

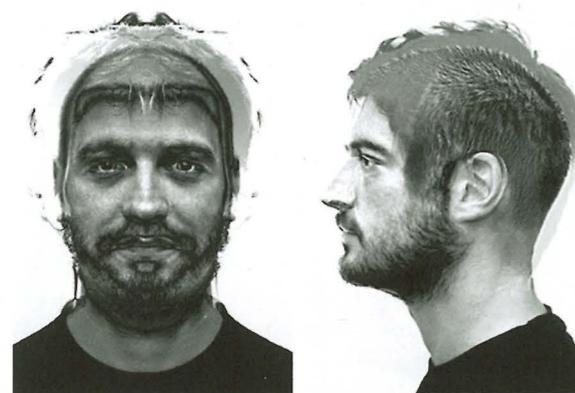
napisala
written by



Antonija Komazlić

S druge strane zrcala

autori
authors



Roman Vlahović

¶ Referring to what we call *experiencia literata*—experience recorded in writing, in his *The New Organon* (1620) Francis Bacon wrote that, until the present day, man has not retained experiences for long, he simply left them behind. It is only when experience takes the written form, that it is possible to obtain later usable knowledge from a heap of inarticulate facts and

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portret portrait Arhiva / Archive Roman Vlahović

fotografije photography by Arhiva / Archive Roman Vlahović (ARV); Maja Bosnić / Ivan Dorotić (BD)

¶ Do sada čovjek nije dugo zadržavao iskustva, jednostavno ih je ostavljao iza sebe — kaže Francis Bacon 1620. g. u *Novom Organonu*, misleći na ono što nazivamo *experiencia literata* — iskustvo zabilježeno pismom. Tek kad iskustvo poprimi pisani oblik, moguće je iz gomile neartikuliranih podataka i informacija dobiti kasnije iskoristivo znanje. Tek tada postaje onime što danas nazivamo *data* i može biti jednostavno strukturirano u tabele koje se ponašaju *kao da su žive*. Tako 1620. g. naziremo zametak ideje o bazi podataka (*data-base*), iako je se termin tek u 1960-im godinama početi koristiti za ono što odgovara Baconovom konceptu živilih tabela. *Data*, kako je danas razumijemo, previše je monotona i raštrkana da bismo je mogli percipirati osjetilima ili iz njezinog sirovog oblika izlučiti neki smisao. Međutim, ona otvara prostor za novo iskustvo.

¶ Od druge polovice 20. st. tehnologija ima odlučujući utjecaj na društvo. U novije vrijeme digitalne tehnologije mijenjaju

information. Only then it becomes what we today refer to as *data*, and can be simply structured in tables which behave *as if they were alive*. Thus already in 1620 we find what we may call a germ of the idea of a *database*, although in order to describe Bacon's concept of a *living table* the term would not be used until the 1960s. *Data*, as we understand it today, is too monotonous, and too scattered, to be perceived by the senses, or for some meaning to be extracted from its raw form. However, it opens up space for new experience. ¶ Since the second half of the 20th century, technology has had a decisive influence on society. In recent years, digital technologies have been changing our lives and culture in different spheres, including ways in which we communicate, create, learn, and share knowledge. If design is viewed as a product of culture, it is clear that it cannot remain independent of social change. In order to acquire more effective means, and a more objective view, it is important to

▲ 3D printed generative jewellery, 2012.

▲ 3D printed generative jewellery, 2012

(ARV)

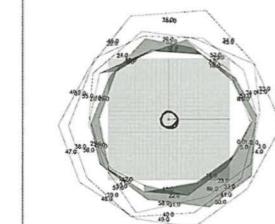
Dizajn kroz
apstrakciju, 3D
printed generative
jewellery, 2012.

