Keha ehitus
Body Building

TAB kuraatornäitus 2015
TAB main exhibition 2015

Keha Ehitus, 2015. aasta Tallinna arhitektuuribiennaali kuraatorinäitus, uurib ehitamise hübriidvorme, kus tipptasemel tehnika ja teadus kohtuvad isekasvavate süsteemide mitmekesisusega ja kus vabaduse ja piirangute eri tasemed loovad arvutult uusi väljundeid, püüdes leida tasakaalu kontrollimatu ja etteaimatava – keha ja ehitise – vahel.

Ajal, mil arhitektuur liigub järjest kaugemale oma traditsioonilistest piiridest, uurib näitus isejuhtivate tarkade süsteemide loodud uut esteetikat ja uusi ruumielamusi, kus arhitektuur ja teadus on astunud füüsilise ja arvutusliku maailma vahelisse dialoogi. Seda illustreerivad kümne rahvusvahelise arhitektuuristuudio prototüübid ja installatsioonid Eesti arhitektuurimuuseumi 500-ruutmeetrises peasaalis.

Näituse kontekstis on keha abstraktsioon tajudega süsteemist, mis viitab või jäljendab elusorganisme. Ehitise ja keha vastasseis on põrkumine teadusliku ja täpse Platoni ideaali ning iseorganiseeruva korrastatud kaose vahel. Näituse kümmet avant garde´i tööd lähemalt uurides on nende kõigi puhul näha sedasama isejuhtivuse ja kontrolli dialektikat.

Pidevalt kasvav arvutusvõimsus võimaldab meil järejest paremini kasutada loodusest õpitut alusena arhitektuuriloomele. Kasutades keha konseptsiooni ja luues selle alusel hoonet, jõuame paratamatult küsimuseni: kus jookseb piir keha ja ehitise vahel? Mis hetkel on tegemist osaga hoonest ja millal suurendatud putuka kattetiiva või kimbu vetikatega?

Näitusel on väljas:

tööd, mis käsitlevad nii traditsioonilisi arhitektuurseid teemasid, nagu näiteks algonn (**Bruno Juricic**), kaunistus (**KOKKUGIA**) või puitkäsitöö (**Tom Wiscombe**), kuid tänapäevases kontekstis koos komposiitmaterjalide ja 3D-printimisega; tööd, mille teemaks on eksperimenteerimine materjalidega alates biolagunevatest plastikutest ja prahist (**ISSSStudio**) kuni vedelikke imavate polümeeride kasutamiseni valu tegemisel (**REX|Lab**); tööd, mis kasutavad algoritmilist andmeanalüüsi struktuurides töötavate jõudude tasakaalustamiseks ja stabiilsuse leidmiseks (**Carlo Ratti**), ehitusprotsessi lihtsustamiseks (**City Form Lab**) või esteetiliste eksperimentide võimalikest tulemustest kataloogi loomiseks (**nformations**); ja tööd, mis kasutavad süsteemide loomisel elusorganisme esteetiliste (**Julia Körner**) või olemuslike eeskujudena (**ICD Stuttgart**).

Body Building, the main exhibition of the 2015 Tallinn Architecture Biennale, is exploring hybrid forms of construction where cutting-edge technology and science meet the self-driven variability of material systems and the degrees of freedom and control define an outcome of multiplicity within tolerance, trying to find a balance between the unruly and the predictable – body and building.

As architecture is moving beyond traditional borders of the discipline, the exhibition is exploring new territories of building aesthetics and spatial qualities of self-driven intelligent systems, where architecture and science have entered into a dialogue between the computational and the physical – illustrated by ten international architectural studios exhibiting prototypes and installations in the 500 m2 main gallery of the Museum of Estonian Architecture.

In the context of this exhibition, the body is seen as an abstraction of a responsive system that refers to or mimics organic organisations. The opposition of building to body is one of the platonic ideals, the scientific and the precise against the self-organising ordered chaos that is satisfying contradicting criteria. When we look at the ten examples of avant garde architectural work exhibited, there is always a dialectic of self-organisation and control.

The constantly extended computational capacity allows us to use our broadening understanding of the natural world as a means for architectural production. Taking a bodily concept and using it to create a building inevitably raises the question: Where is the balance between the body and building? When is an object read as a building component and when does it read as a blown-up model of a beetle's elytron or a bunch of algae?

