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AESTHETIC FUNCTIONS OF URBAN GREENERY IN THE CONTEXT OF DEVELOPMENT OF CITIES IN SLOVAKIA

ESTETYCZNE FUNKCJE ZIELENI MIEJSKIEJ W KONTEKŚCIE ROZWOJU MIAST NA SŁOWACJI

ABSTRACT

Aesthetic functions of greenery in urban public space are examined using examples of cities in Slovakia, focusing on periods of changes of aesthetic principles. Greenery, tree alleys and public parks notably enter urban public space in the 19th century, with application of contemporary aesthetic principles. During the 20th century, bio-ecological values of vegetation rather than aesthetic functions move to the centre of interest. Today, lack of maintenance and conceptual planning are often reflected in poor aesthetic appeal of greenery.

Key words: aesthetics of greenery, historical urban greenery, urban green space

STRESZCZENIE

Artykuł dotyczy badań estetycznych funkcji zieleni w miejskiej przestrzeni publicznej analizowanych na przykładach miast na Słowacji, koncentrując się na okresach zmian reguł estetycznych. Zieleń, alejki i parki publiczne wkraczają w miejską przestrzeń publiczną w XIX wieku z zastosowaniem ówczesnych zasad estetycznych. W XX wieku w miejsce funkcji estetycznych do centrum zainteresowania przesuwają się bio-ekologiczne wartości roślinności. Obecnie brak konserwacji i planowania koncepcyjnego często znajduje odzwierciedlenie w złej estetyce zieleni.

Słowa kluczowe: estetyka zieleni, historyczna zieleń miejska, zieleń miejska

1. INTRODUCTION

Each epoch of development of human society is characterised by its specific attitude and relationship towards nature and natural elements, and towards the role of green spaces within the urban structure of settlements. The value of urban greenery is given

as a summary of its important cultural, social, environmental, biological and ecological values, urban planning and architectural values, and many other possible values. Notably, part of the socio-cultural values of greenery in urban public space is created by its aesthetic appeal, by its aesthetic value. Application of aesthetic principles is one of the major fac-

tors in creation of urban green spaces as credible and satisfying environments for the residents of the city (Marcinková, 2017).

The rate of application of the aesthetic functions of the greenery is closely bound to the life-style philosophy of the period, with the perception and definition of beautiful. In the course of development of societies, some aesthetic theories favoured and recognized only the beauty in art and overlooked the beauty of nature, in other historical periods, on the contrary, the beauty is the quality associated with the phenomena arising from nature (Ecco, 2005, p. 10).

Aesthetic principles are applied in garden art — gardeners and landscape architects do not create a nature, but its artistic reflection, respecting in addition to the laws of the nature, the principles of the aesthetics. In the course of historical development of the settlements, we can see and examine, how the aesthetic principles are applied in the creation of green spaces of cities. In various historical periods different canons of beauty, fashion and styles are applied in the creation of these spaces.

2. AIMS AND METHODS OF RESEARCH

The aesthetic functions of urban greenery in public urban spaces are examined in the context of development of cities in the territory of current Slovakia — from the Middle Ages to present, focusing on the periods characterized by changes of aesthetic principles in the application of the greenery in public urban space.

The following main periods are examined, using literary sources, historical maps, visual sources and photographs:

- green spaces and their aesthetics in the medieval cities,
- aesthetic principles of the greenery in cities in the 16th–17th century,
- aesthetic principles of the urban greenery in public urban space in the 18th century (Theresian period 1740–1780),
- public urban green spaces and their aesthetics in the 19th century,
- aesthetics of public urban green spaces in the 20th century,
- green spaces and greenery in Slovak cities today and their current aesthetics.

3. GREEN SPACES AND THEIR AESTHETICS IN THE MEDIEVAL CITIES

Most of the current cities in Slovakia were formed in the Middle Ages, and although at that time the greenery was not substantially applied in urban structure of the cities, it is the period, when the public spaces are formed and their basic types are defined.