Design through
abstraction, 3D
printed generative
jewellery, 2012

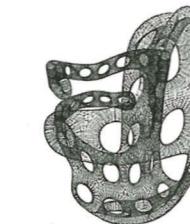
(ARV)



THIRD ABSTRACTION
ALGORITHM
DESIGNING MACHINES



SECOND ABSTRACTION
ABSTRACT MACHINE
DESIGNING POPULATIONS



FIRST ABSTRACTION
VIRTUAL OBJECT
DESIGNING OBJECTS



OBJECT
PHYSICAL OBJECT
RENDERING TO REALITY

GenusReticulum s4ro48s6,▶
naš život i kulturu u različitim sferama, uključujući načine na
koje komuniciramo, stvaramo, učimo i razmjenjujemo znanje.
Ako dizajn promatramo kao proizvod kulture, jasno je da ne
može ostati neovisan o društvenim promjenama. Da bismo
došli do djelotvornijih sredstava i objektivnijih pogleda, te je
mijene važno razumjeti, spoznati što se već promjenilo, kao
i ono čija je promjena u tijeku. Miro Roman i Luka Vlahović
iz studija ROMAN VLAHOVIĆ bave se projektiranjem i istraživanjem
unutar arhitekture i dizajna, odnosno istraživanjem njihovog preklapanja s kulturom i informacijskim znanostima. U
svom radu ispituju kako se projektiranje i promišljanje dizajna
mijenja pod utjecajem informacijskih tehnologija. Propituju
potencijale algoritamskog dizajna baziranog na dizajnu ideje,
projektiranju narativa, procedura, dizajniranju populacija,
digitalnoj produkciji i novim promišljanjima materijalnosti.
Kada govori o položaju dizajna danas, Dejan Kršić ističe da
modernistička ideja dizajna kao znanstveno utemeljenog

GenusReticulum
s4ro48s6, ring, material:
black polyamide polymer,
3D printed generative
jewellery, 2012

GenusCircus S1Ro32,
prsten; materijal:
pješčenjak, 3D printed
generative jewellery, 2012

GenusCircus S1Ro32,
ring, material: sandstone,
3D printed generative
jewellery, 2012

(ARV)



understand the changes; to understand and comprehend what
has already changed, as well as what is in the process of change.
Miro Roman and Luka Vlahović of the ROMAN VLAHOVIĆ Studio
explore how architecture and design overlap with culture and
information sciences. In their work they contemplate design
change under the impact of information technology. They are
exploring the potential of algorithmic design today based on
new parameters: design of ideas, narratives, procedures, popula-
tions, digital production, and new understanding of the mate-
riality. When speaking about the position of design today, Dejan
Kršić emphasizes that the modernist idea of design, as a sci-
entifically based process, does not correspond to present-day
postmodern environment. The structural problem of design is
emphasizing authorship, the individual, and the creation, while
neglecting the collective, the social aspect and, perhaps most

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GenusCircus S1Ro32, prsten,
materijal: poliamid polimer, 3D
printed generative jewellery, 2012

GenusCircus S1Ro32, ring, material:
polyamide polymer, 3D printed
generative jewellery, 2012

procesa ne odgovara današnjem postmodernom okruženju.
Strukturni problem dizajna je naglašavanje autorstva, indivi-
dualnog, kreacije, dok se zanemaruje kolektivno, društveni
aspekt i možda ono najbitnije: potrošnja kao proizvodnja zna-
čenja. Dizajn danas doživljava kao područje koje dekonstruira
razlikovanje između znanosti i umjetnosti. Dvojac ROMAN
VLAHOVIĆ smatra da je potrebno nadići ideološku opreku zna-
nosti i kulturi. U tom smislu istražuju mogućnosti za alter-
nativno razumijevanje dizajna, promatrajući i poigravajući se
kulturom kroz digitalne strategije dizajna. Prema kustosu i
umjetničkom kritičaru Nicolasu Bourriaudu, novina više ne

In recent years, digital
technologies have been changing
our lives and culture in different
spheres, including ways in which
we communicate, create, learn,
and share knowledge



