

Aalto and Japan: Interinfluence of Environmental Integration Architecture Idioms

Evgeny Pyshkin

Software Engineering Lab
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The University of Aizu, Evgeny Pyshkin, 2012



Aalto House in Riihitie,
[https://www.discoveringfinland.com/
destination/the-aalto-house/](https://www.discoveringfinland.com/destination/the-aalto-house/)



Speaker: Academic Expertise



Ziqiang Tang, 2018

- Undergraduate Courses
 - Introduction to Programming
 - Programming in C
 - Introduction to Data Management
- Graduate Courses
 - Software Development Paradigms

- Areas of Interest
 - Human-centric applications
 - Information systems for travelers
 - Speech processing applications
- Educational software
 - Software design and engineering
 - Software quality assurance and mobile testing
 - Software development education
- Art and Humanities

*“We are in era where we are reimagining nearly everything... powered by new devices, plus connectivity, plus new user interfaces, plus **beauty...**”*

Mary Meeker

A screenshot of a personal website for Evgeny Pyshkin. On the left is a navigation menu with links: Main page, Career, Academic Activity, International Connections, Conferences, Books, Papers, etc.... In the center is a portrait photo of Evgeny Pyshkin, a man with glasses wearing a blue and white striped shirt. On the right, the text reads: **Evgeny Pyshkin**, Senior Associate Professor, Software Engineering Lab, School of Computer Science and Engineering, University of Aizu, Japan, and a link to his Official web page.

See more: <http://u-aizu.ac.jp/~pyshe>



Brief Introspection of Cross-Disciplinary Works

INTRODUCTION

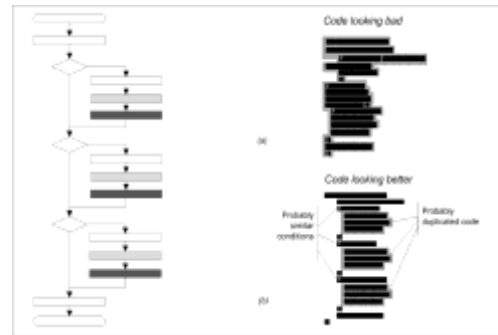


Cross-Disciplinary Works

- “Teaching programming: what we miss in Academia, or What would Mr. Pratt say” (SECR’11)
- “Function-based and circuit-based symbolic music representation, or back to Beethoven” (HCCE-2012, with Andrey Kuznetsov)
- “Unique constructions of Japanese Buddhist architecture in Aizu” (10th World Cities World Class University Network Meeting, 2015)
- “Liberal arts in a digitally transformed world: A case of software development education” (SECR’17)
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“If programmers will be building a plane...”



– Mikä on ensimmäinen kieli, joka kehittäjän tulee osata?
– Suomi.



– What language has the developer to know first of all?
– English.

開発者はまずはじめに何語を知るのか
日本語



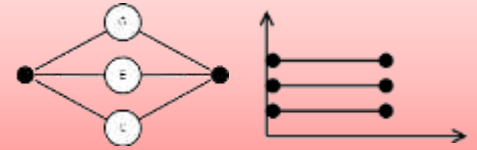
- Diversity of problems that a teacher faces
 - Teach concepts
 - Teach languages
 - Create good original tasks
 - Standards and tools change
 - Teach to “translate” tasks
 - Teach cool

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- Frequently used models:

- Sets $\{C4,1/4\},\{E4,1/4\},\{G4,1/4\}$
- Graphs
- Geometrics
- Hybrid



musician



“C-dur common chord”!



$$F(t) = O(u(t)) \cdot CON(v_1, v_2) + A(t, CR(v(t), h(t)) + Inv(0, 0, iv(t)), 0, 48, 1/12) \cdot v_3$$

$$u(t) = [C\#2, H1, A1, F\#1, G\#1, G\#1] \cdot SEQ(\dots)$$

$$v(t) = [C\#4, C\#4, A3, D4, G\#3, C\#4, G\#3, H\#3] \cdot SEQ(\dots)$$



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- Particularities of Japanese sacred architecture genesis through the examples of selected Buddhist culture monuments in the Aizu region
- Unique constructions which measurably deviate from the mainstream architectural traditions
 - Keiryuji temple (Tachiki Kannon)
 - Sazaedo tower
 - Aizu-mura complex
- Polytheistic traditions in Japan
- Pervasion of Buddhism to Japan from China and Korea since at least 552 AD
 - 607 Horyuji Foundation in Nara & 6 Nara Schools of Buddhism (Jōjitsu, Hossō, Kusha, Rishu, Kegon, Sanron)
 - Shinto started further development in active co-existence with Buddhism and with mutual influence
 - Some competition with Confucian traditions favored by the powerful Fujiwara clan



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MARTIANI
 CAPELLAE,
 SEPTIMUS PHILOSOPHUS et HERCULEUS
 ARISTOTELIS LIBERALIUM
 LIBER ARISTOTELIS
 SEPTIMIUS PHILOSOPHUS
 SEPTIMIUS PHILOSOPHUS

