (BPA).¹³ The BPA introduced a holistic approach on matters relating to building and physical planning in order to facilitate a systematic planning process, but with one fundamental difference. Instead of compliance with mandatory physical requirements, monitored by the municipality, a more lenient approach was introduced with less official control. The planning process was to be initiated by the municipal authorities with respect to private ownership and public interests, especially concerning accessibility and access to greenery and nature. The regional level, the Swedish counties, would monitor the local level, while the national level would supervise the local and regional authorities by assembling reports on implementation of national welfare goals and issuing guidelines and recommendations in conjunction with legal reforms. In conjunction with the reform, changes were also made to the civil administration structure for building and planning. In 1988, the former Board of Planning, which over two decades had produced detailed guidelines and specified physical requirements in order to implement demands on accessibility, merged with the former Board of Housing, which was in charge of allocating state grants to new housing.¹⁴

13 In Swedish the new Building And Planning Act is called *Plan- och Bygglagen*, PBL.

14 The Board of Planning is an approximate translation of the former Swedish authority of *Planverket*, in charge of physical planning and building requirements. The Board for Housing is an approximate translation of *Byggnadsstyrelsen*, which supervised the national provision of housing through a loan system that was coordinated with physical requirements.

In line with its predecessors, the new authority, the Board of Housing, Building and Planning (BHBP),¹⁵ issued building regulations that included physical requirements on accessibility, architectural layout, safety and energy. With the new system in 1988, building regulations expressed what was defined as the lowest acceptable level of accessibility and other aspects for architecture and the built environment. Individual developers could choose to comply with this level, or deviate in order to provide a higher level of accessibility or other aspects due to the type of envisioned built space. In contrast to the earlier system, developers could adopt more generous and rigorous design solutions. Concerning grants for home adjustments, the 1980s showed that despite a seemingly open attitude to home adaptation, most property owners remained hesitant. In many cases, this meant that the individual was forced to find a new flat in another housing estate. In order to break this cycle, new grants for home adaptation were combined with grants for removing these measures when the tenant left the flat (SFS 1985:489, 1985). The change meant that both the state and the municipal authorities contributed to installing assistive equipment and uninstalling it, with the municipal authorities covering 60 per cent of the installation costs by the end and the state 40 per cent (Boverket, 2014c).

15 The Swedish denomination is *Boverket*, which is situated in Karlskrona, Sweden.

In 1988, a second parliamentary committee was formed to examine living conditions for people with disabilities and suggest necessary reforms. The committee adopted the same name as the previous committee in the mid-1960s, the Delegation on Handicap Issues (DHI) (SNIP, 2008). The second DHI presented its final report in 1989 (SOU 1992:52, 1992). It proposed further reform of the BPA and a new act on special assistance for people with disabilities (the LASS and LSS laws of 1994, see below). Accessibility in the built environment was confirmed as an essential parameter for creating an inclusive society for all, regardless of cognitive, physical or sensory abilities. Given the introduction of access for wheelchair users introduced in the building regulations of 1967, DHI's work meant that built environment constructed later than this year was mainly accessible, while accessibility problems were concentrated to buildings and open spaces prior to this year. Still, the committee deemed that most of the remaining physical barriers were "obstacles with an easily removable character". Hence, the committee saw the need for continued work on adapting existing architecture and built environment to modern demands on accessibility. In line with the DHI conclusions, Sweden participated in a UN initiative to define a lowest level of acceptable standard rules for the promotion of accessibility for people with disabilities on a worldwide level (adopted in 1993 by the UN).

Expanding the understanding of accessibility into neighbouring areas

The economic recession in Sweden in the early 1990s made investments

in the construction of new buildings a high-risk undertaking. As a consequence, the production of new flats plummeted to such a low level that it was comparable with the level of construction in the latter part of the 19th century, when Sweden developed from an agrarian economy into a diversified industrialised nation. In 1992, the system with state-controlled building loans was abolished and instead a market-based system was introduced. However, despite the low rate of creation of new flats, a considerable surplus of available flats developed on the market as the volatile financial market with high investment costs made people hesitant to move. In 1993, the system with state grants for home adaptation was reformed, making it an integral part of municipal authority responsibilities. This also meant that previous generous levels of grants were restricted to measures that could be directly linked to the disabled person's personal needs (Boverkets, 2014c). Besides the financial recession, the 1990s saw that several reforms, prepared during the 1980s, come into effect.

