Domen Kušar, asistent
Risanje senc je sestavni del učnega programa predmeta Opisna geometrija (OG). Izvaja se v drugem semestru prvega letnika in vsebuje senčenje v Mongeovi metodi, aksonometriji in perspektivi.
Risba predstavlja vajo oziroma tako imenovani program pri predmetu OG. Gre za določanje senc likov in teles v različnih predstavitvenih tehnikah (Mongeova projekcija, aksonometrija in perspektiva).
Osnovni namen je spoznavanje študentov s sencami. Drugi cilj je izboljšanje znanja OG ter pridobivanje prostorske predstave, za kar so sence odličen pripomoček, saj konstrukcija senc vsebuje niz različnih opisno-geometrijskih postopkov.
Risbe izdelujejo študenti v okviru vaj v črtni črnobeli tehniki na trd papir formata DIN A3. Površina senc je označena z letratonom oziroma njem podobno tehniko. Po želji in zmožnosti študenta jo lahko riše s tušem ali (v zadnjih letih) tudi s pomočjo računalnika. Pri tem je vloga računalnika zreducirana zgolj na nivo peresa.
Predstavljena je tipična risba senc v Mongeovi projekciji. Ostale risbe kažejo postopke, ki jih je potrebno opraviti, da pridemo do rezultata.

Praktični prikaz: Sence svečnika, sestavljenega iz stožca in valja. Šest opisnogeometrijskih postopkov, potrebnih za rešitev (konstrukcija ravnin z različnimi podatki, prebod premice skozi ravnino, prebod premice skozi stožec, presek stožca z ravnino, presek valja z ravnino, presek dveh ravnin).

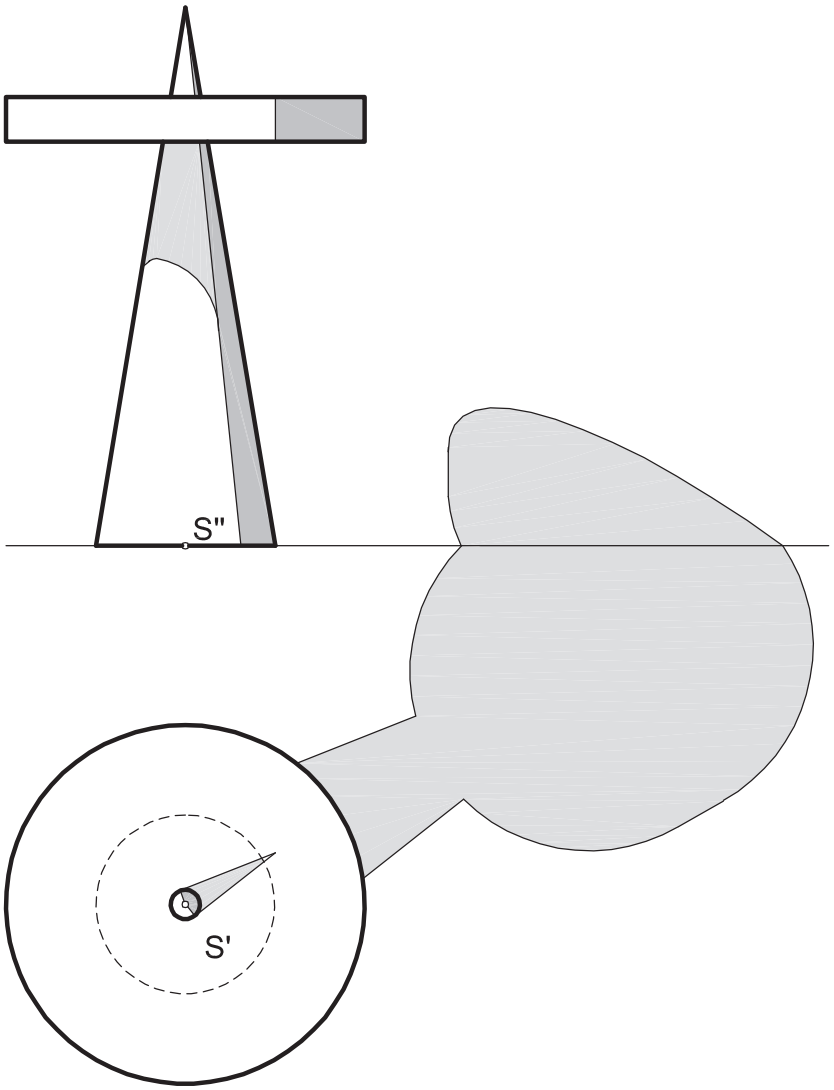
Senčenje predstavlja del vaj drugega semestra. Rezultat, tudi po mnenju študentov lep izdelek, je velikokrat vključen v osebno mapo, ki jo študenti izdelajo pred diplomo. Študenti ob tem pridobijo boljšo prostorsko predstavo ter spoznajo zakonitosti konstruiranja senc, kar lahko koristno uporabijo tudi na drugih področjih.