- Arithmetic
- Logic
- Geometry
- Grammar
- Astronomy
- Rhetoric
- Music

Computer Science

ARITHMETICA, GEOMETRIA, PHYSICA, ASTRONOMIA, LOGICA, RHETORICA, GRAMMATICA

道


Unless you write a Chinese character in the right order of brush strokes, it will never look beautiful!

```

    graph TD
      Lecture --> HandsOn1[Hands-on Type 1]
      HandsOn1 --> Exercise[Exercise, Team work]
      Exercise --> HandsOn2[Hands-on Type 2]
      HandsOn2 --> Review
      Review --> Testing[Testing session]
      Testing --> Presentation[Presentation session]
      Presentation --> Workshop
      Workshop --> Lecture
      Exercise --> Presentation
      Presentation --> Review
  
```


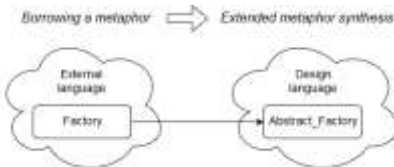
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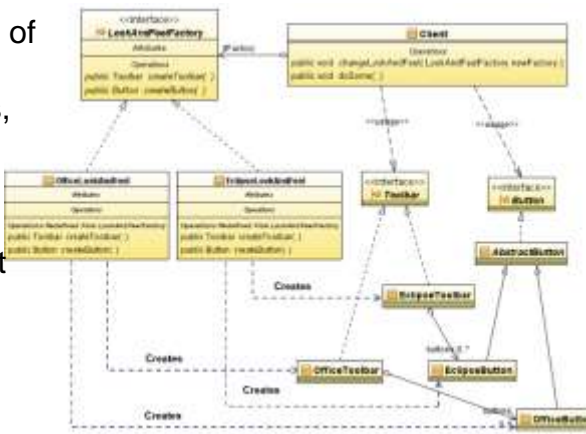
----- SOFTNET 2019 -----


International Conference on Software Engineering Advances
Valencia November 24 – 28, 2019










Borrowing a metaphor → *Extended metaphor synthesis*

On the basis of analysis of linguistics and cognitive science original sources, this study examines the diversity and multifacetedness of the metaphor concept and its important role in technology and engineering areas.







100th anniversary since establishment of diplomatic relations
between Finland and Japan

TOKYO METROPOLY AS A STAGE FOR CULTURAL EVENTS





Evgeny Pyshkin, 2019

NHK WORLD-JAPAN

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Masterpieces Performed by NHK Symphony Orchestra

Sibelius: Symphony No.2 conducted by Paavo Jarvi

Sunday, May 5 8:10/ 14:10/ 19:10
Monday, May 6 2:10



<https://www3.nhk.or.jp/nhkworld/en/special/episode/201905050810>



Evgeny Pyshkin, 2019



Evgeny Pyshkin, 2019



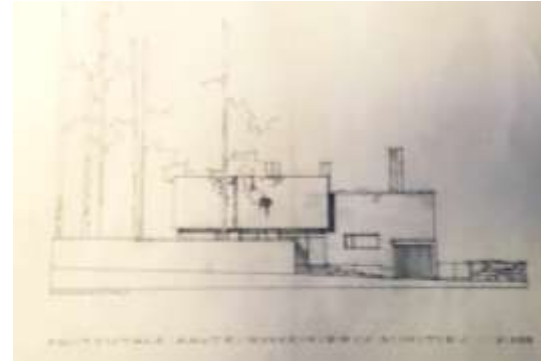
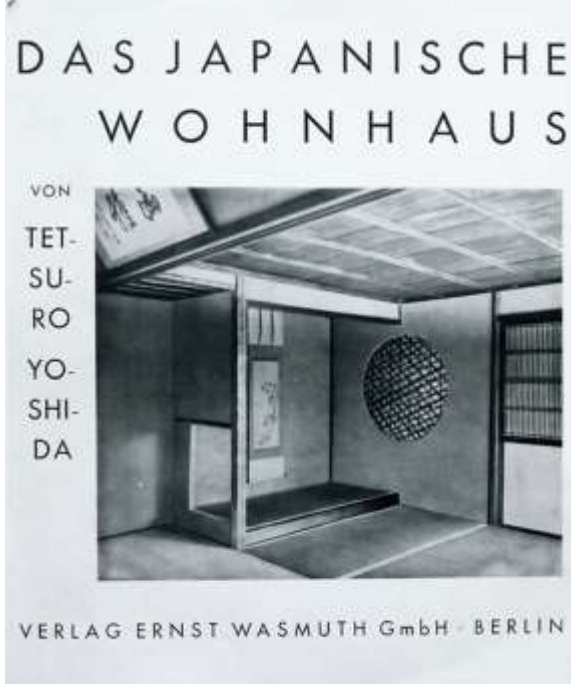
Design of exhibition in Tokyo Axis Gallery (1986)



<https://www.archdaily.com/630420/ad-classics-viipuri-library-alvar-aalto>



Design of exhibition in Tokyo Axis Gallery (1986)



From “*Das Japanische Wohnhaus*” to soft modernism

AALTO AND JAPAN: 往復 JOURNEY





<https://www.discoveringfinland.com/destination/the-aalto-house/>



Matvei Pyshkin, 2019



Evgeny Pyshkin, 2019

- Aalto's approach was not a simple adoption of Japanese patterns to western architecture, but synthesis of *"his personal idioms, built forms and architectural details"**
- One of such idioms is a careful composition of house and garden designs

* Chiu, C. Y., Niskanen, A., & Song, K. (2017). Humanizing Modern Architecture: The Role of Das Japanische Wohnhaus in Alvar Aalto's Design for His Own House and Studio in Riihitie. *Journal of Asian Architecture and Building Engineering*, 16(1), 1-8.