Medieval cities in the Kingdom of Hungary accrue mostly in a continuous development, the beginnings of which stood on the relics of older oppida, fort-hills, or Roman camp settlements, they arose from the administrative and religious centres, market and craft villages, located at the attractive positions on trade routes and their intersections, at the crossing places of the water flows and mountain ranges. During the 13th century the settlements are divided to those with more urban character and to those with rural character. The first royal privileges to some of them are granted (among the first for example to Trnava in 1238 or to Nitra in 1248, by Béla IV of Hungary). In the 14th century the urbanisation process of in the territory of Slovakia became intensive and in the 15th century the basic network of the settlements has been formed. The medieval urban layout of the cities still remains and forms the historical cores of the current cities.

In the urban structure of the medieval city, greenery is usually not present, within the city surrounded by walls there is neither place for public green spaces nor for private gardens (ill. 1).



Ill. 1. The vedute of Bratislava (Pisonium, Posonium, Pressburg) by J. Hoefnagel, 1593, depicts the medieval historic city: the greenery is excluded from the urban structure, but the city is surrounded by gardens, orchards and cultural vineyard landscape. Source: DIKDA, National project of Slovak National Library 2010–2015.

Il. 1. Weduta Bratysławy (Pisonium, Posonium, Pressburg) autorstwa J. Hoefnagela, 1593, przedstawia średniowieczne miasto historyczne: zielen jest wyłączona z miejskiej struktury, ale miasto jest otoczone ogrodami, sadami i krajobrazem kulturowym winnic. Źródło: DIKDA, Projekt Słowackiej Biblioteki Narodowej 2010–2015.



Ill. 2. The Marquart's plan of Bratislava from 1765 depicts the preserved medieval urban structure of the city surrounded by walls. The only green spaces are the gardens of monasteries. Source: Archive of the Bratislava City.

Il. 2. Plan Bratislavy autorstva Marquarta z 1765 roku. Predstaví zachovanú stredovekú štruktúru mestského otczoná murami. Jedyne zelené priestranie vyplniajú ogrody klasztorne.

Źródło: Archiwum miasta Bratislavy.

In the city closed by walls, we can find the greenery only in the form of the monastery gardens — paradise courts with a regular rectangular and cross composition, with a well or fountain in a central location (ill. 2, ill. 3).

The monastery gardens were created in accordance with the aesthetic values of the period. The perception of beauty is associated with order, symmetrical arrangement and the proportionality, and thus also greenery and nature are arranged according these principles. The wild nature is rather an enemy, which is necessary to defeat and conquer, but on the other hand, the natural environment is paid attention in detail — the symbolism is connected with flowers and animals, certain plants, colors, etc., associated with religion and virtuous life.

Cloister gardens represent an important element in urban tissue of cities (Hodor, 2012; Kristiánová and Štěpánková, 2015). Today, many of the monastery gardens in the historical cores of the cities in Slovakia serve as public green spaces and small public parks (ill. 3).

4. AESTHETIC PRINCIPLES OF THE GREENERY IN CITIES IN THE 16TH–17TH CENTURY

Cities in the territory of current Slovakia, during fifteenth century rapidly develop, the Lazarus' map of Hungary, *Tabula Hungariae* (from around 1515, printed in 1528) depicts 16 free royal cities at the Slovak territory.



Ill. 3. Current interpretation of the composition principles of monastery gardens — garden of the Franciscan cloister in Bratislava, located on the rooftop of the underground parking garage (photo: K. Kristiánová, 2010).

Il. 3. Aktualna interpretácia zasad kompozycji ogrodów klasztornych — ogrodu klasztoru franciszkańskiego w Bratisławie, znajdującego się na dachu podziemnego garażu (fot. K. Kristiánová, 2010).

Cities expand beyond their walls, where aristocracy and the new social class of merchants, which strengthen their positions, build palaces and summer residences. Especially Bratislava becomes surrounded by wealthy palaces and exceptional gardens, as since 1536 it became a capital of the Royal Hungary, because of the results of the Battle of Mohács (1526) and siege of Buda (1541) and Esztergom (1543) by Ottoman Empire.

The garden of the archbishop George Lippay¹ in Bratislava, which is well known from visual and literary sources², represents an example, which documents one of the masterpieces of Hungarian gardening (Fatsar, the influence of the aesthetic canons of Renaissance and Late Renaissance — Mannerism on garden design (ill. 4).

However, as in the previous period, during the 16th and 17th century, the greenery is still not a designed part of the public space within the urban structure of cities in the territory of current Slovakia. Thus the influence of the aesthetic principles applied in garden art is manifested only through the examples of private gardens of aristocracy.