The shadow drawing is an integral part of the Descriptive geometry syllabus. The course is conducted in the second semester of the first year and includes shadowing according to the Monge method, axonometric projection and perspective.
The drawing represents the practical aspect of the Descriptive geometry syllabus aiming at determining the shades and shadows of objects and bodies in various presentation techniques, such as the Monge and axonometric projections and the perspective.
The basic aim of the programme is to introduce shades and shadows to students. The programme also aims at improving the knowledge of Descriptive geometry and at acquiring the notion of space. Shadows and shades help achieving these aims, for their construction involves a series of different descriptive geometrical procedures.
The students prepare their drawings in the linear black-and-white technique using hard paper in DIN A3 format. The surface of the shades is marked in letratone or letratone-resembling techniques. Depending on their wishes and capabilities, students may also decide for Indian ink or, in the last years, the computer the role of which, however, is reduced to the replacement of the pen.
The following illustrative example shows a shadow drawing typical of the Monge projection. The remaining drawings shed light on procedures that need to be carried out in order to obtain the results aimed at.

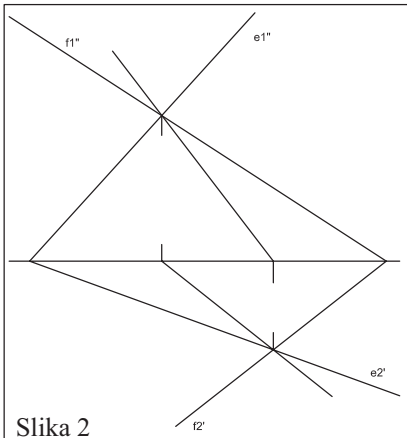
***Illustrative example**: The shades and shadows on the candlestick are composed of a cone and a cylinder. The process comprises six descriptive geometrical procedures, i.e. flat-surface construction with different data, straight-line flat-surface perforation, straight-line cone perforation, section between the cone and the flat surface, section between the cylinder and the flat surface, section between the two flat surfaces.*

Shadowing is part of the second-semester practical course. The result, which, also according to the students, is a highly aesthetic product, is often included in the portfolio prepared by the students before their graduation. The course helps the students improve their perception of space and understand the principles of shadow constructions which can be applied in other areas of their expertise as well.

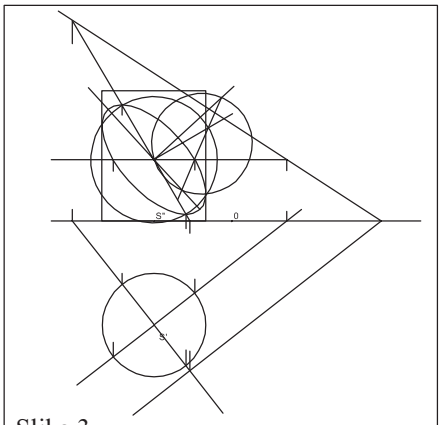
Muhič, A., Kušar, D.,: Shadows as a Part of teaching Descriptive Geometry at the Faculty of Architecture in Ljubljana. V: Symposium Darstellende Geometrie. Proceedings. Dresden: Technische Universität, 2000, str. 105-110.



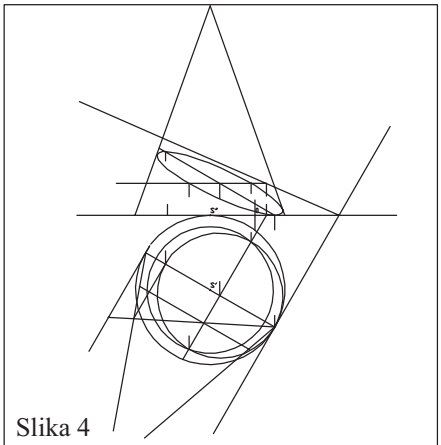
Slika 1
Sence svečnika, sestavljenega iz valja in stožca