GenusReticulum
S3Ro26, prsten;
materijal: nehrđajući
čelik 80%, bronca
20% - pozlaćen, 3D
printed generative
jewellery, 2012

GenusReticulum
S3Ro26, ring, material:
stainless steel 80%,
bronze 20% - gold
plated, 3D printed
generative jewellery,
2012

(ARV)

importantly, the consumption as the production of meaning.
He sees contemporary design as an area which deconstructs
the distinction between science and art. The ROMAN VLAHOVIĆ
duo deems it necessary to go beyond the ideological binary of
science versus culture. Thus, they explore the possibilities for
an alternative understanding of design, by observing and play-
ing with culture by means of digital design strategies. Nicolas
Bourriaud, a curator and an art critic, argues that novelty is
no longer a criterion. He concludes that the artwork does not
need to create an imaginary or utopian reality, but to establish
the modes of existence and models of action within the exist-
ing reality, regardless of the criterion.¹ Thus, ROMAN VLAHOVIĆ
refuse to design a unique and specific ideal object. The focus

¹ Bourriaud, N. (2013). *Relational Aesthetics; Postproduction: Culture as Screenplay: How Art Repograms the Modern World*. Zagreb: Museum of Contemporary Art.



GenusReticulum S4R019,
prsten; materijal:
polirano srebro, 3D
printed generative
jewellery, 2012.

GenusReticulum S4R019,
ring, material: polished
silver, 3D printed
generative
jewellery, 2012

3D printed generative
jewellery, 2012.

3D printed generative
jewellery, 2012

(ARV)



predstavlja kriterij. Zaključuje da umjetničko djelo ne treba kreirati neku zamišljenu ili utopiju stvarnost, već ustanoviti vidove postojanja i modele djelovanja u okviru već postojeće realnosti, neovisno o mjerilu¹. Na tom tragu, ROMAN VLAHOVIĆ odbacuju dizajniranje jedinstvenog i specifičnog 'idealnog' objekta. Prema njima, težište današnjeg dizajna je na dizajniranju ideje – u samom procesu projektiranja naglasak je na konceptualizaciji, interakciji komponenata, sustava i procesa

¹Bourriaud, N. (2013). *Relacijska estetika; Postprodukcija: kultura kao scenarij: kako umjetnost reprogramira suvremeni svijet*. Zagreb: Muzej suvremene umjetnosti.