1. In 1993, Sweden joined the group of countries that confirmed the UN standard rules on the equalisation of opportunities for persons with disabilities.
2. In 1994, the Swedish Board for Disabled People (SBDP) was restructured into a new authority, the Swedish Disability Ombudsman (SDO),¹⁶ which focused on discrimination against people in the work environment due to cognitive, physical or sensory disabilities.
3. In 1994, the new law on remuneration of assistants to persons with disabilities (LASS), also envisioned by the second DHI in 1989, came into effect.
4. In 1994, the new law on special support and services for people with disabilities (LSS), prepared by the second DHI in 1989, came into effect.
5. In 1994, the new Building and Planning Act came into force after a seven-year transitional period from the old act. The first edition of building regulations was issued by BHBP,¹⁷ in which minimum levels of acceptable accessibility requirements for architecture and the built environment were assembled (BFS 1993:57, 1993).
6. In 1994, the supervising committee on the effectiveness of the new BPA concluded that public buildings often presented physical barriers for people with disabilities, which could prevent the participation of this group of people in society. As a consequence, physical barriers that created accessibility problems were listed and targeted for removal on a continuous basis (SOU 1994:36, 1994).
7. In 1995, large institutions for people with mental health issues were dissolved and replaced by group living within the ordinary stock of residential housing (SOU 1992:73, 1992).
8. In 1999, a special parliamentary committee reported on how to remove condescending and judgemental attitudes towards people with disabilities within civil administrations (SOU 1999:21, 1999).

¹⁶ The Swedish denomination is *HandikappOmbudsmannen*, HO.

¹⁷ In Swedish the name is *Boverkets Byggregler*, BBR.

9. In 1999, a new discrimination law for the labour market with regard to people with disabilities came into force (SFS 1999:130, 1999).
10. In 1999, the Swedish government presented a 10-year action plan for realising the goals of the national policy programme on removing physical barriers and promoting equal opportunities for all people (Regeringen, 2000).

The reforms involved a series of changes that expanded the Swedish meaning of the concept of accessibility from being mainly physical requirements for programming of architecture and built environment into becoming a fundamental criterion for overcoming existing prejudices and beliefs concerning people with disabilities in order to create an inclusive society. Besides the achievements listed above within the field of equal rights for people with disabilities, other reforms aimed at making the organisational structure more efficient and alert were introduced. In 1998, the SIHP institute from the 1960s was renamed the Swedish Institute for Assistive Technology (SIAT).¹⁸ SIAT assumed the same tasks as the previous institute, e.g. conducting and initiating experience-based studies of existing or new assistive equipment and other technologies intended for people with disabilities. In addition, SIAT took part in national and international standardisation committees and projects. The ultimate aim was to promote an increased level of user-friendliness. The goal was linked to variants of the colloquial and frequently used Swedish words for *usability*, *usage* and *use*. Although never used in any official Swedish documents of that time, the Swedish meaning corresponded largely with the seven principles of universal design (Connell, et al., 1997):

| | |
|---------------------------------------|--|
| Principle 1: Equitable Use | Principle 5: Tolerance for Error |
| Principle 2: Flexibility in Use | Principle 6: Low Physical Effort |
| Principle 3: Simple and Intuitive Use | Principle 7: Size and Space for Approach and Use |
| Principle 4: Perceptible Information | |

A simultaneous demographic change, with an increasingly larger proportion of older people in the Swedish population,¹⁹ broadened the scope of SIAT. The unforeseen increase in age-related brain problems and dementia expanded the original task of the SIAT to include cognitive and locomotory impairments due to age-related problems like dementia, long-term medical conditions and homecare medicine/elderly care services. The institute centred on user benefits and gains, so that living conditions for people with disabilities were improved and changed for the better.