<https://www.britannica.com/biography/Alvar-Aalto>



Evgeny Pyshkin, 2016

“...There is a civilization that, even in its traditional phase, its handicraft era, shoved enormous sensitivity and tact toward the individual in this regard. I mean parts of the Japanese culture, which, with its limited range of raw materials and forms, inculcated a virtuoso skill in creating variations and almost daily recombinations. Its great predilection for flowers, plants, and natural objects is a unique example. The contact with nature and its constantly observable change is a way of life that has difficulty getting along with concepts that are too formalistic.....”

**Alvar Aalto , May 9 1935.
From Rationalism and Man
Lecture at the annual meeting of the Swedish Craft Society**

Aalto, A. (1935). Rationalism and Man. Lecture at Swedish Craft Society. Stockholm, May 9, 48-51.





Seisonkaku design, from official tourist information booklet



Evgeny Pyshkin, 2019



Evgeny Pyshkin, 2019



Evgeny Pyshkin, 2019



Evgeny Pyshkin, 2019



Evgeny Pyshkin, 2019



<https://hotelliaalto.com/>



<https://hotelliaalto.com/>





Contrasting approaches connecting the design, environment and human beings

ARCHITECTURE OF MEANINGFUL ENVIRONMENTAL INTEGRATION



In the heritage of Le Corbusier we can find the sources of aesthetics for very different architectural and design styles of 20th and 21st century, including such contrasting movements as:

- Aalto's functionalism
- Emotionally responsive Calatrava's "morphogenetic"* bio-tech, often criticized exactly for the lack of functionalism



Evgeny Pyshkin, 2014



Evgeny Pyshkin, 2015

Interaction in the meaningful way**

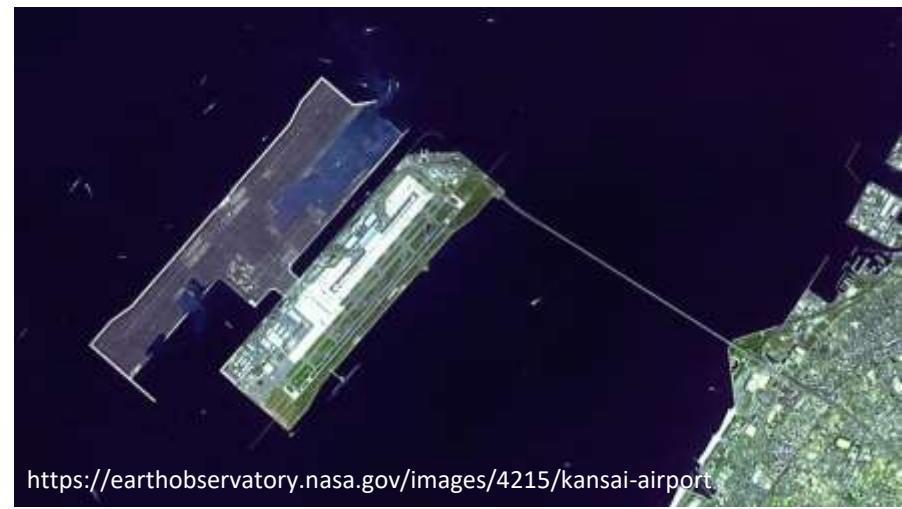


Gare de Liège-Guillemins. Ralf-Roletschek, 2013

* Tzonis, A. (2007). Santiago Calatrava. *Obra complete*. Ediciones Poligrafa.
 ** Fiederer, L. (2016). *AD Classics: Jyväskylä University Building / Alvar Aalto*. ArchDaily. March 28.



Evgeny Pyshkin, 2010



<https://earthobservatory.nasa.gov/images/4215/kansai-airport>



<https://www.reuters.com/news/picture/when-the-japan-tsunami-struck-idUSRTR2JR13>



https://www.mlit.go.jp/koku/15_hf_000033.html



<http://www.iwaki-k.ac.jp/publics/index/49/>

“humanizing modern architecture for both physical and psychological needs of human beings” * Chiu, C. Y., Niskanen, A., & Song, K. (2017)



<http://www.iwaki-k.ac.jp/publics/index/49/>



<http://www.iwaki-k.ac.jp/publics/index/49/>



Maija Holma, Alvar Aalto Museum



Evgeny Pyshkin, 2017



Evgeny Pyshkin, 2012

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Evgeny Pyshkin, Nordcode-2019
Nov 27 – 29, 2019

