

Vegetarian architecture. Case studies on building and nature

*Original*

Vegetarian architecture. Case studies on building and nature / Bocco Guarneri, Andrea. - STAMPA. - (2020), pp. 1-240.

*Availability:*

This version is available at: 11583/2858265 since: 2021-02-22T18:54:29Z

*Publisher:*

jovis verlag

*Published*

DOI:

*Terms of use:*

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

*Publisher copyright*

(Article begins on next page)

# VEGETARIAN ARCHITECTURE

CASE STUDIES ON BUILDING AND NATURE

andrea  
bocco  
guarneri

**jovis**

What is “good” architecture? This seemingly simple question is connected to a wide range of criteria—just like the radical quest for “good” food, which has produced a wealth of insights over the past few decades. This book showcases buildings based on simple technology, good craftsmanship, and careful choice of local and natural materials, as well as local development initiatives which demonstrate excellence in building quality, landscape restoration, and community revitalisation. The selection of case studies is broad and definitely unconventional: it encompasses Europe and Japan, and privileges lesser-known authors, unobtrusive works, and marginal localities where radically fresh attitudes have been able to develop.

to Momi and Milla  
and  
in memory of Peter Blundell Jones



**VEGETARIAN ARCHITECTURE**  
CASE STUDIES ON BUILDING AND NATURE

andrea  
bocco  
guarneri

**jovis**

# Imprint

© 2020 by Jovis Verlag GmbH  
Texts by kind permission of the authors.  
Pictures by kind permission of the authors/  
the owners of the image rights.

All rights reserved.

Cover photo: Taki Yosuke

Project management publisher: Nina Kathalin Bergeest, Jovis  
Copy editing: Michelle Standley  
Graphic design and typesetting: Susanne Rösler, Jovis  
Lithography: Bild1Druck, Berlin

Printed in the European Union.

Bibliographic information published by the Deutsche Nationalbibliothek.

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie. Detailed bibliographic data are available on the Internet at <http://dnb.d-nb.de>.

Jovis Verlag GmbH  
Kurfürstenstraße 15/16  
10785 Berlin

[www.jovis.de](http://www.jovis.de)

Jovis books are available worldwide in select bookstores.  
Please contact your nearest bookseller or visit [www.jovis.de](http://www.jovis.de)  
for information concerning your local  
distribution.

ISBN 978-3-86859-569-7

## On the reference system

Cross-references between square brackets and printed in brown colour direct the reader to other parts of this book and to the bibliography. For instance, **[→§5]** directs to chapter 5; **[→■9,10,11]** to pictures 9 to 11 within the same chapter as the reference (the illustrations' numbering starts anew for each chapter); while **[→B339:216]** directs to page 216 of the source no. 339, as listed in the references directory at pp. 231–236.

# Contents

## **Vegetarian architecture: a theoretical proposal** **6**

## **Case studies on building and nature** **36**

### **tradition**

- |          |  |    |
|----------|--|----|
| <b>1</b> | Captive vernacular: Hirose House at Nihon Minka-en | 36 |
| <b>2</b> | Wild vernacular: Cheia                             | 48 |
| <b>3</b> | Straw-based retrofit: Casa Steila Mar              | 66 |
| <b>4</b> | Earth-based retrofit: Sandberghof                  | 76 |

### **experimentation**

- |          |  |     |
|----------|--|-----|
| <b>5</b> | Radical vegetarianism: Villa Strohbusch at Sieben Linden | 90  |
| <b>6</b> | Massive structures: Createrra and Gartist                | 102 |
| <b>7</b> | Framed structure: Bamboo Ark                             | 122 |
| <b>8</b> | Passive performance: Biestøa                             | 136 |

### **connection**

- |           |  |     |
|-----------|--|-----|
| <b>9</b>  | Food economy system: Kamiyama Food Hub | 152 |
| <b>10</b> | Soil and earth: Wangelinert Garten     | 168 |
| <b>11</b> | Education and inspiration: WISE at CAT | 184 |
| <b>12</b> | Reconciliation: Maruyama-gumi          | 202 |

## **Quantitative comparisons and overall discussion** **220**

- |                  |     |
|------------------|-----|
| References       | 231 |
| Picture credits  | 237 |
| Acknowledgements | 240 |



# References

References are given according to ISO 690:1987 and are listed in alphabetical order by author. As in the body of the text, people are named according to local customs: the surname comes after the first name in most European languages; first in Japanese and in some other languages such as Hungarian.

- 1 Agri-Culture. *The Act of Life*, Kanazawa: Hokuriku Regional Agricultural Administration Office-Ministry of Agriculture, Forestry and Fisheries, 2013
- 2 Kristina Akermann et al., *Terra Europae. Earthen architecture in the European Union*, Pisa: ETS, 2011
- 3 Akikawa Yuka, "Philadelphia kara Okunoto e. Jimoto shokunin to yujin to jibuntachi de tsukuritsuzukeru. Noto Mii no ie (Wajima-shi, Ishikawa-ken)", *Confort*, August 2009, p. 103–109 [「フィラデルフィアから奥能登へ。地元職人と友人と自分たちでつくり続ける。能登三井の家(石川県輪島市) 設計萩野紀一郎」取材・文: 秋川ゆか、撮影: 北田英治、コンフォルト、2009年8月号]
- 4 Leon Battista Alberti, *Della architettura, libri dieci*, 1485, as quoted in Aldo Castellano, *La casa rurale in Italia*, Milan: Electa, 1986
- 5 Christopher Alexander, *A pattern language. Towns, buildings, construction*, New York: Oxford University Press, 1977
- 6 Christopher Alexander, *The timeless way of building*, New York: Oxford University Press, 1979
- 7 Christopher Alexander, *The nature of order. An essay on the art of building and the nature of the universe*, London: Taylor & Francis, 2002
- 8 Paul Allen, *Crazy Idealists? The CAT Story*, Machynlleth: The Centre for Alternative Technology, 1995
- 9 Miguel A. Altieri, *Agroecology. The scientific basis of alternative agriculture*, Boulder: Westview Press, 1987
- 10 Günther Anders, *Die Antiquiertheit des Menschen*, Munich: Verlag C. H. Beck, 1956
- 11 Andō Kunihiko, *Kayabuki no Minzokugaku: seikatsu gijutsu to shite no minka*, Tokyo: Haru Shobō, 1983 [安藤邦宏著『茅葺きの民俗学-生活技術としての民家』はる書房1983年]]
- 12 Massimo Angelini, *Minima ruralia*, Savona: Pentagora, 2013
- 13 Architecture and Humanity (ed.), *Design Like You Give a Damn. Architectural Responses to Humanitarian crises*, New York: Metropolis Books, 2006
- 14 "Ark of Bamboo" [sic], *Shinkenchiku*, 12, 2011, p. 107–116, 183 [「竹の会所-復興の方舟」新建築 2011年12月号 107–116頁及び183頁、2011年]
- 15 Atelier Werner Schmidt, *Aufbau Ausstellungsgebäude, Gartist GmbH* [www.youtube.com/watch?v=Yy-J4tXQ3\_0]
- 16 Nishat Awan; Tatjana Schneider; Jeremy Till, *Spatial Agency. Other Ways of Doing Architecture*, London: Routledge, 2011
- 17 Alexandru Baboș, *Tracing a sacred building tradition. Wooden churches, carpenters and founders in Maramureș until the turn of the 18th century*, Lund: Lund University, 2004
- 18 James Baldwin; Stewart Brand (eds.), *Soft-tech*, Harmondsworth: Penguin, 1978
- 19 "Bamboo Ark", *WA [World Architecture]*, 8, 2013, p. 108–115
- 20 Ana Bărcă, *Plastica arhitecturii rurale. Sistem de reprezentări formale și mentale*, Bucharest: Ad Libri, 2007
- 21 Rémi Baudouï; Philippe Poirié (eds.), *André Ravéreau. L'atelier du désert*, Marseille: Editions Parenthèses, 2003
- 22 Tom Bender et al., *Rainbook: Resources for Appropriate Technology*, New York: Schocken Books, 1977
- 23 Stefano Benvenuti; Vanessa Malandrini; Alberto Pardossi, "Germination ecology of wild living walls for sustainable vertical garden in urban environment", *Scientia Horticulturae*, 203, 2016, p. 185–191
- 24 Janine M. Benyus, *Biomimicry. Innovation Inspired by Nature*, New York: Morrow, 1997
- 25 Bjørn Berge, *The Ecology of Building Materials*, London: Architectural Press, 2009<sup>2</sup> [first Norwegian edition 1992]
- 26 Bjørn Berge, "The engine is not responding. A critique of the automatic energy-saving home", *Arkitektur*, 1, 2011, p. 62–67
- 27 Bjørn Berge, *Absolute passive energy design. Achieving passive house level by utilizing hygrothermal properties of wood* (Interim report to project HeTREnkelt), Gaia Lista/Asplan Viak/Treteknisk Institutt/Silvinova, December 2014
- 28 Fikret Berkes, *Sacred Ecology*, New York: Routledge, 2012
- 29 Franco Berrino, *Il cibo dell'uomo. La via della salute tra conoscenza scientifica e antiche saggezze*, Milan: Franco Angeli, 2016<sup>2</sup>
- 30 Wendell Berry, *The Gift of Good Land. Further Essays Cultural and Agricultural*, Berkeley: Counterpoint, 1981
- 31 Wendell Berry, *The Art of the Commonplace. The Agrarian Essays of Wendell Berry*, Berkeley: Counterpoint, 2002
- 32 *La Biennale di Venezia. 15ª Mostra internazionale di architettura*, Venice: Marsilio, 2016
- 33 Philippe Bihouix, *L'Age des Low-tech. Vers une civilisation techniquement soutenable*, Paris: Seuil, 2014
- 34 Harpa Birgisdóttir et al., "IEA EBC annex 57 'evaluation of embodied energy and CO<sub>2</sub>eq for building construction'. Case Studies demonstrating Embodied Energy and Embodied Greenhouse Gas Emissions in Building", *Energy and Buildings*, 154, 2017, p. 72–80
- 35 Anders Bjørn; Michael Zwicky Hauschild, "Introducing carrying capacity-based normalisation in LCA: framework and development of references at midpoint level", *International Journal of Life Cycle Assessment*, 20, 2015
- 36 William Blacker, *Along the Enchanted Way. A Romanian Story*, London: John Murray, 2009
- 37 Peter Blundell Jones, "Woodland retreat", *The Architects' Journal*, 27 September 1989, p. 26–31
- 38 Peter Blundell Jones, "Tra modernità e tradizione", *Spazio e Società*, 55, July–September 1991, p. 12–27
- 39 Peter Blundell Jones, "Il profumo del legno", *Spazio e Società*, 89, January–March 2000, p. 20–31
- 40 Peter Blundell Jones; John Sergeant, "New meanings from old buildings", *Architectural Research Quarterly*, 5, 4, 2001, p. 312–331
- 41 Peter Blundell Jones, *Modern architecture through case studies*, Oxford: Architectural Press, 2002
- 42 Peter Blundell Jones, "Wales Institute for Sustainable Education by David Lea and Pat Borer", *The Architectural Review*, 21 December 2010
- 43 Andrea Bocco, "Oltre i confini", *Costruire*, 313, June 2009, p. 88–91
- 44 Andrea Bocco Guarneri, *Werner Schmidt, Architekt. Ökologie, Handwerk, Erfindung*, Vienna: Ambrax Verlag, 2013
- 45 Andrea Bocco; Gianfranco Cavaglià, *Flessibile come di pietra. Tattiche di sopravvivenza e pratiche di costruzione nei villaggi montani*, Torino: CELID, 2008
- 46 Andrea Bocco; Martina Gerace; Susanna Pollini, *The environmental impact of Sieben Linden Ecovillage*, Abingdon: Routledge, 2019
- 47 Varis Bokalders; Maria Block, *The Whole Building Handbook. How to Design Healthy, Efficient and Sustainable Buildings*, London: Earthscan, 2010 [original Swedish edition 2004]
- 48 Werner Boote, *The Green Lie*, e&a film, 2018
- 49 Pat Borer, *The CAT 'WISE' Project. Wales Institute for Sustainable Education*
- 50 Pat Borer, *The evolution of CAT*
- 51 Pat Borer, personal communication
- 52 Godfrey Boyle; Peter Harper (eds.), *Radical Technology. Food, Shelter, Tools, Materials, Energy, Communication, Autonomy, Community*, London: Pantheon Books, 1976
- 53 Stewart Brand, *How Buildings Learn. What happens after they're built*, New York: Viking, 1994
- 54 Francesca Bretzel et al., "Wildflowers: From conserving biodiversity to urban greening—A review", *Urban Forestry & Urban Greening*, 20, 2016, p. 428–436
- 55 Azby Brown, *The Genius of Japanese Carpentry*, Tokyo: Kodansha International, 1989
- 56 Azby Brown, *Just Enough. Lessons in living green from traditional Japan*, Tokyo: Kodansha International, 2009
- 57 Corneliu Bucur, *Muzeul civilizației populare tradiționale "ASTRA"*, Sibiu: Editura "ASTRA MUSEUM", 2007
- 58 Corneliu Bucur; Valer Deleanu; Cornelia Gongolea, *Civilizație milenară românească în Muzeul ASTRA*, Sibiu: Editura "ASTRA MUSEUM", 1995
- 59 Corneliu Bucur; Cornelia Gongolea, *Ghid muzeul tehnicii populare*, Sibiu: Editura "ASTRA MUSEUM", 1986
- 60 Sarah Bunker et al. (eds.), *Low Impact Living Communities in Britain*, London: Diggers and Dreamers Publications, 2014
- 61 Enrico Camanni, *La nuova vita delle Alpi*, Torino: Bollati Boringhieri, 2002
- 62 Colin Campbell, *Whole. Rethinking the Science of Nutrition*, Dallas: BenBella Books, 2013