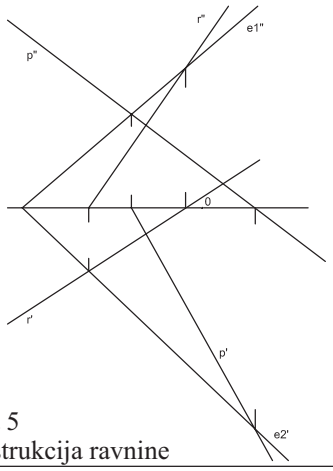
Slika 2
Presek dveh ravnin



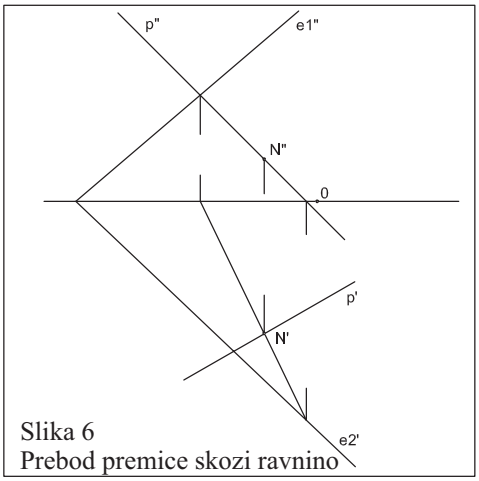
Slika 3
Presek ravnine in valja



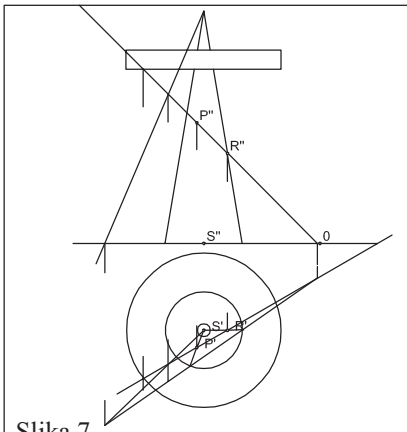
Slika 4
Presek ravnine in stožca



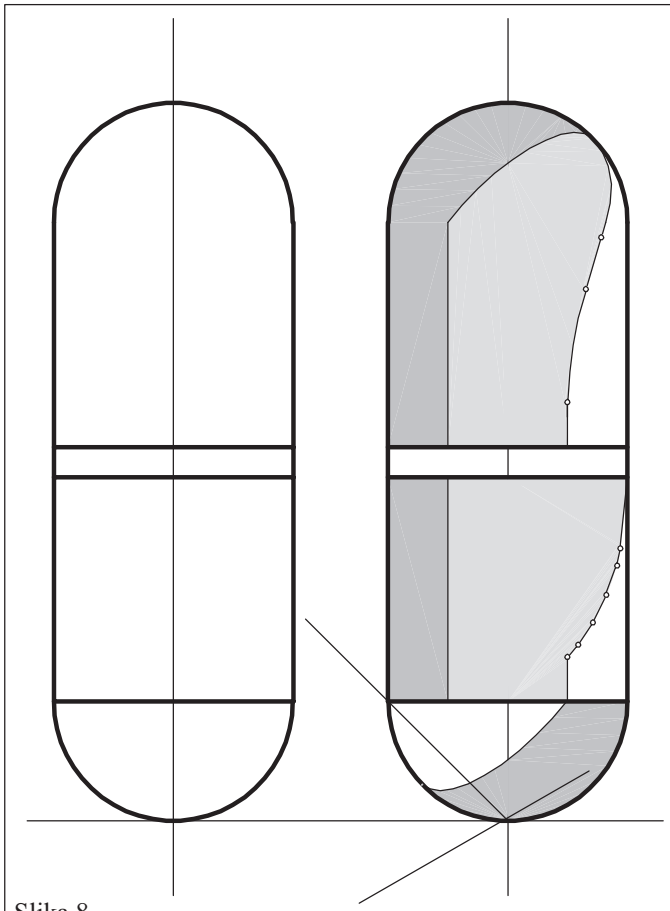