¹ Lippay György, Archbishop of Esztergom in 1642–1666.

² The three volume treatise written by archbishop's brother — János Lippay — *Posoni kert* (The Garden of Pozsony — today Bratislava), from 1664–1667 and engravings by Mauritius Lang from 1663, according the drawings of archbishops nephew.



Ill. 4. The engraving *Facies Totius Horti* by M. Lang, from 1663, shows the geometrical layout of the archbishops' garden, designed according the aesthetic canon of the period.
Source: Museum of Bratislava.

Il. 4. Sztých *Facial Totius Horti* M. Langa z 1663 roku. Przedstawia układ geometryczny ogrodu arcybiskupów, zaprojektowany zgodnie z kanonem estetycznym tego okresu.
Źródło: Muzeum Bratisławy.

5. AESTHETICS OF GREENERY IN URBAN PUBLIC SPACE IN THE 18TH CENTURY (THERESIAN PERIOD (1740–1780))

In the 18th century cities reflect the socio-economic changes and nature gains for the society new meaning and significance. The Theresian period (1740–1780) represent the golden days, especially for Bratislava. From historical maps, visual graphical and literary sources is visible, that the former Renaissance gardens of the aristocracy are rebuilt according the new fashion — under the influence of Baroque and Rococo aesthetic principles (ill. 5).



Ill. 5. Current interpretation of the Baroque aesthetic principles — the garden of the Grassalkovich Palace, built around 1760, visited Maria Theresa in 1775, which today serves as a public park (photo: D. Marcinková, 2017).

Il. 5. Aktualna interpretacja barokowych zasad estetycznych — ogród Pałacu Grassalkovich, zbudowany około 1760 roku, odwiedzony przez Marię Teresę w 1775 roku, dziś służy jako park publiczny (fot. D. Marcinková, 2017).

For the first time the greenery becomes a designed part of urban public space. In Bratislava the city fortifications are partially torn down and a promenade and tree allée — the Spazier Allée is established instead. Allées, fountains and memorials are introduced into the urban public space.



Ill. 6. Brucken Au or Sternallee, on the plan from 1776, the first public park in Bratislava.
Source: Archive of Bratislava.

Il. 6. Brucken Au lub Sternallee, na planie z 1776 roku, pierwszy publiczny park w Bratisławie.
Źródło: Archiwum miasta Bratisławy.

The first public park in Bratislava is established in 1775–1776, at the area of the former alluvial forest on the bank of Danube, called Brucken Au or Sternallee (ill. 6). The tradition of Baroque aesthetic principles is reflected in the star composition put into the natural riparian forest, but in the same time, the new attitude towards nature is foreseen — the forest is not shaped and remains without artificial interventions (Hošťálková, 1973, p. 12).

6. PUBLIC URBAN GREEN SPACES AND THEIR AESTHETICS IN THE 19TH CENTURY

The 19th century, with the antique ideals, austerity and logic of classicism, but at the same time, in cohabitation with romantic ideas, is associated with the concept of natural landscape park, using the natural aesthetic values of mature vegetation. The English landscape garden enters the territory of current Slovakia at the end of the 18th century and reaches a peak in the middle of 19th century.

Already in the late 18th century, the relationship towards the beauty of nature in its natural form is shaped and makes the way to the popularity of English landscape garden style. It is the time of travelers, so the popularity of exotic plants is also reflected in the use of introduced woody plants. The



Ill. 7. The famous archbishop's garden redesigned in English landscape garden style, depicted on the Neyder's map of Bratislava from 1820.

Source: Archive of Bratislava.

Il. 7. Słynny ogród arcybiskupi przeprojektowany w stylu angielskiego ogrodu krajobrazowego, przedstawiony na mapie Neydera Bratysławy z 1820 roku.