- 63 Fritjof Capra, *The Turning Point. Science, Society, and the Rising Culture*, New York: Simon & Schuster, 1982
- 64 Fritjof Capra, *The Web of Life*, New York: Doubleday, 1996
- 65 Chiara Catalano et al., "I tetti verdi di tipo estensivo: Biodiversità ad alta quota", *Reticula*, 12, 2016, p. 1–10
- 66 Centre for Alternative Technology, *An Alternative Energy Strategy for the UK*, Machynlleth: Centre for Alternative Technology Publications, 1977
- 67 Centre for Alternative Technology, *Zero Carbon Britain. Making It Happen*, Machynlleth: Centre for Alternative Technology Publications, 2017
- 68 Centre for Alternative Technology, *Raising Ambition. Zero Carbon Scenarios from Across the Globe*, Machynlleth: Centre for Alternative Technology Publications, 2018
- 69 Giorgio Ceragioli; Nuccia Comoglio Maritano, *Note introduttive alla tecnologia dell'architettura*, Torino: CLUT, 1989
- 70 Herman Daly, *Steady-State Economics*, San Francisco: Freeman Press, 1990
- 71 Christopher Day, *Places of the Soul*, Wellingborough: The Aquarian Press, 1990
- 72 Christopher Day, *Spirit and Place*, Oxford: Architectural Press, 2002
- 73 Kris De Decker, "Restoring the Old Way of Warming: Heating People, not Places", *Low-Tech Magazine*, 11 February 2015 [https://www.lowtechmagazine.com/2015/02/heating-people-not-spaces.html]
- 74 Kris De Decker, "Bedazzled by Energy Efficiency", *Low-Tech Magazine*, 9 January 2018 [https://www.lowtechmagazine.com/2018/01/bedazzled-by-energy-efficiency.html]
- 75 Kris De Decker, "We Can't Do It Ourselves", *Low-Tech Magazine*, 5 July 2018 [http://www.lowtechmagazine.com/2018/07/we-cant-do-it-ourselves.html]
- 76 Laurence Despins, "Habiter une maison citoyenne", *Maison & Travaux*, 175 (supplément), November–December 2003, p. 56–61
- 77 Rudolf Ilja Doernach, *Archi Bio. Biosophie + Architektuur*, Karlsruhe: Verlag C. F. Müller, 1986
- 78 Leila Dregger, *Tamera. Ein Modell für die Zukunft*, Bad Belzig: Verlag Meiga, 2010
- 79 Anantha Kumar Duraipappah et al. (eds.), *Satoyama—satoumi ecosystems and human well-being. Socio-ecological production landscapes of Japan*, Tokyo: United Nations University Press, 2012
- 80 Nurgül Ece, *Baubiologie. Kriterien und architektonische Gestaltung*, Basel: Birkhäuser, 2018
- 81 *Egao no atsumaru basho—chiiki o mimamoru "Sai no kami"* [笑顔の集まる場所 一地域を見護る "オの神"]
- 82 David Eisenberg, *Beyond Green Building & Codes: Seeing a Bigger Picture*, CAZREN & YCCA, Hassayampa Inn, Prescott, Az., 5 December 2009
- 83 Lynne Elizabeth; Cassandra Adams (eds.), *Alternative Construction. Contemporary Natural Building Methods*, Hoboken N.J.: John Wiley and Sons, 2005
- 84 Hildegard Elsner, *Wikinger Museum Haithabu. Schaufenster einer frühen Stadt*, Neumünster: Wachholtz, 1989
- 85 Heino Engel, *Measure and Construction of the Japanese House*, Boston: Tuttle Publishing, 1985
- 86 FAL e.V., *Wer nicht ins Horn stößt... 20 Jahre verwegene Ideen*, Ganzlin: FAL e.V., 2010
- 87 Mamoun Fansa, *Düppel, ein lebendiges Dorf aus dem Mittelalter*, Mainz: Nünnerich-Asmus-Verlag, 2014
- 88 Hassan Fathy, *Architecture for the Poor. An Experiment in Rural Egypt*, Chicago: University of Chicago Press, 1976
- 89 Luc Floissac, *La construction en paille. Principes fondamentaux, Techniques de mises en œuvre, Exemples de réalisations*, Mens: Terre Vivante, 2012
- 90 Kenneth Frampton (ed.), *Technology Place and Architecture. The Jerusalem Seminar in Architecture*, New York: Rizzoli, 1998
- 91 Siri Frech; Babette Seurell; Andreas Willisch (eds.), *Neu Land gewinnen. Die Zukunft in Ostdeutschland gestalten*, Berlin: Ch-Links Verlag, 2017, p. 126–135
- 92 Marianne Fredriksson; Bengt Warne, *På akacians villkor. Att bygga och bo i samklang med naturen*, Gothenburg: Warne Förlag AB, 1993
- 93 Andrew Freear; Elena Barthel, *Rural Studio at twenty. Designing and building in Hale County, Alabama*, New York: Princeton Architectural Press, 2014
- 94 Pierre Frey, *Learning from Vernacular. Pour une nouvelle architecture vernaculaire*, Arles: Actes Sud, 2010
- 95 Pierre Frey, *Simón Vélez, architecte. La maîtrise du bambou*, Arles: Actes Sud, 2013
- 96 Yona Friedman, *L'architecture de survie. Oú s'invente aujourd'hui le monde de demain*, Paris: Casterman, 1978
- 97 Irmela Fromme; Uta Herz, *Lehm- und Kalkputze. Mörtel herstellen, Wände verputzen, Oberflächen gestalten*, Staufen bei Freiburg: Ökobuch, 2012
- 98 Fukuoka Masanobu, *The One-Straw Revolution. An Introduction to Natural Farming*, Emmaus, Pa.: Rodale Press, 1978 [original Japanese edition 1975]
- 99 Furue Ryōnin, *Nihon Minka-en Monogatari*, Kawasaki: Tamagawa Shinbun, 1996 [古江亮仁著『日本民家園物語』多摩川新聞社 1996年]
- 100 Mahatma K. Gandhi, *The Gospel of Swadeshi*, Bombay: Bharatiya Vidya Bhavan, 1967
- 101 Siegfried Gaß; Heide Drüseidau; Jürgen Hennicke (eds.), *IL31 Bambus*, Stuttgart: Institut für leichte Flächentragwerke, 1985
- 102 Giancarlo Gariglio; Fabio Giavedoni; Fabio Pracchia (eds.), *Guida al vino quotidiano*, Bra: Slow Food Editore, 2013
- 103 Dominique Gauzin-Müller et al., *Habiter écologique: quelles architectures pour une ville durable?*, Arles: Actes Sud, 2009
- 104 Manfred Gerner, *Fachwerk. Entwicklung, Instandsetzung, Neubau*, Munich: Deutsche Verlags-Anstalt, 2007
- 105 Khosrow Ghavami et al. (eds.), *Non-Conventional Materials and Technologies for Sustainable Engineering*, Dürnten: Trans Tech Publications, 2014
- 106 Jean Giono, *Lettre aux paysans sur la pauvreté et la paix*, Paris: B. Grasset, 1938
- 107 Gino Girolimoni, *Ritorna la vita sulle colline. L'esperienza della cooperativa Alce Nero*, Pesaro: Metauro edizioni, 2004<sup>2</sup>
- 108 Henry H. Glassie, "Architects, Vernacular Traditions, and Society", *Traditional Dwellings and Settlements Review*, 1, 2, 1990, p. 9–21
- 109 Edward Goldsmith, *The way. An ecological worldview*, Maidenhead: Veltune Publishing, 2014<sup>3</sup>
- 110 Green House Living, *Nature Housing*, 11 April 2014 [https://www.youtube.com/watch?v=L4m1\_BbJQc]
- 111 Gerhard Habartha (ed.), *Das Hundertwasser-Haus*, Vienna: Österreichischer Bundesverlag, 1985
- 112 Hagino Atelier, *Aenokoto*, Wajima: Maruyama-gumi, February 2012
- 113 Hagino Yuki, *Maruyama Honzō. Tochi ni nezashita kurashi no koyomi*, 2014 [萩野由紀作『まるやま本草—土地に根ざしたくらしの暦』]
- 114 Hagino Yuki, "Doma to yama ga tsunagaru satoyama no kurashi", *Confort*, August 2016, p. 98–99 [「土間と山がつながる、里山の暮らし」文: 萩のゆき、コンフォルト、2016年8月号]
- 115 Hagino Yuki, "Providing Education Self-Sufficiently in Satoyama", in: Yiu Evonne; Nagata Akira (eds.), *The Road to Globally Important Agricultural Heritage Systems*, Kanazawa: UNU-IAS OUIK, 2018, p. 50–53
- 116 Hagino Yuki; Itō Koji, "Through activities of 'Team Maruyama', an organization providing learning experiences rooted in the land", *Journal of Rural Planning*, 6, 2014, p. 49–51 [萩野由紀、伊藤浩二「土地に根ざした学びの場『まるやま組』の活動をとおして」農村計画学会誌2014年6月号、49–51頁]
- 117 Hagino Yuki; Itō Koji; Hagino Kiichiro, "'Forest of Yoboshi-go': Place-Based Learning in the Satoyama in Noto", *1st Asian Conference on Biocultural Diversity*, Nanao, 27–29 October 2016, p. 55–57 [アジア生物文化多様性国際会議第一回、石川県七尾市、2016年10月27日～29日 萩野由紀、伊藤浩二「よぼし子の森」: 能登の里山地域における土地に根ざした学びの場 55–57頁]
- 118 Matthew Hall; Rick Lindsay; Meror Krayenhoff (eds.), *Modern Earth Buildings. Materials, Engineering, Constructions and Applications*, Oxford: Woodhead Publishing, 2012
- 119 Francis Hallé, *Éloge de la plante. Pour une nouvelle biologie*, Paris: Éditions du Seuil, 1999
- 120 Francis Hallé, *Plaidoyer pour l'Arbre*, Arles: Actes Sud, 2005
- 121 Geoff Hammond; Craig Jones, *Inventory of carbon & energy*, University of Bath, 2011 [https://www.carbonsolutions.com/Resources/ICE%20V2.0%20-%20Jan%202011.xls]
- 122 Hara Miori, personal communication
- 123 Peter Harper, *The Centre for Alternative Technology: an 'extreme' ngo? Ngos at the crossroads*, The Oxford Research Centre for Humanities, University of Oxford, July 2015
- 124 Peter Harper, personal communication

