



Slika 1: London 1852: Charles Burton: Predlog tisoč čevljev visokega stolpa.
London 1852: Charles Burton: Proposal for 1000 feet high tower.
vir: Hix, 1996: 188



Slika 2: Philadelphia 1876: Clarke in Reeves: Predlog tisoč čevljev visokega stolpa.
Philadelphia 1876: Clarke in Reeves: Proposal for 1000 feet high tower.
vir: Peters, 1996: 263



Slika 3: Bruselj 1958: André Waterkeyn: Atomium.
Brussels 1958: André Waterkeyn: Atomium.
Vir: <http://www.atomium.be/HTMLsite/dyn/images/ATPRO005.jpg>
(september 2004)



Slika 4: Seattle 1962: Graham, Steinbrueck in Ridley: Space Needle.
Seattle 1962: Graham, Steinbrueck in Ridley: Space Needle.
vir: <http://www.ijcai.org/past/ijcai-01/Space%20Needle%201.jpg>
(september 2004)



Slika 5: London 2004: Norman Foster: Swiss Re - 30 St Mary Axe Building.
London 2004: Norman Foster: Swiss Re - 30 St Mary Axe Building.
vir: <http://www.delmatic.com/swissre.jpg> (december 2004)

ARHITEKTURA STOLPOV IN NEBOTIČNIKOV

ARCHITECTURE OF TOWERS AND SKYSCRAPERS

raziskava, research

povzetek

Pričujoči dokument z naslovom Arhitektura stolpov in nebotičnikov je povzetek enoletnega raziskovanja dveh tem, ki se prepletata. Prva tema je povezana s stolpi na svetovnih razstavah, druga tema je arhitekturno oblikovanje in konstrukcijska zasnova nebotičnikov.

Osrednji del raziskave je razdeljen v štirinajst podpoglavij. Prvo podpoglavje uvodno povzema oblike stolpov od Mezopotamije do dvajsetega stoletja. Babilonski stolp je tema drugega podpoglavja. V njem sta citirana dva odlomka, prvi je iz Herodotovih Zgodb, drugi pa iz Mojzesove knjige Stare zaveze, prikazani so nekateri primeri upodobitve babilonskega stolpa v slikarstvu. Tretje podpoglavje obravnava prve načrte in nerealizirane predloge za visoke stolpe, od Richarda Trevithicka, Charlesa Burtona, Jamesa Bogardusa, od Clarka in Reevesa in Roberta Millsa. V četrtem podpoglavju se tema stolpov umakne temi nebotičnikov - z opisom značilnosti Čikaške šole, s predstavitevijo najpomembnejših stavb in s prvim nebotičnikom. Peto podpoglavje je posvečeno Eiffloemu stolpu, ki je s tristo metri prvi zgrajeni velikan. V šestem podpoglavju so predstavljeni trije utopični načrti z začetka dvajsetega stoletja: Sant'Elia s Città Nuova, Tony Garnier s Cité Industrielle in LeCorbusier z Ville Contemporaine. Sedmo podpoglavje je namenjeno predstavitvi Tatlinovega spomenika Tretji Internazionali. Osmo in deveto podpoglavje je osredotočeno na dva natečaja: prvi je za stanovanjsko hišo ob postaji Friedrichstrasse v Berlinu, drugi za Chicago Tribune Tower v Chicagu. Deseto podpoglavje je namenjeno nebotičnikom New Yorka pred drugo svetovno vojno, enajsto podpoglavje pa razcvetu nebotičnikov po drugi svetovni vojni v Ameriki in delno v Evropi. V dvanajstem in trinajstem podpoglavju se z Atomiumom v Bruslju in Space Needle v Seattlu zopet vrnem na temo stolpov na svetovnih razstavah. Zadnje je podpoglavje z naslovom Danes - tekma se nadaljuje, v katerem so prikazani najnovejši primeri gradnje nebotičnikov, predvsem na daljnem vzhodu.