¹⁸ In Swedish, the new institute was called *Hjälpmedelsinstitutet*, HI.

¹⁹ In 2014 the ratio was about 19 per cent of a 9.5 million population (Statistics Sweden, 2013).

Accessibility as means for leaving patient dependency and achieving full citizenship

The first decade of the new millennium saw the birth of a 10-year action plan for realising the goals of the national policy for people with disabilities. The title of the action plan, *From being a patient to achieving full citizenship*, was critical for people with disabilities, since it finally manifested the first fundamental shift in national policy since 1975 (Regeringen, 2000). In order to reorient the policy, the concept of accessibility was integrated in a *disabilities-obstacle approach*, in the following termed *DOA* (in Swedish *funktionshinderspersion*) that aimed at abolishing erroneous attitudes and cultural beliefs about people with disabilities and eradicating physical barriers in architecture and the built environment. The DOA relied on a generally accepted assumption by politicians and representatives of disability organisations that once the built environment was made accessible on a general level, a full social inclusion of people with disabilities would follow. The DOA, which is still in use, states that the implementation of a generally high level of the tripartite meaning of accessibility in the Swedish welfare society will maximise the potential for full inclusion of people with disabilities. With the DOA, additional trimming of the user-environment fit had/ has to rely on finely tuned assistive equipment or technologies.

The DOA orientation was reinforced in the new policy, with similarities with the egalitarian and non-discriminatory goals with which universal design had been equipped since 1997 (Steinfeld and Maisel, 2012). In a special ordinance of 2001, Swedish state organisations were designated to become key players for the realisation of national goals concerning accessibility in the built environment and the full inclusion of people with disabilities in the surrounding welfare society (SFS 2001:526, 2001). The same year, BHBP defined a set of physical barriers to the public in the existing official buildings and open spaces that were considered to be obstacles of an easily removable character and, therefore, targeted for adjusting measures. The first edition of regulations concerning these obstacles listed 12 types of easily removable obstacles, still in use, that can be summarised in the six bullet points (BFS 2003:19, 2003):

- heavy doors that are difficult to open, therefore, requiring door-opening devices for easy access for people with disabilities;
- high thresholds or levels, therefore, requiring level-adjusting measures like a ramp, inclined runway or elevator for improved access for people with disabilities;
- insufficient signage cues for orientation or warning, therefore, requiring contrast or tactile markings for people with disabilities;
- inappropriate design of handrails for stairways or handles that pose dangers, especially people with disabilities;
- insufficient electric lighting that creates glare or provide poor illumination, especially for people with disabilities;

- other building aspects like slippery flooring, over-compact hygiene spaces, or narrow passages.

In the following year, the authority for disability issues, SDO, assembled the first set of guidelines to supplement the tripartite understanding of accessibility. This publication supplied guidelines to overcome physical obstacles in the built environment and immaterial barriers that people with disabilities might experience in relation to media and organisations (Handikappsombudsmannen, 2002). These guidelines were partly based on the DHI committee report of 1989, but also on a review of international findings concerning physical and experienced barriers. The events followed thick and fast, but it soon became evident that realisation of the national goals also created an unforeseen supervision task in actual implementation that was beyond the capacity of SDO. The Swedish government initiated a one-year inquiry into a new strategic actor that could take the lead in the realisation process. This resulted in the creation of the so-called Coordinating Agency for Realising Policies on Disabilities (CARPD) (SOU 2004:54, 2004),²⁰ which was launched in 2006. SDO was integrated in the new authority with the special task of handling cases of discrimination. CARPD assumed the role of supervising implementation of the national disability policy by authorities, as well as working with special educational support for children with disabilities. CARPD was also tasked with producing regular updates to the accessibility guidelines released by SDO in 2002. In 2007, a second edition of guidelines, entitled “Tear down the obstacles; guidelines for accessibility” (TDOGA) was published (Handisam, 2007).²¹ These guidelines demonstrated the expanded meaning of accessibility that had developed since 1975:

- Guidelines on physical requirements for buildings and the built environment
- Guidelines on codes of conduct and strategic planning in work organisations
- Guidelines for information in books and other media, including the internet

In contrast to the succinct legal language of the building act and regulations, the guidelines used a colloquial tone and illustrations in order to conceptualise the tripartite meaning of accessibility. The intention was that the guidelines would serve as an instrument to go beyond the minimum requirements of the building regulations issued by BHBP. The guidelines are mandatory for Swedish state organisations, so that these shoulder the role of providing exemplary models of accessible buildings, along with inclusive work organisations and accessible media, for the rest of the Swedish building and financial sector to follow (MFD, 2105).

20 The Swedish acronym was *Handisam*, short for *Handikappolitisk samordning*.

21 In Swedish: *Riv Hindren, riktlinjer för tillgänglighet*.

Accessibility accompanied by two concepts forwarding user aspects

In 2010, the action plan ended and was subjected to assessment. The evaluation concluded that the period 2000–2010 had been favourable for realising some of the goals of the national policy on disabilities, but that pace of achievement was slower than expected (Regeringen, 2010). In 2008, Sweden signed and ratified the UN Convention 26 on the Rights for People with Disabilities (UN CRPD) which, when it entered into force in 2009, confirmed the existing Swedish tripartite understanding of accessibility. The signing of the UN CRPD extended the focus to the potential fit between architectural design and the various needs of a plethora of users. This concretisation of future users of the built environment had also resulted in changes to the Swedish building regulations. In 2008, the regulations introduced the concept of usability in close combination with accessibility, as a means to highlight the necessary fit between the built space and a large and varied group of users (BFS 2008:6, 2008). However, the definition of usability persisted and remains identical to that of accessibility, i.e. suitable for use by a person with mobility problems or reduced abilities to navigate in space (ibid., p. 11).²² Hence, the signing of the UN CRPD meant that the Swedish tripartite understanding of accessibility was complemented with two new concepts, both involving a focus on user needs and the necessary fit between architectural design and future users of the built space.

The concept of accessibility as presented in article 9 of the UN CRPD was, and still is, in line with the Swedish tripartite understanding of accessibility. However, article 2 of the UN CRPD also introduced universal design, which has a meaning close to the American universal design movement, but also the European focus on inclusive design or design for all. In the UN CRPD, universal design enforces the fit between various types of design, from artefacts to architecture, and a plethora of user needs (SÖ 2008:26, 2008). Until the signing of the UN CRPD, universal design was mostly unknown in Sweden. Instead, since the mid-1990s, national non-government organisations for people with disabilities had opted for the concept of design for all.²³ In the Swedish translation of the UN CRPD, the concept of universal design generated some concerns. Universal design is not used as a concept in the official Swedish version. Instead, it was and still is replaced by a phrase that in English would correspond to “universally conceived artefacts and buildings” (ibid.).²⁴ In the following text, the term universal design is used, but bearing in mind this clarification of the actual implication in the Swedish context.

New demands on measuring accessibility and assembling computable data

The new strategic plan for the Swedish disability policy entered into force in 2011, but concerned only a five-year period that ended in

22 In Swedish: *Personer med nedsatt rörelse- eller orienteringsförmåga.*

23 The organization Design for all Sweden was founded in 1996 as a non-profit organization for architects, designers and planners who adhered to the idea of introducing accessibility in combination with usability in architecture, artefacts and planning. The organization was national member of the European Institute for Design and Disability, founded by the Irish designer and thinker Paul Hogan.

24 The official Swedish translation of the English concept universal design is “*universell utformning*”, which is focused on conceiving or giving shape to an idea.