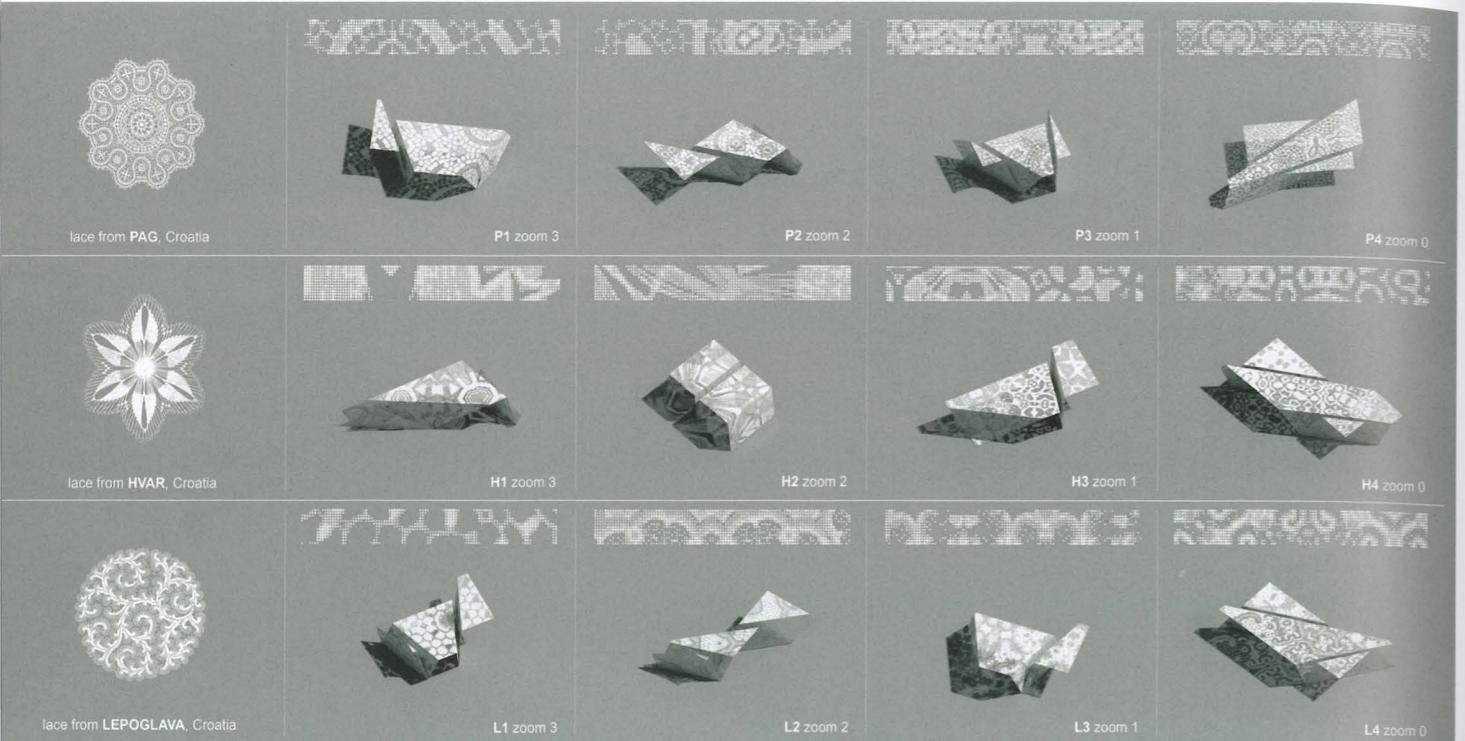
of current designs, they argue, is on designing an idea—the emphasis in the design process is on the conceptualization, on the interaction between the components, the systems and the processes which in turn generates new objects. However, Kršić concludes that it is unusual that most of present-day design is still based on the relation form—content—shaping. Design is still partially perceived as a practice, while fundamental knowledge and understanding of earlier practices are overlooked—in order to use, recontextualize, or refute certain motives and methodologies. ROMAN VLAHOVIĆ play with postmodern heritage of collage, deconstruction and quotations of cultural references through the use of algorithmic design, but avoid genericness. They wish to explore how to treat objects after they have taken on abstract modular form, and their phenomenal materiality had been transformed into a set of data. What are the potentials of data-driven design? Design thus becomes an abstract process of defining the algorithm, and the result is a population of objects that re-encode cultural and historical spatiotemporal relations. It involves creation and modification of rules and systems which generate objects whose design is autonomous. A designer does not manipulate the object he deals with directly; instead he manipulates the mechanism that generates the object. The product depends on the interaction between the given system and the rules. It is with this approach

koji generiraju nove objekte. Ipak, kako Kršić zaključuje, neobično je da je još uvijek većina dizajna temeljena na odnosu forma — sadržaj — oblikovanje. Dizajn se jednim dijelom i dalje shvaća kao praksu, dok se previđa nužno poznavanje i razumijevanje ranijih praksi — kako bi se određeni motivi i metodologije mogli koristiti, rekonekstualizirati ili opovrgavati. ROMAN VLAHOVIĆ poigravaju se postmodernim nasleđem kolaža, dekonstrukcije i citata kulturoloških referenci kroz korištenje algoritamskog dizajna, ali izbjegavajući genericnost. Zanima ih kako tretirati objekte nakon što poprime apstraktni modularni oblik, a njihova se pojavnina materijalnost pretvoriti u skup date. Koji su potencijali data-driven dizajna? Samo projektiranje postaje apstraktno definiranje algoritma, a rezultat je populacija objekata koji iznova kodiraju kulturne i povijesne prostorno-vremenske odnose. Ono podrazumijeva stvaranje i modifikaciju pravila i sustava koji generiraju objekt čiji je dizajn autonoman. Projektant ne oblikuje direktno predmet kojim se bavi, već mehanizam koji ga generira. Proizvod ovisi o interakcijama zadanoj sustava i pravila. Ovim pristupom ROMAN VLAHOVIĆ projektiraju populaciju 3D printanog generičkog nakita i stol LACEScape. Sustav u kojem dizajniraju dopušta stvaranje populacije neograničene raznolikosti i realizaciju u bilo kojoj materijalnosti. Dok je izvan data-driven dizajna izvedba objekta uvjetovana izborom materijala,