doseženi cilji, namen in rezultati

V diskusiji so podane glavne značilnosti nebotičnikov, opisani so trendi in smernice njihovega razvoja. Pet najpomembnejših osnovnih pogojev, ki jih načrtovalci, predvsem v manjših krajih, pogosto prezrejo. Prvi je ekonomski pogoj, med katerega štejemo visoko vrednost zemljišča, možnost odtoka delavne sile in kapitala; drugi je socialni pogoj, med katerega štejeta sposobnost dela in življenja v velikih skupinah med najpomembnejše značilnosti, poleg tega pa še učinkovito podjetnost in smotno organizacijo dela; tretji je tehnološki pogoj za ureditev gradbišča s primernimi delovnimi stroji in delovnimi procesi gradnje ter zagotovitev zadostnih virov energije; četrti je psihološki pogoj zavestnih in nezavestnih (nezavednih) želja, ki jih visoka zgradba spodbuja in sproža; ter še peti, estetski pogoj, ki združuje veselje do višine in željo po izstopanju stolpov med nizkimi stavbami.

problematika v arhitekturi, umestitev obravnavane teme v te tokove in njen pomen

Vsi v članku omenjeni stolpi in nebotičniki, tako nezgrajeni kot zgrajeni, pa tudi že porušeni, kažejo na željo po dokazovanju konstrukcij na meji možnega. Stolpi in nebotičniki so vedno dobro obiskana atrakcija, saj ponujajo svojim obiskovalcem izvrstnen razgled, za vse ostale pa pomeni dominantno, razpoznavni znak v krajini. Načrtovanje stolpov in nebotičnikov je stvar prestiža arhitektov, konstruktorjev, gradbenikov in predvsem investorjev.

ključne besede

Arhitektura 20. stoletja, nebotičniki, stolpi, svetovne razstave

summary

The presented document, titled *Architecture of towers and skyscrapers*, is the abstract of a year-long research on two intertwined topics. The first links to towers at world exhibitions and the other to architectural design and structural concepts of skyscrapers.

The central part of the research is divided into fourteen sub-chapters. The first sub-chapter is a review of tower forms from Mesopotamia to the twentieth century. The Tower of Babel is the topic of the second sub-chapter. It includes two quotations, the first from Herod's stories, the other from *The Book of Moses in the Old Testament*, with some examples of illustrations of the Tower of Babel by figurers. The third sub-chapter deals with the first plans and never built proposals of tall towers, from Richard Trevithick, Charles Burton, James Bogardus, to Clark and Reeves and Robert Mills. In the fourth sub-chapter the tower, as the theme, is substituted by the skyscraper, with descriptions of the Chicago School's characteristics, some of their most important buildings and first skyscraper. The fifth sub-chapter is dedicated to The Eiffel Tower, which was with its 300 metres the first completed colossus. In the sixth sub-chapter three utopian projects from the early twentieth century are presented: Sant'Elia's Città Nuova, Tony Garnier's Cité Industrielle and LeCorbusier's Ville Contemporaine. The seventh sub-chapter shows Tatlin's monument to the Third International. The eighth and ninth sub-chapters focus on two competitions: the first for a residential building by the station on Friedrichstrasse in Berlin and the other for the Chicago Tribune Tower in Chicago. The tenth sub-chapter deals with skyscrapers built in New York before the Second World War, while the eleventh describes the proliferation of skyscrapers in America and partly in Europe after the war. With the twelfth and thirteenth sub-chapters we return to the World exhibitions: the Atomium in Brussels and Space Needle in Seattle. The last sub-chapter, titled *Today the competition continues*, shows the most recent examples of building skyscrapers, especially in the Far East.

intentions, goals and results

The discussion provides the main characteristics of skyscrapers and describes the main trends and directions their development is taking. Five of the most important conditions most often ignored by designers, especially in smaller places, are elaborated. The first is the economic condition, which amongst other includes high property value and available labour force and capital. The second is the social condition, including amongst other, as the most important, the capability for working and living in a large group. The third is the technological condition for organising building sites with adequate construction machinery and construction working process, as well as ensuring sufficient energy resources. The fourth is the psychological condition of conscious or unconscious (subconscious) desires, which a tall building could affect or release. The fifth is the aesthetic condition, which unites the desire for height and the distinction of towers amongst lower buildings.

architectural issues, positioning the topic in ongoing debate and its' significance

All towers and skyscrapers un-built, completed or demolished, which are referred to in the article, support the desire for proving structures that limit on the impossible. Towers and skyscrapers are always well-visited attractions, since they offer their visitors excellent views and are a landmark, a distinct feature in the landscape, for everybody else. The designing of towers and skyscrapers is a matter of prestige for architects, builders, engineers and, above all, investors.

key words

20th century architecture, skyscrapers, towers, world exhibitions