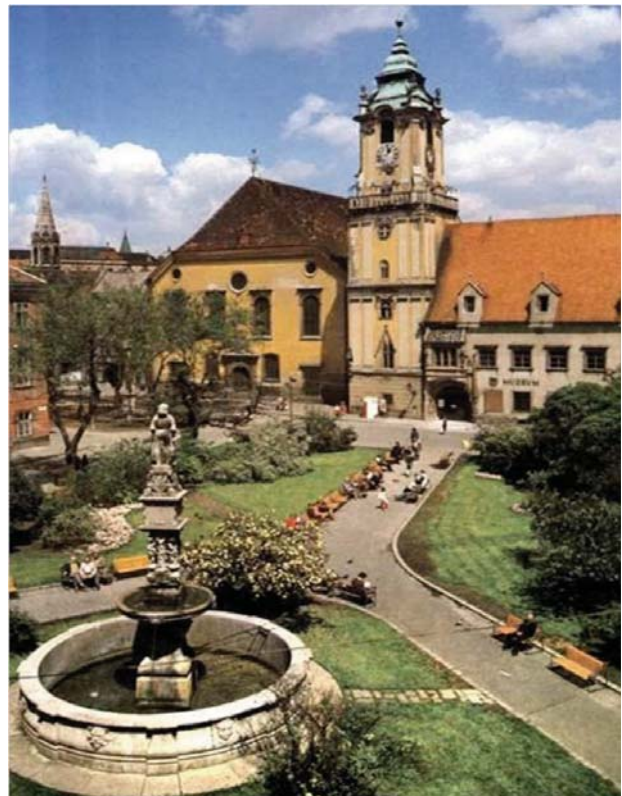
Źródło: Archiwum miasta Bratysławy.

gardens and parks are redesigned according the new fashion (ill. 7).

The Sternallee public park is also redesigned according the new principles of beauty, by Carl Ritter in 1832 (Sisa, 1916, p. 114).

The 19th century brings changes in the ways of production, and is characterized by new technologies, materials, scientific discoveries, and industrialization. In the first half of the 19th century the territory of Slovakia is the most industrial part of Hungary. Industrialization, building activities and concentration of population create a demand for recovery and sanitation of urban environment, so the second half of the century is the period of massive entry of greenery into urban public spaces. In the greening of cities the beatification societies are active, emphasizing the emotional attachment to the cult of nature combined with patriotic feelings. They initiate establishment of green spaces in urban centres and also in periurban landscape, as places for recreation and tourism (ill. 8).

In public places various vegetation elements are used, woody plants, trees, shrubs, lawns and flower plantings in beds and in containers. Characteristic feature is the use of large variety of species and the use of introduced woody plants. Gardening craft reaches its climax, but at the end of the century it is characterized by the use of historicizing forms and ornamental formal elements in the greenery of public spaces, drawing on the aesthetic principles of the previous periods (ill. 9).



Ill. 8. Transition of the Main Square in Bratislava to a park square was initiated by Beatification Society of Bratislava, established in 1868, and the square remained green till 80s of the 20th century.

Source: Archive of authors.

Il. 8. Przejście Rynku Głównego w Bratysławie na plac parkowy zostało zainicjowane przez Bratysławskie Towarzystwo Upiękniania, założone w 1868 roku, a plac pozostał zielony do lat 80. XX wieku.

Źródło: Archiwum autorek.



Ill. 9. Ornamental aesthetics of the Darányi liget — Darányi Park in Komárno, around 1914. At the turn of century many parks were established and trees planted in commemoration of the Empress Elisabeth of Austria.

Source: Archive of authors.

Il. 9. Ozdobna estetyka Darányi liget — parku Darányi w Komárnie, około 1914 roku. Na przełomie wieków powstał park i posadzono drzewa upamiętniające cesarzową Elżbietę z Austrii.

Źródło: Archiwum autorek.

7. AESTHETICS OF PUBLIC URBAN GREEN SPACES IN THE 20TH CENTURY

Architecture, urban design, and landscape architecture in the 20th century reflect the evolution of modern society, new urban theories and concepts of functionalist city respond to demands for housing full of light, air and greenery. Unique solutions of the relationship between building and its environment are reflected in the new ways of landscape-architectural solutions of the outdoor areas, public areas, entire neighbourhoods and new cities. The new profession — landscape architecture is formed. The revolutionary ideas of the interwar modernism of the nineteen-twenties and nineteen-thirties significantly change the approaches towards landscape design of public spaces and influence the ways of further development.