January 2016. The new plan reaffirmed the goals of the policy programme of 1999 concerning the DOA relation to disabilities issues. The programme confirmed the ambitions of the UN CRPD, since they shared several similarities. The new strategy also designated nine key areas as strategically important for the realisation of previous goals. The areas referred to the tripartite understanding of accessibility in society; culture including newspapers, television and sports; education; health; internet; the judiciary structure consisting of courts and police force; the experience of safety and security in society; transport; and work opportunities (Socialdepartementet, 2011). The new strategy also introduced refined goals in order to establish computable data for comparing the level of implementation between different state organisations. The organisational structure for this task was retained and the two main enablers for removing physical barriers and promoting an inclusive society continued to be CARPD and SIAT.

SIAT continued to develop assistive equipment on local, regional and national level, while taking on several government initiatives that involved ICT services for elderly people and home-based elderly care services in 2008,²⁵ and appropriate housing for older people in 2010²⁶ (Andersson and Rönn, 2014). In 2012, CARPD published a third version of the TDOGA that also included detailed studies with drawings and black-and-white illustrations of accessible toilets, doors and opening devices, spaces for conferences and checklists for assessing accessibility in the built environment. In the same year, the government initiated an inquiry into the effectiveness of 10 authorities and two non-profit associations in the welfare sector, i.e. care, social welfare, the tripartite field of accessibility and social inclusion. The inquiry revealed structural shortcomings and its final report recommended that the welfare sector should be re-grouped into four new authorities (SOU 2012:33, 2012):

1. A knowledge agency responsible for all types of knowledge support for health care and social services
2. An inspection agency responsible for permits, licences to practice, approval of drugs and other medicinal products and supervision
3. An agency to work together with other stakeholders to manage and develop ICT solutions the sector needs
4. An agency that monitors the overarching development of public health, disability issues, healthcare and social services – and in so doing strengthens the prospects of strategic governance

The government confirmed these conclusions and since 2013, the welfare sector has been undergoing fusions and mergers. The first bullet point targeted CARPD and SIAT and, hence, the new strategic plan for 2011–2016 also included the merger between these two actors. Through this merger, the key concepts for the Swedish disability policy – the tripartite understanding of accessibility – the DOA and usability came

25 This project was called Technology for older people, or in Swedish *Teknik för äldre*.

26 This project was called Growing old, living well, or in Swedish *Bo bra på äldre dar*.

under the remit of one authority, the Swedish Agency for Participation, with the Swedish acronym MFD.

Physical accessibility challenged by housing shortage and investment costs

In parallel with the introduction of the national disability policy in the first decade of the 21st century, the housing market started to evolve after the setbacks of the early 1990s. In 2003, the Swedish housing market was in balance, but with a markedly slow pace of construction of new residential housing (Boverket, 2012). By 2010, statistics indicated a growing housing shortage in combination with rising sale prices for available dwellings (Boverket, 2012). Lacking financial means, increasing numbers of people were left without a housing lease or contract. The national debate on the matter identified the Swedish Building and Planning Act (BPA) as a potential factor preventing an increase in the number of available dwellings (CNBCWorld, 2013). The government set up inquiries into various measures to boost the production of new housing and some of these concluded that the Swedish consultation procedure for building and physical planning was an inhibiting factor (Regeringen, 2014). Other concluded that the building regulations were too restricted and called for reduced accessibility demands in student housing and smaller respect and safety zone between infrastructure (railroads and traffic arteries (Boverket, 2014a; 2014b; SFS 2015:216, 2015).

Construction companies and developers blamed the BPA for creating inertia in municipal physical planning for new residential housing, but also criticised the municipal power to place higher demands on accessibility for buildings and the built environment under the terms of the TDOGA (Wågström, 2012). Even state organisations that managed the national stock of national heritage buildings and other built environment shared this view, and contested the legal grounds for increased accessibility requirements according to the TDOGA in relation to minimum requirements according to BHBP. One Swedish construction company argued that the Swedish way of building and planning was five times slower than that in Germany (NCC, 2012). Demands for more efficient building and planning processes and cheaper housing, especially for younger people, were repeated during the election campaign of 2010. Riots in a northern suburb of Stockholm in 2013 demonstrated that a shortage of flats for young people was particularly problematic in housing areas with a population with a diversified ethnic and immigrant background (Andersson, 2013).