- 125 Kent A. Harries; Bhavna Sharma, *Nonconventional and Vernacular Construction Materials*, Sawston: Woodhead Publishing, 2016
- 126 Cindy Harris; Pat Borer, *The Whole House Book. Ecological Building Design and Materials*, Machynlleth: Centre for Alternative Technology, 2005
- 127 Richard Harris et al., "The Wales Institute for Sustainable Education (WISE): Non-conventional materials in mainstream construction", *Proceedings of the 11th International Conference on Non-conventional Materials and Technologies*, Bath, 6–9 September 2009
- 128 Emilia Hazelip, *Agricoltura sinergica*, Florence, Terra Nuova, 2014
- 129 Barrett Hazeltine; Lars Wanhammar; Christopher Bull, *Appropriate Technology. Tools, Choices, and Implications*, New York: Academic Press, 1999
- 130 Dominique Hes; Chrisna du Plessis, *Designing for hope. Pathways to Regenerative Sustainability*, Abingdon: Routledge, 2014
- 131 Ot Hoffmann, *Handbuch für begrünte und genutzte Dächer, Leinfeldern-Echterdingen*: Verlagsanstalt Alexander Koch, 1987
- 132 David Holmgren, *Permaculture. Principles & Pathways beyond Sustainability*, Hepburn. Vic.: Holmgren Design Services, 2002
- 133 Sepp Holzer, *Sepp Holzlers Permakultur*, Graz: Leopold Stocker Verlag, 2004
- 134 Sepp Holzer; Leila Dregger, *Wüste oder Paradies*, Graz: Leopold Stocker Verlag, 2011
- 135 Sepp Holzer; Konrad Liebchen, *Sepp Holzer. Der Agrar-Rebell*, Graz: Leopold Stocker Verlag, 2002
- 136 Hugo Houben; Hubert Guillaud, *Traité de construction en terre*, Marseille: Editions Parenthèses, 2015<sup>4</sup> [first edition 1989]
- 137 Theodor Hugues; Ludwig Steiger; Johann Weber, *Timber Construction. Details Products Case Studies*, Basel: Birkhäuser, 2004
- 138 Ivan Illich, *Tools for Conviviality*, Glasgow: Fontana/Collins, 1973
- 139 Ivan Illich, *Energy and Equity*, London: Calder & Boyars, 1974
- 140 Ivan Illich, *Toward a History of Needs*, New York: Pantheon Books, 1978
- 141 Grigore Ionescu, *Arhitectura populara Românească*, Bucharest: Tehnică, 1957
- 142 Ishikawa Hajime (ed.), *Visual Guide to Living Landscape in Kamiyama*, Fujisawa: Keio University, 2017 [『神山暮らしの風景図鑑』慶応義塾大学SFC石川初研究室、2017]
- 143 Hans Jonas, *Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation*, Frankfurt am Main: Insel Verlag, 1979
- 144 Barbara Jones, *Building with Straw Bales. A Practical Guide for the UK and Ireland*, Totnes: Green Books, 2009<sup>2</sup>
- 145 Lisa Junghans; Uta Herz, *Lehmarchitektur erleben. Bezahlbare Bauen für die Seele*, Ganzlin: FAL e.V., 2017
- 146 Dirk Junklewitz, "Ein Pionier. Interview mit Ot Hoffmann", *Biotope City*, 11 September 2017 [http://www.biotope-city.net/article/interview-mit-ot-hoffmann-ungek-rzte-fassung]
- 147 Marcel Kalberer; Micky Remann, *Das Weidenbaubuch. Die Kunst, lebende Bauwerke zu gestalten*, Aarau: AT Verlag, 1999
- 148 Lloyd Kahn (ed.), *Shelter*, Bolinas: Shelter Publications, 1973
- 149 Christian Kaiser, *Ökologische Altbausanierung. Gesundes und nachhaltiges Bauen und Sanieren*, Berlin: VDE, 2017<sup>2</sup>
- 150 Kanda Seiji, *Kamiyama Shinkaron. Jinkō genshō o kanōsei ni kaeru machi-zukuri*, Kyoto: Gakugei shuppan-sha, 2018 [神田誠司著『神山進化論 – 人口減少を可能性に変えるまちづくり』学芸出版社、2018年]
- 151 Kawaguchi Yoshikazu; Toriyama Toshiko, *Kodomo no mirai to shizen. Shizenō-kosodate-kazoku o kataru* [子どもの未来と自然農 ~ 川口由一 自然農・子育て・家族を語る~, 川口由一鳥山敏子]
- 152 Alex Kerr, *Lost Japan*, Hawthorn, Vic.: Lonely Planet Publications, 1996
- 153 Kikuchi Akira, "Cosmetic agriculturalism: Ishikawa-ken Wajima-shi 'Shiroyone no senmaida' no baai", in: Iwamoto Michiya (ed.), *Furusato shigenka to minzokugaku*, Tokyo: Yoshikawa kōbunkan, 2007, p. 88–106 [岩本通弥編『ふるさと資源化と民俗学』吉川弘文館、2007年、所収、菊地暁「コスメティック・アグリカルチャリズムー石川県輪島市「白米の千枚田」の場合」]
- 154 Kikuchi Akira, "La glocalisation de la protection du patrimoine folklorique: l'exemple des coutumes liées à la riziculture dans le nord de la péninsule de Noto", *Ebisu*, 52, 2015, p. 233–289 [http://ebisu.revues.org/1694]
- 155 Andrew Kimbrell (ed.), *Fatal Harvest. The Tragedy of Industrial Agriculture*, Washington, D.C.: Island Press, 2002
- 156 Bruce King, "Structural Properties of Alternative Building Materials", in Lynne Elizabeth; Cassandra Adams (eds.), *Alternative Construction. Contemporary Natural Building Methods*, Hoboken: John Wiley and Sons, 2005, p. 71–83
- 157 Bruce King, *Design of Straw Bale Buildings. The State of the Art*, San Rafael, CA: Green Building Press, 2006
- 158 Franklin Hiram King, *Farmers of Forty Centuries; or, permanent agriculture in China, Korea and Japan*, Madison, Wis.: [p.n.i.], 1911
- 159 Andrea Klein; Michael Grabner, "Analysis of Construction Timber in Rural Austria: Wooden Log Walls", *International Journal of Architectural Heritage*, 9, 5, 2015, p. 553–563
- 160 Koji S. et al., "Human Capacity Building in the GIAHS 'Noto's Satoyama and Satoumi' in Japan", *1st Asian Conference on Bio-cultural Diversity*, Nanao, 27–29 October 2016, p. 53–54
- 161 Holger König, *Wege zum gesunden Bauen*, Staufen bei Freiburg: Ökobuch, 1997
- 162 Holger König et al., *A life cycle approach to buildings. Principles Calculations Design tools*, Munich: Institut für internationale Architektur-Dokumentation, 2010
- 163 Leonard Koren, *Wabi-Sabi: for Artists, Designers, Poets and Philosophers*, Berkeley, CA: Stone Bridge Press, 1994
- 164 Silje Kathrin Korsnes, *Fukt- og varmeutveksling i innvendige overflater*, Master's thesis, Trondheim: NTNU [Norges teknisk-naturvitenskapelige universitet], 2012 [https://pdfs.semanticscholar.org/a432/eca7e1035811728f632fc11979e2d1f9d2a8.pdf]
- 165 Lucien Kroll, *Ecologie urbaine*, Milan: Franco Angeli, 2001
- 166 Lucien Kroll, *Tout est paysage*, Paris: Sens & Tonka, 20122
- 167 Lucien Kroll, *Techniques contre humanisme*, Paris: Sens & Tonka, 2016
- 168 Peter Krusche et al., *Ökologisches Bauen*, Wiesbaden: Bauverlag, 1982
- 169 Kudō Yoshiaki (ed.), *Nihon no Minka 3. Nōka III/ Kinki*, Tokyo: Gakken, 1981 [工藤圭章編『日本の民家第3巻農家3近畿』学習研究社 1981]
- 170 Kunkovác László, *Űsépítmények. Népi építészetiünk archaikus rétege*, [Budapest]: Kós Károly Alapítvány-Űrökség Könyvműhely, 2000
- 171 Thomas Lange; Geoffrey Pugh, *The Economics of German Unification. An introduction*, Cheltenham: Edward Elgar Pub., 1998
- 172 Christian Lassure; Dominique Repérant, *Cabanés en pierre sèche de France*, Saint-Remy-de-Provence: Edisud, 2004
- 173 Jacqueline R. LeBlanc et al., "Building resilience in nonprofit food hubs", *Journal of Agriculture, Food Systems, and Community Development*, 4, 3, 2014, p. 121–135
- 174 Iola Lenzi, "An interview with architect/artist Eko Prawoto" [https://www.esplanade.com/learn/in-depth/visual-arts/eko-prawoto]
- 175 Aldo Leopold, *A Sand County Almanac, and Sketches here and there*, New York: Oxford University Press, 1949
- 176 Andres Lepik (ed.), *Small scale big change. New architecture of social engagement*, New York: The Museum of Modern Art, 2010
- 177 Lisa Licita Ponti, *Gio Ponti. L'opera*, Milan: Leonardo Editore, 1990
- 178 Howard Liddell, *Eco-minimalism. The antidote to eco-bling*, London: Riba Publishing, 2008
- 179 Karen T. Liftin, *Ecovillages. Lessons for sustainable community*, Cambridge: Polity Press, 2014
- 180 R. Link, *Symbio Housing. Bengt Warne's designs for living in harmony with nature*, 1984
- 181 Adolf Loos, *Ins Leere gesprochen 1897–1900*, Paris: Georges Crès, 1921
- 182 Reinhard Loske (ed.), *Zukunftsfähiges Deutschland. Ein Beitrag zu einer global nachhaltigen Entwicklung*, Basel: Birkhäuser, 1996
- 183 James Lovelock, *Gaia. A New Look at Life on Earth*, Oxford: Oxford University Press, 1979 [2000<sup>3</sup>]
- 184 Alberto Magnaghi, *Il progetto locale. Verso la coscienza di luogo*, Torino: Bollati Boringhieri, 2010
- 185 Friedemann Mahlke, *Schwerelos erdverbunden—vom Leichtbau zum Lehmbau. Das Werk des Architekten Gernot Minke*, Staufen bei Freiburg: Ökobuch, 2007
- 186 Stefano Mancuso, *Plant Revolution. Le piante hanno già inventato il nostro futuro*, Florence: Giunti, 2017
- 187 Stefano Mancuso; Alessandra Viola, *Verde brillante. Sensibilità e intelligenza del mondo vegetale*, Florence: Giunti, 2013