The exhibition features objects dealing with traditional architectural topics such as the primitive hut(**Bruno Juricic**), ornamentation (**KOKKUGIA**) or joinery (**Tom Wiscombe**) in the contemporary context of composite construction and additive manufacturing; material investigations into bioplastics and waste (**ISSSStudio**), or liquid absorbing polymers in the process of casting (**REX|Lab**); using algorithmic data to achieve static equilibrium in changing structural force flows (**Carlo Ratti**), streamlining the construction process (**City Form Lab**) or creating an atlas of experiments for aesthetic exploration in materialised information (**nformations**); and looking at actual biological organisms for aesthetic (**Julia Körner**) and performative systems (**ICD Stuttgart**).

Pealkiri: **Käiseauk (2015)**
Linn/riik: Austin, USA
Autorid: Igor Siddiqui (projektijuht); Mitchell Peterson (projekti kujundaja); Alex Wu, Heather Sutherland (projekti assistendid).

Title (y): **Scye (2015)**
City/Country: Austin, USA
Credits: Igor Siddiqui (Principal); Mitchell Peterson (Project Designer); Alex Wu, Heather Sutherland (Project Assistants).

ISSSStudio/Igor Siddiqui

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ISSSStudio on noor disainistuudio, mis keskendub eeskätt arhitektuuri ja dekoratiivkunsti uudsetele seostele läbi tehnoloogilise innovatsiooni ja muutuvate kultuuriväärtuste prisma. ISSSStudio tegevus katab hulgaliselt eri tüpoloogiaid ja meediume ning neid on tunnustatud toote- ja sisekujunduse ja arhitektuuri tõhusa ühendamise eest. Stuudio tegevus toetub suuresti arhitektuurialastele teadmistele, mis on ka nende intellektuaalne lähtepunkt, ent oma töös keskenduvad nad eri viisidele, kuidas disain võib aktiivselt osaleda tehiskeskkonna kujundamises muulgi moel kui vaid alaliste hoonetervikute tasandil. Seega püüavad ISSSStudio projektid alati leida ja pakkuda võimalusi, mis kannaksid väheste vahenditega tõeliselt jõulist esteetilist ja performatiivset mõju. Antud lähenemist võimaldab stuudio aina suurenev kogemustepagas digitaaltehnoloogiate rakendamises, materjaliarenduses ja teadustegevuses, samas ka põhjalik ülevaade disaintoodangu võimalikest takistustest. ISSSStudio töid on ilmunud ajakirjades Dwell, Interior Design, Artforum, Texas Architect, Smart Magazine, ii Journal, IDEA Journal ning paljudes monograafiates ja digiväljaannetes. ISSSStudio asutati Brooklynis, New Yorgis 2006. aastal, praegu tegutsetakse Austinis, Texase osariigis.

Igor Siddiqui (s.1974) on ISSSStudio juht ja looja. Ta on litsenseeritud arhitekt, disainiuurija ning Texase Ülikooli Arhitektuurikooli dotsent. Enne Texasesse tulekut 2009. aastal õpetas ta erinevates Ameerika kõrgkoolides, sealhulgas Pennsylvania Ülikoolis, Kalifornia Kunstikolledžis ja Parsonsi Disainikoolis. Külalisõppejõuna juhendab ta kollaboratiivseid stuudiokursusi ka arhitektuurikoolis École Nationale Supérieure d'Architecture de Paris-Belleville. 2014. aastal kaasasutas ta rahvusvahelise disainivõistluse Field Constructs, mille eesmärk on leida uuenduslikke disainilahendusi linnamaastikesse. Enne ISSSStudio asutamist töötas ta mitu aastat arhitektuuribüroodes 1100: Architect ja Kohn Pedersen Fox Associates New Yorgis. Oma magistrikraadi arhitektuuris sai Siddiqui Yale'i Ülikoolist.

ISSSStudio/Igor Siddiqui

ISSSStudio is an emerging design practice with a primary focus on novel relationships between architecture and decorative arts, viewed through the lens of technological innovation and shifting cultural values. The work of ISSSStudio spans a broad range of scales, typologies and media, and has been recognized for effectively operating across the fields of product, interior and architectural design. The studio draws on its architectural knowledge – its intellectual starting point – but is committed to exploring how design can actively contribute to the built environment through means other than only those oriented towards permanent objects at the scale of whole buildings. ISSSStudio's projects in this way always seek opportunities that have robust aesthetic and performative impact through an economy of means. This type of approach is enabled by the studio's constantly evolving experience in the application of digital technologies, material innovations and research methods, as well as a thorough understanding of embedded conventions that constrain design production. The work of ISSSStudio has been published in Dwell, Interior Design, Artforum, Texas Architect, Smart Magazine, ii Journal, IDEA Journal, as well as numerous monographs and digital publications. ISSSStudio was founded in Brooklyn, NY in 2006 and is presently based in Austin, TX.