Slika 5
Konstrukcija ravnine



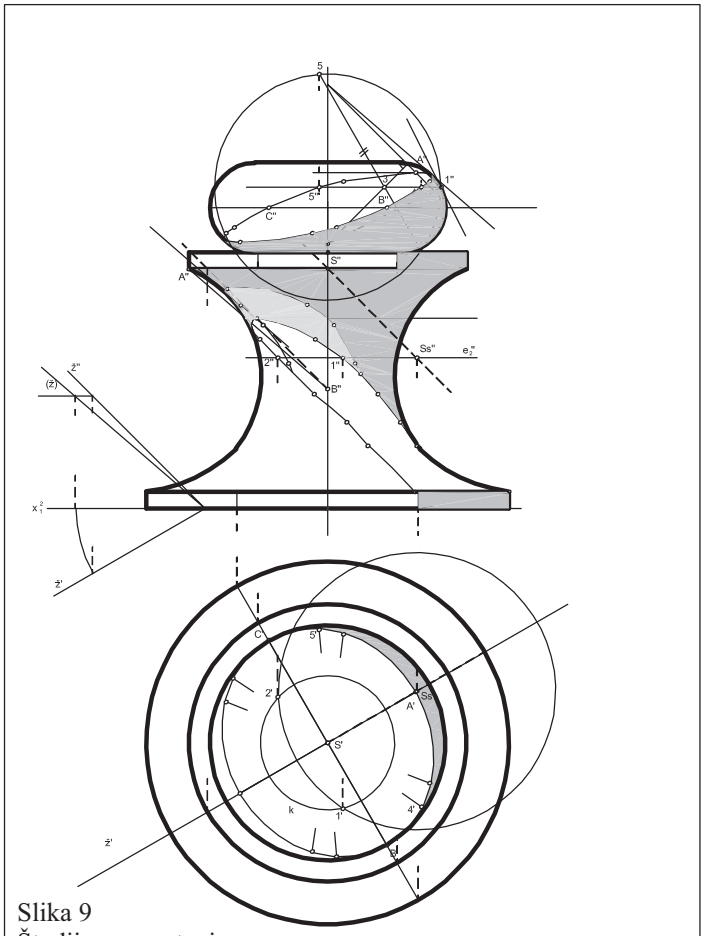
Slika 6
Prebod premice skozi ravnino



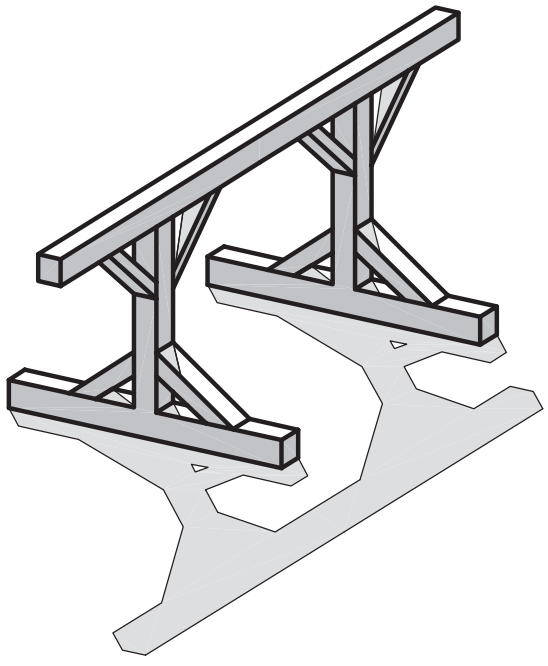
Slika 7
Prebod premice skozi stožec



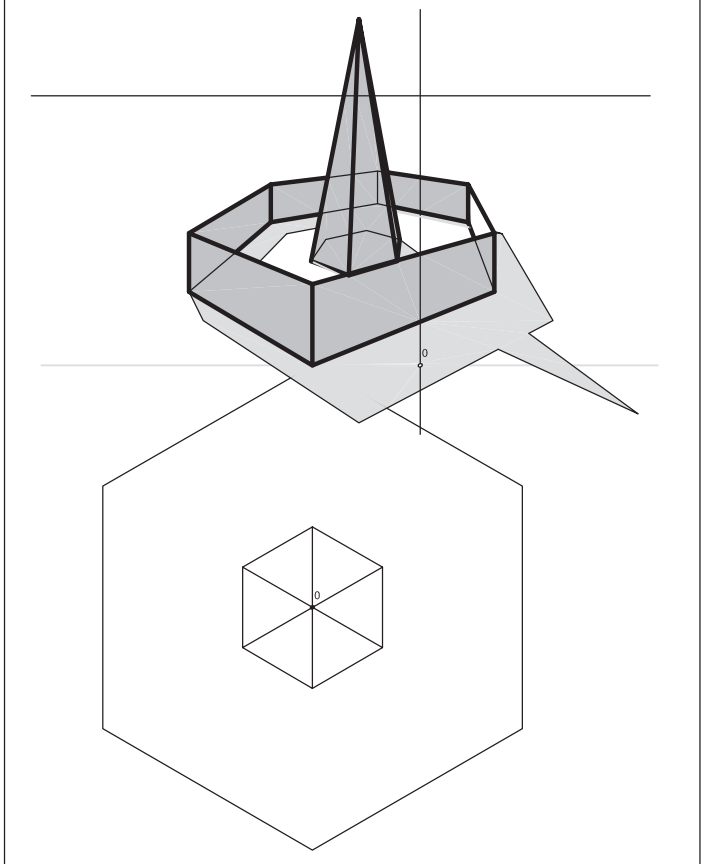
Slika 8
Študija senc zidne niše