In response to the alleged problems with the BPA, in 2011 the Swedish government set up a special committee that looked into the problem (SOU 2012:86, 2012). The committee delivered a controversial final report, acclaimed by construction companies and developers, but refuted by au-

thorities and other experts on Swedish building and physical planning. At the heart of the debate was the matter of whether the BPA expressed mandatory requirements concerning accessibility and other building requirements, or whether, as stated back in the reform in 1987, it described the lowest acceptable level of considerations to respect when programming new buildings. The discussion omitted that the BPA also stipulates that building developers must check the correct level of requirements depending on the specific building situation (SFS 2010:900, 2010, §§5–7). In addition, the committee criticised the local implementation of the BPA, since the local government principle could result in even stricter requirements than those designated by the BHBP (SFS 1991:900, 1991).

The new strategic plan for the national disability policy was caught in this crossfire, as developers claimed that accessibility requirements (even the lowest acceptable under the BHBP) increased investment costs and blocked the production of new dwellings (SOU 2012:86, 2012). The government argued for alleviating the requirements for residential architecture, redefining the accessibility requirements and blocking the municipal power to require the higher level of accessibility according to the TDOGA over the minimum requirements according to BHBP (SOU 2012:86, 2012). These changes were approved by the Swedish Parliament in 2014. As a test of lower accessibility requirements in housing, the BHBP was commissioned to monitor a housing project for students in southern Sweden with 12 square metre studio flats, but with higher room height in order to compensate for the compact living space. In 2015, BHBP concluded that lowering accessibility requirements had a 0.34 per cent reducing effect on the total building costs, but resulted in compact and segregated housing suitable mainly for short-term use (Boverket, 2014b).

The future development of accessibility, universal design and usability in Sweden

This study provides a broad overview of how concepts have evolved in Sweden since 1967 to become essential instruments in the realisation of national disability policies. During continuous development from 1967 to 2007, the concept of accessibility was successfully integrated into the Swedish building act with additional regulations and became an instrument for making existing built environment and new architecture accessible for people with mobility problems or reduced abilities to find their way within space. During the 1990s, accessibility was equipped with a tripartite understanding through the DOA and became the key tool for creating the inclusive Swedish welfare society that provides access for all, regardless of age and abilities.

The Swedish understanding of accessibility is largely reflected in article 9 of the UN CRPD (SÖ 2008:26, 2008), complemented with two new con-

cepts that promote the fit between design of artefacts, architecture and other products and the needs of future user groups. The first concept is usability, which has gained force through the organisational fusion between the Swedish agency supervising national policies on disability issues with the agency for creation of user-friendly assistive equipment and technologies. In the Swedish context, usability lacks a clear definition for the built environment assuming that of accessibility instead. However, it has a clear user-oriented focus when it comes to solutions for different media, including the internet and assistive technologies. The second concept is universal design, which, in line with article 2 of the UN CRPD, also promotes user-oriented aspects, but due to the DOA still has a limited influence in Sweden.

For the moment, the quest for an even more accessible Swedish welfare society is being challenged by a severe housing shortage. There is little to suggest that construction companies and developers are willing to relinquish their freedom to generate building solutions with technical requirements that derive from an independent analysis of the intended use for the future building, in order to return to extended control of designs and technical requirements by the municipal building administration. This would restore the content of the old building act from 1947 and kill off the existing act of 1994 with its lower forms of restriction. Similarly, there is little to suggest that accessibility would cease to be an essential requirement in the building act and associated regulations, since the concept not only facilitates access and use for people with disabilities, but also coincides with other requirements concerning sustainable building. The questioning of the universal good of implementing accessibility in architecture and the built environment is a future challenge, the key questions for the 2020s being:

- a. How to demonstrate that the BPA merely defines the lowest acceptable level of accessibility for buildings, which is open to individual adaptation to the particular building context.
- b. How to promote the improved level of accessibility required by the TDOGA, and mandatory for state organisations, and broaden its use by actors outside the civil administration.