Igor Siddiqui (b.1974) is the principal and founder of ISSSStudio. He is a licensed architect and design scholar with an appointment of Associate Professor with tenure at The University of Texas at Austin School of Architecture. Before arriving in Texas in 2009, he taught at several other American institutions including the University of Pennsylvania, the California College of the Arts, and Parsons the New School for Design. Frequently, he teaches collaborative architecture studios at École Nationale Supérieure d'Architecture de Paris-Belleville. In 2014, he co-founded Field Constructs, an international design competition aimed at exploring design innovation in relation to urban landscapes. Preceding his work with ISSSStudio are several years of professional practice with 1100: Architect and Kohn Pedersen Fox Associates in New York City. Siddiqui received his Master of Architecture degree from Yale University.

KÄISEAUK

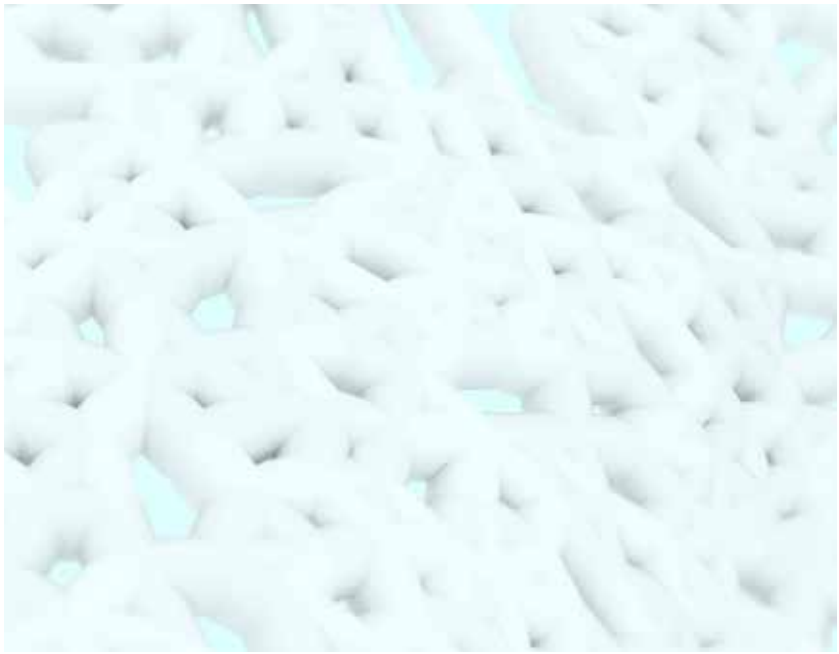
Kuhu materjal kaob? Küsimus on iseenesest kahetine: ühelt poolt vaatleb see ehitatud vormi aktualiseerumist materjali jaotuvuse kaudu, teisalt viitab aga materjalide elueale, mida vormivad omakorda kasutus, taaskasutus ja realiseerimine. Digitehnoloogia areng avardab arhitekti võimalusi siduda disain, tootmine ja montaaž uutesse töövooludesse ning ka materjalidele on lisandunud uusi rolle. Materjalid ei osale disainis kui pelgalt fikseeritud entiteedid, vaid kui vormitavad muutujad. Olemasolevad materjalid tehakse ümber, et väljenduks nende latentne olemus, samas luuakse ka uusi materjale. Nii ei ole materiaalsus enam etteantud, vaid pigem disainitud, mis taas kord avab arhitektuurile uusi võimalusi.

Scye/Käiseauk on projekt, mis uurib olemasolevate ja väljamõeldud materjalide formaate ühes süsteemis. Pealkirja on see saanud rätsepatöö mõistest, mis tähistab käise kinnitusõmblust ülejäänud rõiva külge. Kuivõrd tegemist on kinnise kaarega, mis ühendab õla ja kaenlaaluse, võib käiseauku pidada nii liitekohaks kui avaks. Arhitektuuris resoneerub sellega tasapinnalisuse dialoog mahuga ning dünaamilise liikumise dialoog materjaliga. Nii rõivad kui hooned on meid ümbritsevad membraanid, ent käise loomine arhitektuuris ei ole just sama mis käise loomine kehale. Rätsepatöö paralleelina võib väita, et keha on rõivale sama mis maapind arhitektuurile. Installatsiooni ühendatud läbikumavat varrukat määratlevad parameetriliselt eristatud profiililõiked, mis pole kohandatud vertikaalsele kehale, vaid horisontaalsele maapinnale. Nii nagu käiseaugud on kui käe ja keha liitekoha hinged, nii suhestuvad ka antud profiilid topograafilistele liikumistele maapinnal. Arhitektuuris tunduvad materjalid staatilised, kuigi tegelikult on need alati liikumises. Arhitektidena loome materjalide liikumise koreograafia – praegu on meil võib-olla rohkem kui kunagi varem võimalusi muuta nende trajektoore innovaatilisel, jõulisel ja tähenduslikul viisil.