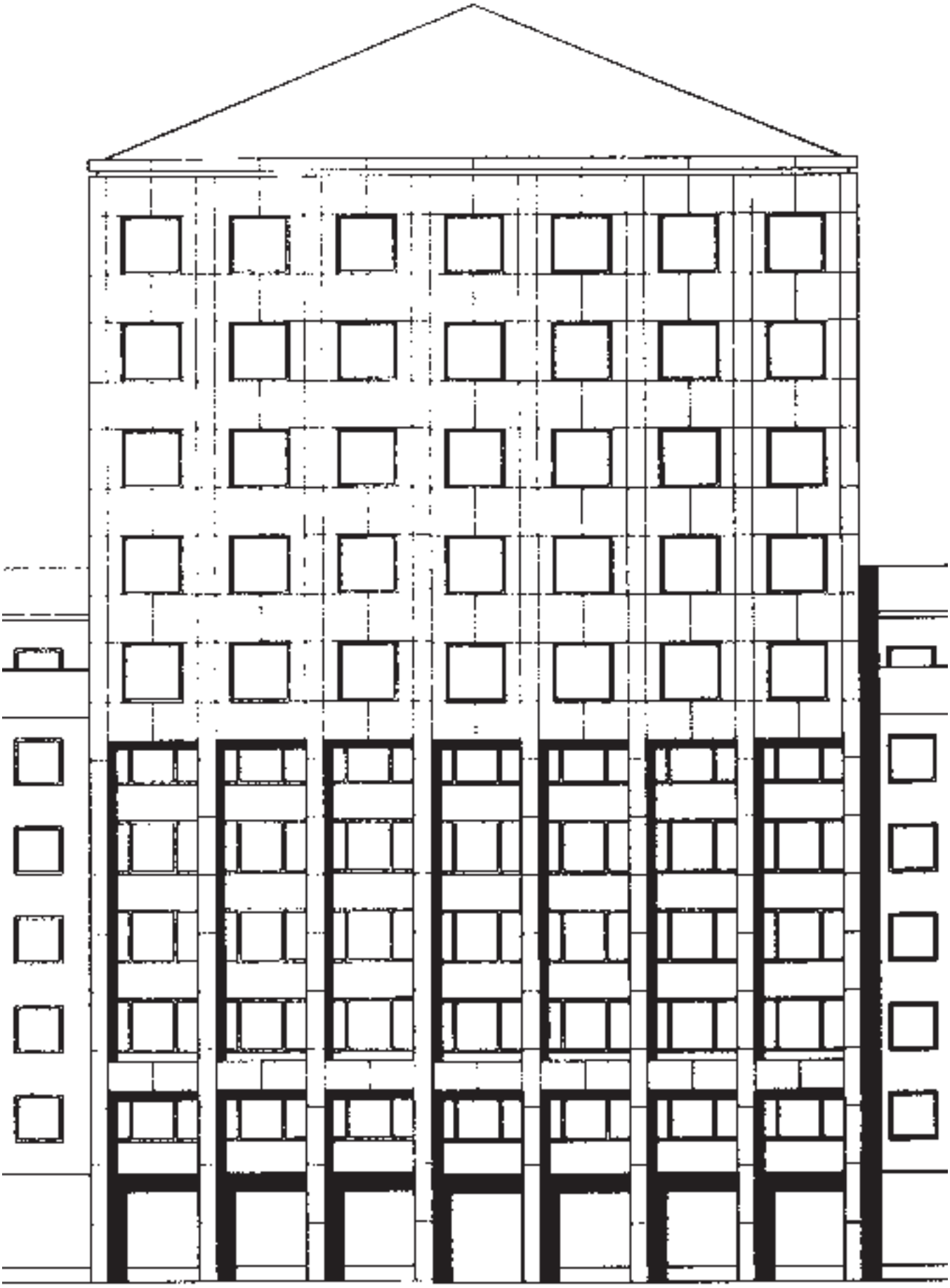
Slika 9
Študija senc vrtenine



Slika 10
Aksonometrična risba sence lesne zveze



Slika 11
Perspektivna risba senc vodnjaka z obeliskom



Slika 12
Primer konstrukcije senc na idejnem načrtu zasnove fasade