The ongoing Swedish development of key concepts for its national disability policy suggests that a continuum of accessibility is about to materialise. This continuum will extend from what is perceived as the lowest acceptable requirements for architecture and the built environment to a higher level, which would include a much larger panoply of user groups than those currently defined in the present building act. The motoring device for this continuum is the DOA. The prominent position of accessibility clouds the concept of usability, which has permeated the Swedish development of assistive equipment and welfare technology.

The concept suffers from its unclear definition for the built environment – “characteristic of the built environment which can be used by everybody in convenience and safety” (ISO, 2011). On the other hand, usability has a clear definition within standardisation concerning artefacts, media or ICT:

The extent to which a product can be used by specified users to achieve specified goals with effectiveness (Task completion by users), efficiency (Task in time) and satisfaction (responded by user in term of experience) in a specified context of use (users, tasks, equipment & environments) (SS-EN ISO, 1999).

In contrast, the concept of universal design is a concept open for further exploration for the Swedish context. Universal design provides a theory on human beings and their relationship with the surrounding environment in order to realise accessibility in various areas of interest, stretching from artefacts to the built environment. The concept of universal design, at least its American understanding, is not widely known. Semantic issues can be raised in relation to the word ‘design’, which in the Swedish language is closely associated with an artist’s individual influence on a particular artefact, building or object, not particularly generating accessibility outcomes for all regardless of potential cognitive, physical or sensory abilities (Svenska Akademiens Ordbok, 2015). For the moment, the only reference to universal design in official Swedish documentation can be found in the original English text that is placed as a column next to the Swedish version of the UN CRPD (SÖ 2008:26, 2008). Given the questioning of accessibility as an essential parameter for creating buildings for an inclusive society, another issue to resolve for the 2020s is:

- c. Whether universal design can supply methodological approaches for promoting the higher goals of accessibility and usability in national policies for people with disabilities.

In the Swedish development of the concept, accessibility was manifestly promoted with additional derivatives to become the key parameter for adjusting architecture, the built environment and other aspects for people with disabilities. However, the necessary fit between artefact, architecture and product with human characteristics was lost behind minimum requirements. In that sense, a clearer definition of usability would be a way to fuse the present understanding of accessibility with universal design thinking. That such a fusion is possible is supported by Swedish research on ergotherapy, which pairs understanding of accessibility and usability with a personal component and the type of activity undertaken in the particular built space (Iwarsson and Ståhl, 2003). By focusing on usability as the tangible outcome for a wide group of users, regardless of potential cognitive, physical or sensory abilities, accessibility serves as a means for shaping the physical device or the built environment. In this

particular context, universal design supplies a theory on the interaction between individual abilities or competences and physical devices and the built environment, so that the credo for the 2020s can be:

Accessibility + Universal design = Universal usability.

Concluding remarks

This study charts the development in Sweden of the concepts of accessibility, universal design and usability into becoming cornerstones for the promotion of participation and inclusion in the modern welfare society. Over the period 1975–2008, the concept of accessibility expanded from a primary focus on physical requirements for the built environment to include 1) codes of conduct and strategic planning for work organisations in relation to people with disabilities and 2) approaches for making information in printed and other media types accessible for all, regardless of possible cognitive, physical or sensory abilities. The concept of accessibility is progressing along a continuum between the lowest acceptable level and an improved level of accessibility. These aspects of accessibility have been activated through the Swedish disability-obstacle-approach, DOA, in different situations that may exclude people with disabilities from the welfare society. When Sweden signed the UN CRPD in 2008, the concept of accessibility was backed up by the concept of usability, in order to strengthen the user relationship in architecture and other forms of design or strategy. The concept of universal design, also introduced through the UN CRPD, is controversial, but displays several similarities with the DOA influence on accessibility.

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