- 188 Wolf Mangelsdorf, "Building with Plant Materials", in: Sandra Piesik (ed.), *Habitat. Vernacular Architecture for a Changing Planet*, London: Thames & Hudson, 2017, p. 526–531
- 189 Ezio Manzini, *Politiche del quotidiano*, Rome: Edizioni di Comunità, 2018
- 190 Ezio Manzini; François Jégou, *Quotidiano sostenibile. Scenari di vita urbana*, Milan: Edizioni Ambiente, 2003
- 191 Alejandro Martínez Rocamora; Jaime Solís-Guzmán; Madelyn Marrero, "LCA databases focused on construction materials: A review", *Renewable and Sustainable Energy Reviews*, 58, 2016, p. 565–573
- 192 Kelvin Mason, "Icon of green building. Interview with Pat Borel", *Green building*, 21, 1, 2011
- 193 Claus Mattheck, *Design in der Natur. Der Baum als Lehrmeister*, Freiburg im Breisgau: Rombach, 1992
- 194 Neil May; Caroline Rye, *Responsible Retrofit of Traditional Buildings. A report on existing research and guidance with recommendations*, London: STBA, 2012
- 195 Edward Mazria, *The passive solar energy book. A complete guide to passive solar home, greenhouse, and building design*, Emmaus, Pa.: Rodale Press, 1979
- 196 John McKean, *Learning from Segal. Walter Segal's life, work and influence*, Basel: Birkhäuser, 1989.
- 197 Jean-Pierre Ménard, "Maison Sidler à Félines-sur-Rimandoule (Drôme)", *Systèmes solaires*, 151, September–October 2002, p. 34–40
- 198 Elias Messinas; Dan Price (eds.), *The Book #1: Voices for Sustainability*, Ecoweek, 2016
- 199 Reinhold Messner, *Che tempo che fa*, broadcast interview, Rai 3, 27 December 2009
- 200 Gernot Minke, *Experimentelles Bauen: ein Werkbericht zum 20-jährigen Bestehen des Forschungslabors für Experimentelles Bauen*, Universität Gesamthochschule Kassel, Freiburg: Ökobuch, 1995
- 201 Gernot Minke, *Handbuch Lehmbau. Baustoffkunde, Techniken, Lehmarcitektur*, Staufen bei Freiburg: Ökobuch, 20097
- 202 Gernot Minke, *Dächer begrünen—einfach und wirkungsvoll. Planung, Ausführungshinweise, Praxistipps*, Staufen bei Freiburg: Ökobuch, 2010<sup>4</sup>
- 203 Gernot Minke, *Cúpulas y Bóvedas para vivir y trabajar, para hacer música y meditar. Obras del Arquitecto Gernot Minke desde los años 1975 hasta 2010*, Cali: Merlin ID, 2011
- 204 Gernot Minke; Benjamin Krick, *Handbuch Strohballenbau. Grundlagen, Konstruktion, Beispiele*, Staufen bei Freiburg: Ökobuch, 2009
- 205 Bill Mollison, *Permaculture. A Designer's Manual*, Tyalgum NSW: Tagari, 1988
- 206 Bill Mollison, *Introduction to Permaculture*, Tyalgum NSW: Tagari, 1991
- 207 Oliver Moore et al., "Reflexive resilience and community supported agriculture: The case that emerged from a place", *Journal of Agriculture, Food Systems, and Community Development*, 4, 3, 2014, p. 137–150
- 208 Rowan Moore, "The Wales Institute for Sustainable Education, Machynlleth", *The Guardian*, 18 June 2010
- 209 Maximilian Moser; Erwin Thoma, *Die sanfte Medizin der Bäume. Gesund leben mit altem und neuem Wissen*, Salzburg: Servus, 2014
- 210 Lewis Mumford, "Authoritarian and Democratic Technics", *Technics and Civilization*, 5, 1964, p. 1–8
- 211 Lewis Mumford, *The Myth of the Machine. II. The Pentagon of Power*, New York: Harcourt Brace Jovanovich, 1970
- 212 Arne Næss, *Ecology, Community, and Lifestyle*, Cambridge: Cambridge University Press, 1989
- 213 Nagai Takuo; Toki Hirokazu, "Aged Changes of Vibration Characteristics and Mechanical Properties of Actual Bamboo Building", *Elegance in Structures*, proceedings of the IABSE conference, Nara, 2015
- 214 Nagai Takuo; Toki Hirokazu, "Evaluation of Design Strength of Bamboo and Development of Joint Making Method with Manual Work: Design and construction of emergency temporary building made of bamboo material (Part 2)", *AJ J. Technol. Des.*, 52, 22 October 2016, pp. 925–928 [永井拓生、陶器浩一「竹の設計強度の算定および人力施工が可能な接合法の開発—竹を構造材料として用いた応急仮設建築物の設計・施工の実例その2—」日本建築学会技術報告集2016年22巻52号 p. 925–928]
- 215 Nakamura Kōji; Kada Ryōhei (eds.), *Satoyama fukken. Noto kara no hasshin*, Tokyo: Sōrinsha, 2010 [中村浩二、嘉田良平著『里山復権—能登からの発信』創森社、2010年]
- 216 Nakano Koji, "Man nakani 'kama' gaaru—Tokushima 'Kamaya' 'Kama & store'", *Ryōritsūshin*, June 2018 [中野晃治「真ん中に「かま」がある—徳島「かま屋」「かま&ストア」』、『料理通信』2018年6月号]
- 217 Nakao Nanae; Futani Tomoo, *Minka wa nan no ki de dekiteiruka*, Kawasaki: Nihon minka-en, 2011 [中尾七重、布谷知夫「民家は何の木で出来ているか」日本民家園叢書 No. 10]
- 218 Namihei Odaira, "Tōki Hirokazu, le partage avant tout", *Zoom Japon*, 19 April 2012, p. 7
- 219 Dilip Nandwani (ed.), *Urban Horticulture. Sustainability for the Future*, Cham: Springer, 2018
- 220 Henrik Kofoed Nielsen, "Eco House Biestøa. Indoor climate performance", *7. Passivhus Norden. Sustainable Cities and Buildings Conference Proceedings*, Copenhagen, 20–21 August 2015
- 221 *Nihon Minka-en shūzō-hin mokuroku 6: Kyū Hirose-ke jūtaku*, Kawasaki: Nihon Minka-en, 2006 [『日本民家園収蔵品目録6 旧広瀬家住宅』日本民家園2006年]
- 222 *NOCMAT 2015 [Winnipeg] conference proceedings* [umanitoba.ca/faculties/engineering/departments/ce2p2e/alternative\_village/nocmat2015/index.html]
- 223 Freja Nygaard Rasmussen et al., "Analysing methodological choices in calculations of embodied energy and GHG emissions from buildings", *Energy and Buildings*, 158, 2018, p. 1487–1498
- 224 Kathrine Nykjær-Brejtnod et al., "The absolute environmental performance of buildings", *Buildings and environment*, 119, 2017, p. 87–98
- 225 Eugene P. Odum, *Ecology. The link between the natural and the social sciences*, New York: Holt, Rinehart and Winston, 1975<sup>2</sup>
- 226 Ōkawa Naomi, *Nihon no Minka*, Tokyo: Shakai-Shisōsha, 1962 [大河直躬著『日本の民家その美しさと構造』教養文庫、社会思想社、1962年]
- 227 Jean-Pierre Oliva; Antoine Bosse-Platière; Claude Aubert, *Maisons écologiques d'aujourd'hui*, Mens: Terre Vivante, 2002
- 228 Jean-Pierre Oliva; Samuel Couange, *L'isolation thermique écologique*, Mens: Terre Vivante, 2010
- 229 Paul Oliver (ed.), *Encyclopaedia of vernacular architecture of the world*, Cambridge: Cambridge University Press, 1997
- 230 Paul Oliver, *Dwellings. The Vernacular House World Wide*, London: Phaidon, 2003
- 231 Paul Oliver, *Built to Meet Needs. Cultural Issues in Vernacular Architecture*, Oxford: Architectural Press, 2006
- 232 Ōno Satoshi, *Minka Mura no Tabi*, Tokoname: INAX, 1993 [大野敏著『民家村の旅』INAX、1993年]
- 233 Ōno Satoshi; Osaka Hiroshi; Yasuda Tetsuya (eds.), *Nihon Minkaen. Japan Open-Air Folk House Museum*, Kawasaki: Nihon Minkaen, 2014<sup>2</sup>
- 234 *Osterie d'Italia. Sussidiario del mangiare all'italiana*, Bra: Arcigola Slowfood, 1990 [latest ed. 2019]
- 235 Publius Ovidius Naso, *Metamorphoseon libri XV* [modern English translation: Oxford: Oxford University Press, 2008]
- 236 Maurizio Pallante, *Le tecnologie di armonia*, Torino: Bollati Boringhieri, 1994
- 237 Victor Papanek, *The Green Imperative. Ecology and Ethics in Design and Architecture*, London: Thames & Hudson, 1995
- 238 Raj Patel, *Stuffed and Starved. Markets, power, and the hidden battle for the world food system*, London: Portobello, 2007
- 239 David Pearson, *Earth to spirit*, San Francisco: Chronicle Books, 1995
- 240 Olof Persson; Patrik Wennerstål, *Energimodellering av naturhus. En studie av Sundby naturhus*, Helsingborg: LTH Ingenjörshögskolan Lunds universitet, 2015
- 241 Carlo Petrini, *Terra Madre. Come non farci mangiare dal cibo*, Florence: Giunti/Bra: Slow Food Editore, 2009
- 242 Carlo Petrini, *Buono, pulito e giusto. Principi di una nuova gastronomia*, Torino: Einaudi, 2011
- 243 Carlo Petrini; Gigi Padovani, *Slow Food revolution. Da Arcigola a Terra Madre una nuova cultura del cibo e della vita*, Milan: Rizzoli, 2005
- 244 Achim Pilz, "Soziale Ästhetik. Interview mit Anna Heringer", *Wohnung + Gesundheit*, 157, winter 2015, p. 5–8
- 245 Maitreyi Dorothee Piontek, *Das Tao der Frau. Energiearbeit, Selbstheilung, Sexualität, Kreuzlingen*: Ariston Verlag, 1995
- 246 Maitreyi Dorothee Piontek, *Weibliches Manifest. Entdecke deine authentische und lustvolle Spiritualität*, Munich: Ansata, 2009
- 247 Jan Douwe van der Ploeg, *The New Peasantries. Struggles for Autonomy and Sustainability in an Era of Empire and Globalization*, Earthscan: London, 2008
- 248 Viktor Herbert Pöttler, *Alte Volksarchitektur*, Graz: Verlag Styria, 1984
- 249 Viktor Herbert Pöttler, *Gebaute Urväterweisheit. Gründung, Planung und Aufbau*