SCYE

Where does the material go? This question preoccupies us and as a result it persistently informs our approach to design. Sometimes this is very clear in the work itself; in other instances the traces of this preoccupation are perhaps more understated. The consideration of where material goes is twofold: it addresses the actualization of built form through material distribution, while also alluding to material lifecycles shaped by patterns of use, reuse, and disposal. As advancements in digital technologies continue to expand architects' ability to link design, fabrication, and assembly into new workflows, materials too have acquired a broader range of roles. With technologies like additive manufacturing, materials conform to the rule of data in ways that are evermore fluid, precise, and non-standard. Meanwhile, increasing capabilities to digitally record, simulate, and reproduce materials' dynamic behaviour are yielding new models of organization for architecture across multiple scales. The digitization of the design process has liberated architectural form from standardization, ushering the demand for material customization to the forefront of design innovation. Materials as such enter design not as fixed entities, but rather as pliable variables. Existing materials are remade to reveal latent character; new ones are made from scratch. In other words, materiality is not given but is rather designed, further expanding architecture's engagement with material resources and their circulation. The question of where material goes — but also where it is coming from — links a singular architectural project to the broader ecologies within which it operates. For us, the techniques for distributing materials relative to formal, structural, and atmospheric demands of a single project have the potential to be expanded to encompass movement across larger territories and wider timeframes.

Developed for the Tallinn Architecture Biennale, Scye is a project that explores relationships between existing and invented material formats within a single system. Designed to circulate long-distance, the experimental installation conforms to the dimensional limitations set forth by international shipping standards, while unfolding to reveal a non-standard set of interrelated objects. Four solid volumes, measuring .5m x .5m x .5m, are each split into two halves according to a digital script that enables the parts to tessellate into a continuous ground condition. Thin translucent sheets — cast from custom-made flexible biodegradable plastic pressed between the nested volumes — form a conjoined vaulted structure tailored to the differentiated geometry of the ground beneath. Surface pattern distributes the material across each vaulted bay according to structural, tactile and atmospheric considerations. A set of eight serially differentiated 3D-printed models examines a range of options for a monolithic structure formed by the simultaneous influence of the ground, the vaulted geometries, and the surface pattern. The various materials



that make up the overall system — ranging from synthetic plastics produced from petrochemicals to those that are fully biodegradable — differentiate the parts in terms of how they may potentially circulate beyond the spatial and temporal footprint of the project. As architecture, the project is a relational model rather than a representational one. It is constrained by size, rather than scale. Scye is an outcome of a parametrically determined design process and is as such a material instance of an infinite set of digital iterations. This means that it can grow, evolve, and mutate over time and it is able to do so through the interaction of three specific operations: multiplication, extension, and densification.

The project is titled after a term specific to the craft of tailoring. A scye is the seam that connects the top edge of a sleeve to the rest of the garment. As closed curves that circumscribe the area between the shoulder and the underarm, scyes — or armholes — are both joints and apertures. This condition resonates in architecture as it negotiates flatness with volume and dynamic movement with material. Both garments and buildings are membranes that surround us, yet to make a sleeve in architecture may not be the same as making a sleeve for the body. As far as tailoring is concerned, body is to clothing what ground is to architecture. The conjoined translucent sleeve in the Scye installation is defined by a series of parametrically differentiated sectional profiles tailored not to the vertical body, but rather to the horizontal ground plane. Like a scye's position relative to the body's hinge between the arm and the torso, these profiles coincide with the location of topographic shifts in the ground, articulated as expansion joints that register the movement underneath. In architecture, materials appear static, whereas in practice they are always moved around and moving. As architects, we choreograph where materials go: perhaps more than ever we are now capable of shaping their trajectories in ways that are innovative, impactful, and otherwise significant.