that ROMAN VLAHOVIĆ designed the population of 3D printed generic jewelry and the LACEScape table. Their design system allows for the possibility of designing a whole population of objects of unlimited diversity, and the possibility of designing in any material. While, outside the *data-driven* design, the construction of an object depends on the choice of material, designing by the use of generative systems enables the shaping of form by intellectual control exclusively. While traditional jewellery design is characterized by uniqueness, hand-craft and noble materials, contemporary jewellery making relies on mass production and synthetic materials. When designing the algorithm, they design a mechanism; when working in it, they work in the virtual populations of objects. The production process ends with the 3D print which renders the objects into reality. ROMAN VLAHOVIĆ reject a modernist contrast of the modern and the vernacular, in the digital base they collect centuries of experience of intangible heritage of lace making. The LACEScape Table project deconstructs the traditional elements of lace; it combines them in the creation of an infinite, digitally woven landscape: the lacework originating sometimes from Hvar, sometimes from Pag or Lepoglava. The formal frame of the table is fixed, the form is not. In order to achieve this task, they have designed three small digital machines: one creating infinite lace landscapes, one stylizing them, and the

GenusReticulum
S4R011, prsten;
materijal: translucentni
poliamid polimer, 3D
printed generative
jewellery, 2012.

GenusReticulum
S4R011, ring, material:
translucent polyamide
polymer, 3D printed
generative jewellery,
2012



lace from LEOGLAVA, Croatia

L1 zoom 3

L2 zoom 2

L3 zoom 1

L4 zoom 0

lace from PAG, Croatia

P1 zoom 3

P2 zoom 2

P3 zoom 1

P4 zoom 0

lace from HVAR, Croatia

H1 zoom 3

H2 zoom 2

H3 zoom 1

H4 zoom 0

lace from LEOGLAVA, Croatia

L1 zoom 3

L2 zoom 2

L3 zoom 1

L4 zoom 0

Samo projektiranje postaje apstraktno definiranje algoritma, a rezultat je populacija objekata koji iznova kodiraju kulturne i povijesne prostorno-vremenske odnose

▲
Populacija stolova, 2014.

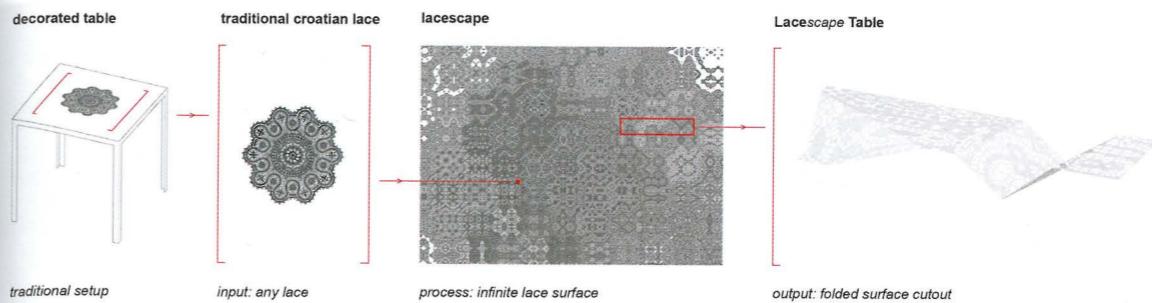
▲
Population of tables, 2014

(ARV)