- des Österreichischen Freilichtmuseums zu Stübing bei Graz, Graz: Akademische Druck- u. Verlagsanstalt, 2005
- 250 Michela Potito; Roberta Borghesi, *Genuino clandestino. Viaggio tra le agri-culture resistenti ai tempi delle grandi opere*, Florence: AAM Terra Nuova, 2015
- 251 Giannozzo Pucci, *La rivoluzione integrale. Idee e proposte ispirate all'ecologia integrale dell'enciclica Laudato si'*, Florence: Libreria Editrice Fiorentina, 2017
- 252 Pierre Rabhi; Nicolas Hulot, *Graines de possibles. Regards croisés sur l'écologie*, Paris: Calmann-Lévy, 2005
- 253 Guillermo Ráfales Sancho, *Werner Schmidt, innovation and ecology*, Master's thesis, Zaragoza: Escuela de Ingeniería y Arquitectura Eina, 2017
- 254 Ellen Therese Rasmussen et al., *Evaluation of indoor climate in a newly built Økohus with focus on passive measures and natural ventilation*, Bachelor thesis, Grimstad: Universitetet i Agder, 2015
- 255 Redactia Ziarului Unirea, "Vacanță ca pe vremea strămoșilor, în două case dintr-un sat izolat din județul Alba. Turisții pot afla cum trăiau țărani în urmă cu 100 de ani", *Unirea*, 19 July 2017 [ziarulunirea.ro/foto-vacanta-ca-pe-vremea-stramosilor-in-doua-case-dintr-un-sat-izolat-din-judetul-alba-turistii-pot-afila-cum-traiau-taranii-in-urma-cu-100-de-ani-430851/]
- 256 Sten Rentzhog, *Open air museums. The history and future of a visionary idea*, Östersund: Jamtli/Stockholm: Carlsson, 2007
- 257 Emily Reynolds, *Japan's Clay Walls. A Glimpse into their Plaster Craft*, [p.n.i.]: Create Space Independent Publishing Platform, 2009
- 258 Michael Reynolds, *Earthship. How to Build Your Own*, Taos, N.M.: Solar Survival Press, 1990
- 259 Vicky Richardson, *New Vernacular Architecture*, New York: Watson-Guption Publications, 2001
- 260 Michele Riefoli, *Mangiar sano e naturale*, Cesena: Macro Edizioni, 2011
- 261 Elena Rigano; Lucia Corti, *CasaClima R. Edifici storici ad alta efficienza energetica*, Padua: Overview, 2013
- 262 Gerhard A. Ritter, *The price of German unity. Reunification and the crisis of the welfare state*, Oxford: Oxford University Press, 2011
- 263 Matt Ross, *Captain Fantastic*, Electric City Entertainment, 2016
- 264 Theodore Roszak, *The Making of a Counter Culture: Reflections on the Technocratic Society and its Youthful Opposition*, New York: Anchor Books, 1969
- 265 Bernardo Rudofsky, "Non ci vuole un nuovo modo di costruire ci vuole un nuovo modo di vivere", *Domus*, 123, 1938, p. 6–15
- 266 Bernard Rudofsky, *Architecture without Architects. A short introduction to non-pedigreed architecture*, New York: The Museum of Modern Art, 1964
- 267 Bernard Rudofsky, *The Prodigious Builders. Notes toward a natural history of architecture with special regard to those species that are traditionally neglected or downright ignored*, New York: Harcourt Brace Jovanovich, 1977
- 268 Bernard Rudofsky, *Now I Lay Me down to Eat. Notes and footnotes on the lost art of living*, Garden City, N. Y.: Anchor Press-Doubleday, 1980
- 269 Bernard Rudofsky, *Sparta-Sybaris. Keine neue Bauweise, eine neue Lebensweise tut not*, Salzburg: Residenz/VM, 1987
- 270 Carole Ryan, *Traditional Construction for a Sustainable Future*, Abingdon: Spon Press, 2011
- 271 Sasaki Masayuki, "Sōzōnōson to wa nanika, naze ima, chūmoku o atsumeru noka", in: Sasaki Masayuki; Kawaida Sachiko; Hagiwara Masaya (eds.), *Sōzōnōson: kaso o kurieitibu ni ikiru senryaku*, Tokyo: Gakugei shuppan-sha, 2014 [佐々木雅幸、川井田祥子、萩原雅也、著『創造農村: 過疎をクリエイティブに生きる戦略』学芸出版社所収、佐々木雅幸: 「創造農村とは何か、なぜ今、注目を集めるのか」]
- 272 Ute Schauer; Franz Volhard, *Sandberghof Bestandsaufnahme*, 2005
- 273 Ute Schauer; Franz Volhard, *Sandberghof—gemeinsam Wohnen im Alter. Umbau und Sanierung in Darmstadt*, 2008
- 274 Eda Schaur (ed.), *IL41 Intelligent Bauen*, Stuttgart: Institut für leichte Flächentragwerke, 1995
- 275 Klaus Schillberg, *Altbausanierung mit Naturbaustoffen*, Aarau: AT Verlag, 1996
- 276 Klaus Schillberg; Heinz Knierriemen, *Bauen und Sanieren mit Lehm. Kork, Hanf und Schilf in modernen Lehmbautechniken*, Vaihingen-Roßwag: Edition Simha, 2013
- 277 Valentin Schiopu, "Suliman, magnificii", *Pressone*, 22 April 2018 [https://pressone.ro/suliman-magnificii/]
- 278 Isabell Schultz, „Starke Bündel. Eine kurze Geschichte des Strohhallenbaus“, *Oya*, 36, 2016
- 279 Ernst Friedrich Schumacher, *Small Is Beautiful. Economics as if People Mattered*, New York: Harper & Row, 1975
- 280 Schweizerisches Freilichtmuseum Ballenberg (ed.), *Jahrbuch 1998. Schweizerisches Freilichtmuseum Ballenberg*, vol. 2, Thun: Ott Verlag + Druck, 1998
- 281 Schweizerisches Freilichtmuseum Ballenberg (ed.), *Jahrbuch 2000. Schweizerisches Freilichtmuseum Ballenberg*, vol. 3, Thun: Ott Verlag + Druck, 2000
- 282 Schweizerisches Freilichtmuseum Ballenberg (ed.), *4. Wissenschaftliches Jahrbuch 2003. Schweizerisches Freilichtmuseum Ballenberg*, Baden: HIER + JETZT, 2003
- 283 Sekiguchi Kinya, *Kyū Hirose-ke jūtaku ichiku shūri kōji hōkoku-sho*, Kawasaki: Nihon Minkaken, 1971 [関口欣也旧広瀬家住宅移築修理工事報告書, 川崎: 日本民家園, 昭和四十六年]
- 284 Luigi Sertorio, *Storia dell'abbondanza*, Torino: Bollati Boringhieri, 2002
- 285 Luigi Sertorio, *Vivere in nicchia e pensare globale*, Torino: Bollati Boringhieri, 2005
- 286 Allan Shepherd, *Voices from a disused quarry. An oral history of the Centre for Alternative Technology*, Machynlleth: Centre for Alternative Technology Publications, 2015
- 287 "Shiga-kenritsu Daigaku Toki Hirokazu kenkyushitsu + Takahashi Kōgyō: Hitobito ga machi no shōrai o katariau fukkō kyoten—chiiki no take o tsukatte gakusei ga tezukuri", *Architekton Plus*, 00, December 2011, p. 6–11
- [「滋賀県立大学陶器造一研究室+高橋工業: 人々がまちの将来を語り合う復興拠点-地域の竹を使って学生が手づくり」アルキテクトンプラス vol. 00, December 2011、6–11頁]
- 288 Vandana Shiva, *Staying Alive. Women, Ecology and Survival in India*, New Delhi: Zed Press, 1988
- 289 Olivier Sidler, *La rénovation à très basse consommation d'énergie des bâtiments existants*, Institut négaWatt/Enertech, 2016
- 290 Florea Stănculescu, *Case și gospodării la țara*, [Bucharest]: [Maur], 1927
- 291 Chironya Stanellé; Iris Kunze (eds.), *20 Jahre Ökodorf Sieben Linden*, Poppau: Freundeskreis Ökodorf, 2017
- 292 William Stanwix; Alex Sparrow, *The Hempcrete Book. Designing and Building with Hemp-Lime*, Cambridge: Green Books, 2014
- 293 James Steele, *Ecological Architecture. A critical history*, London: Thames & Hudson, 2005
- 294 Ciprian Anghel Ștefan, *Monumente de arhitectură tradițională din Muzeul ASTRA Sibiu*, Sibiu: Editura "ASTRA Museum", 2010
- 295 Mariya Stoycheva, personal communication
- 296 Marianne Suhr; Roger Hunt, *The Old House Eco Handbook. A practical guide to retrofitting for energy efficiency and sustainability*, London: Frances Lincoln, 2013
- 297 Gabriel Suliman, *Moara din Munții Apuseni* [www.sprijina.ro/cauze/moara-din-muntiiapuseni?fbclid=IwAR0GRLDuVVb6BgLrchaB7ott10BageJ96ZrofTpUR\_KQcVGfTqyka1zS0]
- 298 Suzuki Mitsuru, *Minka*, Tokyo: Shōgakukan, 1975 [鈴木充著『民家』小学館、1975年]
- 299 John L. Talbot, *Simply build green. A technical guide to the ecological houses at the Findhorn Foundation*, Findhorn: Findhorn Foundation Development Wing, 1993
- 300 Tanaka [Kei]; Inoue Masafumi et al., "Fundamental Study on Mechanical Property of Bamboo: Part 3 Consideration of Compression Strength and Buckling Behavior", *The Japanese Institute of Architectural Institute of Kyushu Branch Research Report*, 44, March 2005, p. 461–464 [田中圭、井上正文他「丸竹の材料特性に関する基礎的研究:(その3)圧縮強度及び座屈の挙動に関する考察(建築構造)」日本建築学会研究報告.九州支部. 1, 構造系(44) 461–464, Mar 2005]
- 301 John Thackara, *In the Bubble. Design per un futuro sostenibile*, Torino: Allemandi, 2008
- 302 Thomas Thiis-Evensen, *Archetypes in Architecture*, Oslo: Norwegian University Press, 1987
- 303 Thiruvalluvar, *Tirukkura* [most recent English translation by Jyothirllata Girija, Allahabad: Cyberwit, 2015]
- 304 Erwin Thoma, *Für lange Zeit. Leben und Bauen mit Holz—alte Weisheiten für moderne Technologien*, Vienna: Brandstätter, 2003
- 305 Erwin Thoma, *Die geheime Sprache der Bäume. Und wie die Wissenschaft sie entschlüsselt*, Salzburg: Ecowin Verlag, 2012
- 306 Erwin Thoma, *Dich sah ich wachsen. Über das uralte und neue Leben mit Holz, Wald und Mond*, Vienna: Brandstätter, 2013<sup>9</sup>
- 307 Christopher Tilley et al. (eds.), *Handbook of Material Culture*, London: Sage, 2006