Modern Movement enters the Slovak architectural scene in the interwar period as “the new style in the new republic” (Moravčíková et al., 2005). Establishment of the Czechoslovak Republic (1918–1939), after the dissolution of Austro-Hungarian Monarchy, generates the needs to express the new statehood formation and it seems, that the new architectural style fits to express its ideas, as opposed to the old styles of the previous period. Architectural concepts leave the ornamental embellishment, historicizing stylization, and move towards modern unornamented expression and new purist concepts of architecture (Foltyn, 1993). Aesthetic landscape-architectural concepts representing the interwar Czechoslovak Modernism in the Slovak territory manifest themselves in various scales and typological forms (Kristiánová, 2014), from gardens of family homes and villas, through solutions of outer spaces of school, bath or sport complexes, sanatoria and spa complexes, up to the design of open urban spaces and urban concepts of new settlements (ill. 10).

In the second half of the 20th century, after the short period of socialist realism in the fifties, architecture, urban design and landscape architecture come back to the ideas of the modernist movement. Slovakia is undergoing through a massive wave of urbanisation, large mass housing estates are built, in which vast open green spaces are designed following the aesthetic principles of modernism.

As tools of expression in landscape-architectural compositions, mainly lawns, trees in open free arrangements, or bushes are used. Characteristic are abstract asymmetrical geometric compositions, the materials used for construction elements and artistic works are mainly concrete and metal.



Ill. 10. Aesthetics of the interwar Modernism — the main green square of Baťovany (Partizánske) built according to the idea “Factory and housing in gardens” (1939–1949).

Source: <http://jana.vlcanova.sk>

Il. 10. Estetyka międzywojennego modernizmu — główny zielony plac Baťovany (Partizánske) zbudowany według pomysłu „Fabryka i mieszkania w ogrodach” (1939–1949).

Źródło: <http://jana.vlcanova.sk>



Ill. 11. Green spaces and children playgrounds of mass housing estate Terasa in Košice from the sixties, designed according to principles of modernism.

Source: Archive of authors.

Il. 11. Tereny zieleni i plac zabaw dla dzieci na osiedlu wielorodzinnym Terasa w Koszycach z lat sześćdziesiątych, zaprojektowane zgodnie z zasadami modernizmu.

Źródło: Archiwum autorek.

In the second half of the 20th century, the first generation of landscape architects is active in the profession, for example Alfonz Torma (ill. 12).

However, in the socialist period, the main problem of the vast green spaces in urban structure of mass housing estates appeared to be their maintenance, and lack of financial resources for conceptual plantings, what resulted in losses of their aesthetic values. The prevailing trend was to follow rather quantitative than qualitative indicators of greenery in urban environment, and the quality of environ-



Ill. 12. Park of K. Šmidke (today Park of A. Hlinka) by architect Ferdinand Milučký and landscape architect Alfonz Torma from seventies of the 20th century represents an outstanding example of the modernist concept of beauty (photo: D. Marcinková, 2014).

Il. 12. Park K. Šmidke (dziś Park A. Hlinki) autorstwa architekta Ferdinanda Milučký i architekta krajobrazu Alfonza Torma z lat siedemdziesiątych XX wieku stanowi znakomity przykład modernistycznej koncepcji piękna (fot. D. Marcinková, 2014).

ment was perceived more through biological and ecological functions of greenery than through its aesthetics.³

On the other hand, the focus on ecological values shifted the perception of beauty towards higher appreciation of the aesthetics of natural, and towards solutions closed to nature.

8. GREEN SPACES AND GREENERY IN SLOVAK CITIES TODAY AND THEIR CURRENT AESTHETICS

Aesthetics of current design of green public spaces in cities tries to reflect the new trends of their use, new technologies and materials, the plant assortment matching site conditions and limitations of urban environment, the contemporary trends of adaptation to climate change and demands for nature based solutions. Interest is given to new categories of urban spaces — riverfronts (ill. 13), riparian corridors, or greenways, but also to redevelopment, renewal or redesign of parks, squares, alleys, roadside greenery and green spaces established in previous periods. However, some are still neglected, especially those of housing estates (ill. 14).

³ In Slovakia the research in the field of landscape ecology develops since the sixties of the 20th century. The so called “territorial systems of ecological stability” became part of urban master plans.



Ill. 13. Contemporary aesthetics of riverfront design — Eurovea, riverfront in Bratislava (photo: K. Kristiánová, 2010).