dizajniranje generativnim sustavima omogućava oblikovanje forme isključivo intelektualnom kontrolom. Prstenje izvedeno kroz digitalnu produkciju suočava unikatnost, ručnu izradu i upotrebu plemenitih materijala kod tradicionalnog nakita s masovnom proizvodnjom i sintetičkim materijalima, specifičima za onaj suvremeniji. Kroz projektiranje algoritma projektiraju mehanizam, a kroz rad u njemu virtualne populacije objekata. Proizvodni proces završava 3D printom kojim se objekti renderiraju u stvarnost. U svojoj praksi ROMAN VLAHOVIĆ odbacuju modernističku opreku modernog i vernakularnog: u digitalnoj bazi prikupljaju višestoljetno iskustvo

Design thus becomes an abstract process of defining the algorithm, and the result is a population of objects that re-encode cultural and historical spatiotemporal relations

third – machine for digital origami – giving them shape. When the design process is completed, the digital production takes place: the robots – the ones for cutting and bending – convert the digital image into a real table. The data based design only partially relies on material and formal aspects. It is largely dependent on the narrative describing the object, that is, on its semantic role. ROMAN VLAHOVIĆ believe that the advantage of process design is its ability to partially gather global knowledge, and to effectively use it later. Such understanding of design conforms to what Kršić advocates when he says that design should be perceived as a signifying, discursive practice



◀ Kultura postaje utočište našim mašinama – LACEScape Table diagram, 2014.

◀ Culture is a haven for our machines – LACEScape Table diagram, 2014

(ARV)

LACEScape Table u procesu izrade – kartonski prototip, 2014.

▼ Making of LACEScape Table – cardboard prototype, 2014

(ARV)

nematerijalne baštine izrade čipke. Projekt LACEScape Table dekonstruira tradicijske elemente čipke i kolažira ih u kreaciji beskrajno digitalno istkanog krajolika: ponekad hvarske, ponekad paške, a ponekad lepo glavske čipke. Ono što je kod stola fiksno, njegov je formalni okvir, no ne i forma. Dizajniraju tri digitalna stroja: prvi koji stvara beskonačne krajolike čipke, drugi koji ih stilizira i treći, stroj za digitalni origami koji im daje formu. Po završetku procesa roboti za rezanje i savijanje digitalnu sliku pretvaraju u stol. Dizajn temeljen na dati samo se djelomično oslanja na materijalne i formalne aspekte, a u većem dijelu na narativ koji opisuje objekt, odnosno na njegovu značenjsku ulogu. ROMAN VLAHOVIĆ smatraju

2 Ibid.





LACEscape Table ▶ da je prednost procesnog dizajna njegova sposobnost dje-
lomičnog sabiranja globalnog znanja i kasnije učinkovite
upotrebe. Takvo razumijevanje dizajna odgovara i onome
što Kršić zagovara kad kaže da dizajn treba promatrati kao

LACEscape Table ▶ označiteljsku, diskurzivnu praksu koja otvara prostor komu-
nikacije između znanosti i umjetnosti. Postupak koji ROMAN
VLAHOVIĆ koriste uklapa se u metode suvremene umjetno-
sti: sempliranje slike i informacija, recikliranje ranijih formi i
oblikovanje kolektivnih identiteta. Prema Bourriaudu², mogli
bismo ga shvatiti kao uključivanje pojedinačnog objekta u
kontinuum egzistencijalnog mehanizma, umjesto priznavanja
idejnog majstorstva kroz tradicionalnu autonomiju djela. Baš
to otvara prostor za reartikulaciju i korištenje akumuliranog
iskustva u uvijek iznova drugačijim uvjetima.

(BD)

2 Ibid