- 308 Elizabeth Tilley et al., *Compendium des systèmes et technologies d'assainissement*, Dübendorf: Eawag, 2008
- 309 John Todd; Nancy Jack Todd, *Tomorrow is our permanent address. The search for an ecological science of design as embodied in the bioshelter*, New York: Harper & Row, 1980
- 310 Robert "Bob" W. Todd, "Notes from the Centre for Alternative Technology", *mimeo*, 18 July 1979
- 311 Toki Hirokazu; Nagai Takuo, "Design and Construction of Bamboo Spatial Structure Using Bended Bamboo Arch and Handmade Joint", *Elegance in Structures*, proceedings of the IABSE conference, Nara, 2015
- 312 Toki Hirokazu; Nagai Takuo, "Spatial Structure Using Bamboo as Structural Material: Design and construction of emergency temporary building made of bamboo material (Part 1)", *AIJ J. Technol. Des.*, 49, 21 October 2015, pp. 1007–1012 [陶器浩一、永井拓生「竹を構造材料として用いた空間構造の設計および施工-竹を構造材料として用いた応急仮設建築物の設計・施工の実例 その1」日本建築学会技術報告集2015年21巻49号1007-1012頁]
- 313 Toyo Ito Museum of Architecture, *Project Omishima. Transforming into the most beautiful island in Japan*, Imabari: TIMA, 2016 [伊東豊雄建築ミュージアム刊『日本一美しい島・大三島をつくらうプロジェクト』]
- 314 TU Berlin, *Stroh im Haus, statt Stroh im Kopf*, Berlin: Energieseminar—Institut für Energietechnik, 2006
- 315 John F.C. Turner, *Housing by people*, London: Marion Boyars Publishers, 1976
- 316 Liban Usman, *Sikhall naturhus, mätning och simulering av temperatur och luftfuktighet*, Karlstads Universitet, 2016
- 317 Brenda Vale; Robert Vale, *Green Architecture*, London: Thames & Hudson, 1992
- 318 Brenda Vale; Robert Vale, *The New Autonomous House*, London: Thames & Hudson, 2000
- 319 Robert Vale; Brenda Vale, *Time to Eat the Dog? The Real Guide to Sustainable Living*, London: Thames & Hudson, 2009
- 320 Robert Vale; Brenda Vale (eds.), *Living within a Fair Share Ecological Footprint*, Abingdon: Routledge, 2013
- 321 Luigi Veronelli, *Terra e libertà. Critical Wine. Sensibilità planetaria, agricoltura contadina e rivoluzione dei consumi*, Rome: DeriveApprodi, 2004
- 322 Luigi Veronelli, Pablo Echaurren, *Le parole della terra. Manuale per enodisidenti e gastroribelli*, Viterbo: Stampa alternativa, 2003
- 323 Adam Voelcker, *David Lea. An Architect of Principle*, London: Artifice, 2015
- 324 Franz Volhard, *Leichtlehbau. Alter Baustoff—neue Technik*, Karlsruhe: C. F. Müller, 1983
- 325 Franz Volhard, *Impulse für den Lehbau—Zeitgemäßes Bauen mit Holz und Lehm*, Ganzlin: FAL e.V., 2015, p. 7–9
- 326 Franz Volhard, *Bauen mit Leichtlehm. Handbuch für das Bauen mit Holz und Lehm*, Basel: Birkhäuser, 2016 [English edition: *Light earth building. A handbook for building with wood and earth*]
- 327 Franz Volhard; Ulrich Röhlen, *Lehmbau-Regeln, Begriffe Baustoffe Bauteile*, Wiesbaden: Springer Vieweg, 1998
- 328 Peter Walker et al. (eds.), *11th International Conference on Non-conventional Materials and Technologies. NOCMAT 2009. Conference proceedings*, Bath: University of Bath, 2009
- 329 Bengt Warne, *Report from a cultural exchange Sweden-USA*, Stockholm, 1982
- 330 Bengt Warne, *Symbio Housing Symposiums. List of common questions and answers at the symposiums*, Stockholm, 1982
- 331 Bengt Warne; K. Warne, *Man and Nature: the house of the future?*, Stockholm: Natur och kultur, 1980
- 332 Tony Watkins, *The human house. Sustainable Design*, Wellington: Karaka Bay Press, 2009
- 333 Adam Weismann; Katy Bryce, *Building with cob. A step-by-step guide*, Totnes: Green Books, 2006
- 334 Ernst Ulrich von Weizsäcker; Amory B. Lovins; L. Hunter Lovins, *Factor Four. Doubling Wealth, Halving Resource Use*, London: Earthscan, 1998
- 335 Malcolm Wells, *The Earth-sheltered house. An architect's sketchbook*, White River Junction, Vt.: Chelsea Green Pub., 1998
- 336 Elke Wiegand; Martin Stengel; Dirk Scharmer, *Ecovillage Sieben Linden with straw bale construction*, World Habitat Awards 2006 Building and Social Housing Foundation, Sieben Linden, 2006
- 337 Christopher G. Williams, *Craftsmen of necessity*, New York: Vintage Books, 1974
- 338 Tom Woolley, *Natural building. A guide to materials and techniques*, Ramsbury: The Crowood Press, 2006
- 339 Tom Woolley, *Low Impact Building. Housing using renewable materials*, Chichester: Wiley-Blackwell, 2013
- 340 Virginia Worthington, "Nutritional Quality of Organic Versus Conventional Fruits, Vegetables, and Grains", *The Journal of Alternative and Complementary Medicine*, 7, 2, 2001, p. 161–173
- 341 David Wright, *Natural solar architecture. A passive primer*, New York: Van Nostrand Reinhold, 1978
- 342 Michael Würfel, *Dorf ohne Kirche. Die ganz große Führung durch das Ökodorf Sieben Linden*, Beetzendorf: Eurotopia-Buchversand, 2012
- 343 Yoshimoto Mitsuhiro, "Kamiyama's Success in Creative Depopulation", *Field. A journal of socially-engaged art criticism*, 8, fall 2017
- 344 Yuki Masami, "Designing the Communication of Traditional Ecological Knowledge: A Noto Case Study", in: Scott Slovic; Swarnalatha Rangarajan; Vidya Sarveswaran (eds.), *Routledge Handbook of Ecocriticism and Environmental Communication*, Abingdon: Routledge, 2019, p. 279–290
- 345 Mirko Zardini; Giovanna Borasi, *Actions. What you can do with the city*, Montréal: Canadian Centre for Architecture, 2009
- 346 Ernst Zürcher, "Lunar Rhythms in Forestry Traditions. Lunar-Related Phenomena in Tree Biology and Wood Properties", *Earth, Moon and Planets*, 85–86, 2001, p. 463–478
- 347 Ernst Zürcher et al., "Looking for differences in wood properties as a function of the felling date: lunar phase-correlated variations in the drying behavior of Norway Spruce (*Picea abies* Karst.) and Sweet Chestnut (*Castanea sativa* Mill.)", *Trees*, 24, 2010, p. 31–41
- 348 Ernst Zürcher; Christian Roggenmoser, "Considering reversible Variations in Wood Properties: possible Applications in the Choice of the Tree-Felling Date?", *Proceedings of the International Convention of Society of Wood Science and Technology and United Nations Economic Commission for Europe—Timber Committee*, Genève, 11–14 October 2010
- 349 Klaus Zwerger, *Wood and Wood Joins. Building Traditions of Europe, Japan and China*, Basel: Birkhäuser, 2012<sup>2</sup>
- 350 [www.atelierwernerschmidt.ch](http://www.atelierwernerschmidt.ch)
- 351 [www.bosch-stiftung.de](http://www.bosch-stiftung.de)
- 352 [www.caneloproject.com](http://www.caneloproject.com)
- 353 [www.canyaviva.com](http://www.canyaviva.com)
- 354 [www.cat.org.uk](http://www.cat.org.uk)
- 355 [www.dachverband-lehm.de](http://www.dachverband-lehm.de)
- 356 [www.facebook.com/SatulCheia](http://www.facebook.com/SatulCheia)
- 357 [fal-ev.de](http://fal-ev.de)
- 358 [foodhub.co.jp](http://foodhub.co.jp)
- 359 [www.gaiiaarkitekter.no](http://www.gaiiaarkitekter.no)
- 360 [gartist.ch](http://gartist.ch)
- 361 [gernotminke.gernotminke.de](http://gernotminke.gernotminke.de)
- 362 [www.in-kamiyama.jp](http://www.in-kamiyama.jp)
- 363 [www.ipogea.org](http://www.ipogea.org)
- 364 [www.jpc-net.jp](http://www.jpc-net.jp)
- 365 [www.kanzawa-u.ac.jp](http://www.kanzawa-u.ac.jp)
- 366 [www.kitokuras.jp](http://www.kitokuras.jp)
- 367 [www.lehmmuseum.de](http://www.lehmmuseum.de)
- 368 [lernpunkt.lehm.de](http://lernpunkt.lehm.de)
- 369 [www.lowtechmagazine.com](http://www.lowtechmagazine.com)
- 370 [www.mannmaru.jp](http://www.mannmaru.jp)
- 371 [maruyamagumi.blog102.fc2.com](http://maruyamagumi.blog102.fc2.com)
- 372 [minke-strawbale.com](http://minke-strawbale.com)
- 373 [www.mlit.go.jp](http://www.mlit.go.jp)
- 374 [newdaughters.org](http://newdaughters.org)
- 375 [www.nihonminkaen.jp](http://www.nihonminkaen.jp)
- 376 [www.nutritionstudies.org](http://www.nutritionstudies.org)
- 377 [www.oeokobaudat.de](http://www.oeokobaudat.de)
- 378 [okohuset.blogspot.com](http://okohuset.blogspot.com)
- 379 [www.patborer.co.uk](http://www.patborer.co.uk)
- 380 [peterharper.org](http://peterharper.org)
- 381 [www.ruralstudio.org](http://www.ruralstudio.org)
- 382 [sandberghof.org](http://sandberghof.org)
- 383 [www.schauer-volhard.de](http://www.schauer-volhard.de)
- 384 [siebenlinden.org](http://siebenlinden.org)
- 385 [www.venusplash.com](http://www.venusplash.com)
- 386 [www.wangeliner-garten.de](http://www.wangeliner-garten.de)
- 387 [www.wangeliner-workcamp.de](http://www.wangeliner-workcamp.de)