Il. 13. Współczesna estetyka nadrzecznego projektu — Eurovea, brzeg rzeki w Bratysławie (fot. K. Kristiánová, 2010).

Modernity of the contemporary investments in public urban spaces is demonstrated in materials, construction systems and functional solutions applied, the compositions frequently depart from standard design schemes and open towards the non-standard solutions, as noted by Hodor and Waryś (2017). This trend can be observed in current design of urban public spaces in Slovakia, too. To the negative trends belong the losses of green spaces as a result of activities of developers and the absence of planning. The positive phenomenon observed is civic engagement, however sometimes without appropriate knowledge. The persisting problem is, that green spaces are established, or restored, but further not properly maintained, what negatively influences their aesthetic appeal.



Ill. 14. Forgotten and neglected — aesthetics of public green spaces of housing estate in Šaľa (photo: K. Kristiánová, 2018).

Il. 14. Zapomniane i zaniedbane — estetyka publicznych terenów zielonych osiedla w Šaľa (fot. K. Kristiánová, 2018).

9. CONCLUSION

For the entrance of greenery in urban public space of cities in Slovakia, the end of the 18th and 19th century are notable, when nature and its essential component, the vegetation, acquire new meaning for the society and the greenery, tree alleys, and public parks enter the urban public space with application of the cotemporary aesthetic and style principles.

The greenery of cities is in the centre of interest in the 20th century, vast open green spaces are designed following the aesthetic principles of modernism. However, the preference of the functions of greenery moves rather to its bio-ecological functions than aesthetic. The focus is more on quantity than quality. The lack of maintenance and care, lack of conceptual planning and management is reflected in gradual decrease of the quality of urban public green spaces.

Today the cities in Slovakia face the questions, how to design the urban public spaces and green spaces. New trends of application of smart technological solutions, nature based solutions, or adaptation to climate change, but at the same time, the trends of artificialization, privatization, or commercialization and globalization are reflected in the aesthetics of urban public space and green space design. Lack of maintenance and management of urban public green spaces is still a problem, reflected in their aesthetic appeal.

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REFERENCES

- Ecco, U. et al. (2005), *Dějiny krásy*, 1st Czech edition, Praha: Argo, p. 10.
- Fatsar, K. (2008), *18th Century Formal Gardens in Hungary. Magyarországi barokk kertművészet*, Budapest: Helikon, p. 271.
- Foltyn, L. (1993), *Slovenská architektúra a česká avantgarda 1918–1939*. Bratislava: Vydavateľstvo Spolku architektov Slovenska.
- Hodor, K., Waryś, E., 'Modern green technologies and solutions in landscape architecture', *Technical Transactions*, 10/2017, p. 5–13.
- Hodor, K., 'Cloister gardens and their role in shaping the urban tissue of Cracow', *Technical Transactions* 6-A, 19 (109) 2012, Kraków: Wydawnictwo Politechniki Krakowskiej, pp. 57–64.
- Hošťáľková, B. (1973), *Bratislavské parky, ich vznik, vývoj a dendrologické bohatstvo*, Bratislava: Obzor, p. 11–15.
- Kristiánová, K., 'Garden and landscape architecture of the interwar modernism in Slovakia', *SGEM 2014 Conference on Arts, Performing Arts, Architecture and Design, International Multidisciplinary Scientific Conferences on Social Sciences & Arts, 3–9 September 2014, Albena, Bulgaria*, 1st edition Sofia: SGEM 2014, p. 697–705.
- Kristiánová, K., Štěpánková, R., 'Green infrastructure of historic city cores — case studies from Slovakia', *SGEM 2015 — 15th International Multidisciplinary Scientific GeoConference. Nano, Bio and Green — Technologies for a Sustainable Future, Albena, Bulgaria, 18–24 June 2015*, 1st edition Sofia: STEF 92 Technology, 2015, p. 437–443.
- Marcinková, D., 'Estetika sídelnej zelene v kontexte vývoja slovenských miest', *Monument Revue*, 2 (6) 2017, p. 43–54.
- Moravčíková, H. et al. (2005), *Architektúra na Slovensku — stručné dejiny*, Bratislava: Slovart.
- Sisa, J. (2016), *Motherland and Progress: Hungarian Architecture and Design 1800–1900*, Basel: Birkhauser, p. 114.