# Picture credits

ABG = Andrea Bocco Guarneri

## Vegetarian architecture: a theoretical proposal

- 1 Ochiai, Higashi-Iya, Tokushima prefecture, Japan. ABG, 2016.
- 2 Segger House, Blaen Camel, Cilceninn, Dyfed, Wales. Virginia Bertolotti, 2017.
- 3 Farahuset, Jølle, Farsund, Vest-Agder, Norway. ABG, 2018.
- 4 Kitokuras, Ayauta-gun, Marugame city, Kagawa prefecture, Japan. Kitokuras, 2009.
- 5 Low-temperature (left) and high-temperature (right) dried timber at Kitokuras, Japan. Kitokuras, 2009.
- 6 Slow-growth (left) and fast-growth (right) timber at Kitokuras, Japan. ABG, 2016.
- 7 Peniarth Uchaf, Llanegryn, Gwynedd, Wales. Virginia Bertolotti, 2017.
- 8 Bamboo House II, Bodaiji-gun, Konan city, Shiga prefecture, Japan. ABG, 2019.
- 9 Rauchstubehaus Großschrotter at the Österr. Freilichtmuseum Stübing bei Graz, Austria. ABG, 2011.
- 10 *Pătul* of a farm from Târgu Cărbunești at the Muzeul Civilizației Populare Tradiționale ASTRA, Sibiu, Romania. ABG, 2018.
- 11 Bamboo House II, Bodaiji-gun, Konan city, Shiga prefecture, Japan. ABG, 2019.
- 12 Kodama desk. Kodama project, 2014.
- 13 Ipanema table. Andrea Zanini, 2018.
- 14 Lake One, Tamera, Monte do Cerro, Odemira, Portugal. ABG, 2011.
- 15 Ōmishima, Imabari city, Ehime prefecture, Japan. ABG, 2016.
- 16 Kyrkhult farmhouse at Skansen, Stockholm, Sweden. ABG, 2007.
- 17 Sikhall Naturhus, Brålanda, Vänersborg, Sweden. Andrea Antoloni, 2017.
- 18 Wikinger-Museum Haithabu, Busdorf, Schleswig, Germany. ABG, 2012.
- 19 Wikinger-Museum Haithabu, Busdorf, Schleswig, Germany. ABG, 2012.
- 20 Ōmishima Minna no ie, Ōmishima, Imabari city, Ehime prefecture, Japan. ABG, 2016.
- 21 Bamboo Ark, Oyakaigan, Motoyoshi-cho, Kesennuma City, Miyagi prefecture, Japan. Toki lab, 2012.
- 22 Industrially grown strawberries. Cristiana Peano, 2019.
- 23 Chiiori House, Higashi-Iya, Tokushima prefecture, Japan. Taki Yosuke, 2016.
- 24 *Cămară de alimente* of a farm from Goești-Vidra at the Muzeul Civilizației Populare Tradiționale ASTRA, Sibiu, Romania. ABG, 2018.
- 25 Valbjørsetra mountain farm at the Maihaugen open-air museum, Lillehammer, Norway. ABG, 2012.
- 26 Aula, Tamera, Monte do Cerro, Odemira, Portugal. ABG, 2018.

- 27 Chiiori House, Higashi-Iya, Tokushima prefecture, Japan. ABG, 2016.
- 28 Vasalishof, EVA Lanxmeer, Culemborg, Gelderland province, the Netherlands. ABG, 2009.
- 29 Kitokuras, Ayauta-gun, Marugame city, Kagawa prefecture, Japan. ABG, 2016.
- 30 Maison Sidler, Félines-sur-Rimandoule, Drôme, France. Olivier Sidler, 2011.
- 31 Museumsdorf Düppel, Berlin-Zehlendorf, Germany. ABG, 2019.
- 32 Peniarth Uchaf, Llanegryn, Gwynedd, Wales. Virginia Bertolotti, 2017.
- 33 Rural Studio Farm greenhouse, Newbern, Alabama, USA. Timothy Hursley, 2016.
- 34 Gonjiro, Tateyama, Chiba prefecture, Japan. ABG, 2016.
- 35 Schafbrühl, Tübingen, Germany. ABG, 2009.
- 36 Sikhall Naturhus, Brålanda, Vänersborg, Sweden. Andrea Antoloni, 2017.
- 37 Sikhall Naturhus, Brålanda, Vänersborg, Sweden. Andrea Antoloni, 2017.
- 38 Segger House, Blaen Camel, Cilceninn, Dyfed, Wales. Virginia Bertolotti, 2017.
- 39 Farahuset, Jølle, Farsund, Vest-Agder, Norway. ABG, 2018.

## 1. Captive vernacular: Hirose House at Nihon Minka-en

- 1 Perspective section of Hirose house from **B233**.
- 2 Hirose house, Kamihagiwara, Enzan-gun, Kōshū city, Yamanashi prefecture. Nihon Minkaen archive 20\_57 R123–14, 1969.
- 3 Survey plan of Hirose house from **B283**. [広瀬家報告書]
- 4 Hirose house, Kamihagiwara, Enzan-gun, Kōshū city, Yamanashi prefecture. Nihon Minkaen archive 21\_81 C8–1, 1969.
- 5 Hirose house at Nihon Minkaen, Kawasaki city, Kanagawa prefecture, Japan. ABG, 2016.
- 6 Hirose house at Nihon Minkaen. ABG, 2016.
- 7 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_81, 1969.
- 8 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_34 R147–5, 1969.
- 9 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_5 R140–15, 1969.
- 10 Hirose house at Nihon Minkaen. Nihon Minkaen archive 21\_89 C8–9, 1969.
- 11 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_24 R141–19, 1969.
- 12 Hirose house at Nihon Minkaen. Taki Yosuke, 2016.
- 13 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_38 R143–12 + 22\_42 R146–4 + 22\_44 R146–2 + 22\_49 R143–26 + 22\_53 R143–28 + 22\_56 R148–4, 1969.
- 14 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_60 R147–6, 1969.
- 15 Hirose house at Nihon Minkaen. Nihon Minkaen archive 22\_62 R148–27, 1969.
- 16 Inoue house, Iga city, Mie prefecture, Japan. Martina Imeroni, 2017.
- 17 Hirose house at Nihon Minkaen. Taki Yosuke, 2016.
- 18 Hirose house at Nihon Minkaen. ABG, 2016.

- 19 Section and plan of Hirose House. Martina Bocci, 2019.
- 20 Hirose house at Nihon Minkaen. ABG, 2016.
- 21 Detail of *irori*, *iroko*, and *doma* from **B233**.
- 22 Survey plan of Hirose house from **B283**. [広瀬家報告書]

## 2. Wild vernacular: Cheia

- 1 Rameț, Alba county, Romania. Daniliuc Sorin, 2018.
- 2 Laura Praja house, Cheia, Rameț commune, Alba county, Romania. ABG, 2018.
- 3 Plan of *gospodăria* Ilieș Ioana, Valea Stejarului, Vadu Izei, Maramureș. Arhiva de relevee a Departamentului de Istoria & Teoria Arhitecturii și Conservarea Patrimoniului "Sanda Voiculescu" Rv.235.03, 1968.
- 4 Suliman House, Cheia, Rameț commune, Alba county, Romania. Satul Cheia, 2017.
- 5 Suliman House, Cheia. ABG, 2018.
- 6 Suliman House, Cheia. Daniliuc Sorin, 2018.
- 7 Suliman House, Cheia. ABG, 2018.
- 8 Casa Gavrilă (Suliman House), Cheia. Satul Cheia, 2018.
- 9 Suliman House, Cheia. Satul Cheia, 2018.
- 10 Casa Gavrilă (Suliman House), Cheia. From **B277**.
- 11 Casa Gavrilă (Suliman House), Cheia. ABG, 2018.
- 12 Casa Gavrilă (Suliman House), Cheia. Satul Cheia, 2016.
- 13 Casa Gavrilă (Suliman House), Cheia. ABG, 2018.
- 14 Casa Gavrilă (Suliman House), Cheia. Satul Cheia, 2016.
- 15 Casa Gavrilă (Suliman House), Cheia. Satul Cheia, 2016.
- 16 Casa Paraschiva (Suliman House), Cheia. ABG, 2018.
- 17 Section and plan of Casa Paraschiva. Martina Bocci, 2019.
- 18 Casa Paraschiva (Suliman House), Cheia. Satul Cheia, 2016.
- 19 Construction sequence of Casa Paraschiva. Martina Bocci, 2019.
- 20 Casa Paraschiva (Suliman House), Cheia. ABG, 2018.
- 21 Casa Paraschiva (Suliman House), Cheia. Satul Cheia, 2016.
- 22 Casa Paraschiva (Suliman House), Cheia. ABG, 2018.

## 3. Straw-based retrofit: Casa Steila Mar

- 1 Casa Steila Mar, Susch, Zernez, Graubünden, Switzerland. Lucia Degonda, 2017.
- 2 Casa Steila Mar, Susch. Lucia Degonda, 2017.
- 3 Casa Steila Mar, Susch. Atelier Werner Schmidt, 2013.
- 4 Casa Steila Mar, Susch. ABG, 2018.
- 5 Casa Steila Mar, Susch. Atelier Werner Schmidt, 2013.
- 6 Plans of Casa Steila Mar. Martina Bocci, 2019.
- 7 Casa Steila Mar, Susch. Lucia Degonda, 2017.
- 8 Renovation sequence of Casa Steila Mar. Martina Bocci, 2019.

- 9 Casa Steila Mar, Susch. Lucia Degonda, 2017.  
 10 Casa Steila Mar, Susch. Atelier Werner Schmidt, 2013.  
 11 Casa Steila Mar, Susch. Atelier Werner Schmidt, 2013.  
 12 Casa Steila Mar, Susch. Atelier Werner Schmidt, 2013.  
 13 Section of Casa Steila Mar. Martina Bocci, 2019.  
 14 Casa Steila Mar, Susch. ABG, 2018.  
 15 Casa Steila Mar, Susch. ABG, 2018.  
 16 Casa Steila Mar, Susch. ABG, 2018.  
 17 Casa Steila Mar, Susch. ABG, 2018.
- #### 4. Earth-based retrofit: Sandberghof
- 1 Haus J, Darmstadt-Bessungen, Germany. Martina Bocci, 2017.  
 2 Haus Eilberg, Mörfelden, Mörfelden-Walldorf, Germany. Martina Bocci, 2017.  
 3 Sandberghof, Darmstadt-Bessungen, Germany. Sandberghof gemeinsam wohnen in Bessungen GbR, 2016.  
 4 Sandberghof, Bessungen. ABG, 2019.  
 5 Sandberghof, Bessungen. Sandberghof gemeinsam wohnen in Bessungen GbR, 2017.  
 6 Sandberghof, Bessungen. ABG, 2019.  
 7 Plan of Sandberghof. Schauer+Volhard modified by Martina Bocci, 2019.  
 8 Sandberghof, Bessungen. Schauer+Volhard, 2008.  
 9 Sandberghof, Bessungen. Schauer+Volhard, 2007.  
 10 Sandberghof, Bessungen. Schauer+Volhard, 2007.  
 11 Section of Sandberghof's main building. Schauer+Volhard modified by Martina Bocci, 2019.  
 12 Sandberghof, Bessungen. Thomas Ott, 2005.  
 13 Axonometric projection of Sandberghof's main building. Damian Kuna, 2019.  
 14 Sandberghof, Bessungen. Schauer+Volhard, 2005.  
 15 Plans of Sandberghof's main building (original state). Schauer+Volhard, 2005, from **B272**.  
 16 Sandberghof, Bessungen. Schauer+Volhard, 2005.  
 17 Sandberghof, Bessungen. Martina Bocci, 2017.  
 18 Sandberghof, Bessungen. ABG, 2019.  
 19 Sandberghof, Bessungen. Schauer+Volhard, 2006.  
 20 Sandberghof, Bessungen. Schauer+Volhard, 2006.  
 21 Sandberghof, Bessungen. Schauer+Volhard, 2005.  
 22 Haus Eilberg, Mörfelden, Mörfelden-Walldorf, Germany. Schauer+Volhard, 1998.  
 23 Sandberghof, Bessungen. Schauer+Volhard, 2005.  
 24 Sandberghof, Bessungen. Thomas Ott, 2006.  
 25 Sandberghof, Bessungen. Martina Bocci, 2017.
- #### 5. Radical vegetarianism: Villa Strohbunt at Sieben Linden
- 1 Sieben Linden Ecovillage, Beetzendorf, Germany. ABG, 2013.  
 2 General plan of Sieben Linden Ecovillage, Beetzendorf. Martina Gerace, 2018.
- 3 Regiohaus and Sonneneck, Sieben Linden Ecovillage. ABG, 2013.  
 4 Nordriegel and Regiohaus, Sieben Linden Ecovillage. ABG, 2013.  
 5 Sieben Linden Ecovillage, Beetzendorf. ABG, 2013.  
 6 Sieben Linden Ecovillage, Beetzendorf. ABG, 2013.  
 7 Sieben Linden Ecovillage, Beetzendorf. ABG, 2013.  
 8 Sieben Linden Ecovillage, Beetzendorf. ABG, 2015.  
 9 Strohpolis, Sieben Linden Ecovillage. ABG, 2015.  
 10 Nordschonung, Sieben Linden Ecovillage. Susanna Pollini, 2017.  
 11 Villa Strohbunt, Sieben Linden Ecovillage. ABG, 2013.  
 12 Villa Strohbunt, Sieben Linden Ecovillage. Bill Steen, 2009.  
 13 Villa Strohbunt, Sieben Linden Ecovillage. ABG, 2010.  
 14 Villa Strohbunt, Sieben Linden Ecovillage. ABG, 2010.  
 15 Axonometric projection of Villa Strohbunt. Martina Bocci, 2019.  
 16 Villa Strohbunt, Sieben Linden Ecovillage. Bill Steen, 2009.  
 17 Villa Strohbunt, Sieben Linden Ecovillage. ABG, 2013.  
 18 Villa Strohbunt, Sieben Linden Ecovillage. Alberto Valentino, 2013.  
 19 Section and plans of Villa Strohbunt. Martina Bocci, 2019.  
 20 Libelle, Sieben Linden Ecovillage. ABG, 2015.  
 21 Strohhallenkuppeln, Sieben Linden Ecovillage. ABG, 2010.  
 22 Villa Communia, Sieben Linden Ecovillage. ABG, 2010.  
 23 Villa Strohbunt, Sieben Linden Ecovillage. Bill Steen, 2009.  
 24 Villa Strohbunt, Sieben Linden Ecovillage. Bill Steen, 2009.
- #### 6. Massive structures: Createrra and Gartist
- 1 Kindergarden in Sorsum, Hildesheim, Germany. Martina Bocci, 2017.  
 2 Haus am Wasserturm 17, Kassel, Germany. Martina Bocci, 2017.  
 3 Createrra office, Hrubý Šúr, Bratislava, Slovakia. Bjørn Kierulf/Createrra, 2012.  
 4 Section and plan of Createrra office. Martina Bocci, 2019.  
 5 Createrra office, Hrubý Šúr. Bjørn Kierulf/Createrra, 2012.  
 6 Createrra office, Hrubý Šúr. Bjørn Kierulf/Createrra, 2010.  
 7 Createrra office, Hrubý Šúr. Bjørn Kierulf/Createrra, 2010.  
 8 Createrra office, Hrubý Šúr. Bjørn Kierulf/Createrra, 2010.  
 9 Createrra office, Hrubý Šúr. Bjørn Kierulf/Createrra, 2010.  
 10 Createrra office, Hrubý Šúr. ABG, 2011.  
 11 Createrra office, Hrubý Šúr. ABG, 2011.  
 12 Createrra office, Hrubý Šúr. ABG, 2011.
- 13 Createrra office, Hrubý Šúr. Bjørn Kierulf/Createrra, 2010.  
 14 Section of Gartist office. Werner Schmidt, 2016.  
 15 Bubikon/ZH, Switzerland. Atelier Werner Schmidt, 2017.  
 16 Plan of Gartist office. Werner Schmidt, 2016.  
 17 Gartist office, Bubikon/ZH, Switzerland. Atelier Werner Schmidt, 2017.  
 18 Plans of Gartist office. Martina Bocci, 2019.  
 19 Gartist office, Bubikon. Joel Kunz, 2018.  
 20 Gartist office, Bubikon. Joel Kunz, 2018.  
 21 Gartist office, Bubikon. Joel Kunz, 2018.  
 22 Gartist office, Bubikon. Atelier Werner Schmidt, 2017.  
 23 Gartist office, Bubikon. Atelier Werner Schmidt, 2016.  
 24 Gartist office, Bubikon. Atelier Werner Schmidt, 2017.  
 25 Section of Gartist office. Martina Bocci, 2019.  
 26 Gartist office, Bubikon. Atelier Werner Schmidt, 2017.  
 27 Gartist office, Bubikon. Atelier Werner Schmidt, 2017.  
 28 Gartist office, Bubikon. Atelier Werner Schmidt, 2017.  
 29 Gartist office, Bubikon. Gartist GmbH, 2018.  
 30 Gartist office, Bubikon. Gartist GmbH, 2016.
- #### 7. Framed structure: Bamboo Ark
- 1 Bamboo ark, Oyakaigan, Motoyoshi-cho, Kesennuma City, Miyagi prefecture, Japan. Toki lab, 2012.  
 2 Instructions for tying joints. Toki lab, 2011.  
 3 Load-deformation chart from **B214**.  
 4 Bending shape analysis from **B312**.  
 5 Section and plan of Bamboo ark. Toki lab, 2011.  
 6 Shiga Prefecture University Campus, Hikone, Shiga Prefecture, Japan. Toki lab, 2011.  
 7 Bamboo ark, Kesennuma city. Toki lab, 2011.  
 8 Assembly diagrams of two of the main types of frames. Toki lab, 2011.  
 9 Bamboo ark, Kesennuma city. Toki lab, 2011.  
 10 Bamboo ark, Kesennuma city. Toki lab, 2011.  
 11 Model of Bamboo ark roof, Shiga Prefecture University Campus, Hikone. ABG, 2019.  
 12 Bamboo ark, Kesennuma city. Toki lab, 2011.  
 13 Bamboo ark, Kesennuma city. Toki lab, 2012.  
 14 Bamboo ark, Kesennuma city. Toki lab, 2012.  
 15 Bamboo ark, Kesennuma city. Toki lab, 2012.  
 16 Bamboo ark, Kesennuma city. Toki lab, 2012.  
 17 Bamboo ark, Kesennuma city. Toki lab, 2011.  
 18 Bamboo House II, Bodajji, Konan City, Shiga prefecture. ABG, 2019.  
 19 Bamboo House II, Bodajji, Konan City, Shiga prefecture. ABG, 2019.
- #### 8. Passive performance: Biestøa
- 1 House in Nordhassel, Farsund, Norway. ABG, 2018.  
 2 Trekkfuglbu på Lista fyr, Farsund, Norway. ABG, 2018.  
 3 Farahuset, Jølle, Farsund, Norway. ABG, 2018.  
 4 Biestøa house, Grimstad, Norway. ABG, 2018.  
 5 Biestøa house, Grimstad, Norway. ABG, 2018.  
 6 Biestøa house, Grimstad, Norway. ABG, 2018.  
 7 Biestøa house, Grimstad, Norway. ABG, 2018.



- 8 Biestøa house, Grimstad, Norway. ABG, 2018.
- 9 Biestøa house, Grimstad, Norway. ABG, 2018.
- 10 Biestøa house, Grimstad, Norway. ABG, 2018.
- 11 Biestøa house, Grimstad, Norway. Giuseppe Salomone, 2018.
- 12 Biestøa house, Grimstad, Norway. ABG, 2018.
- 13 Plans of Biestøa house. Martina Bocci, 2019.
- 14 Biestøa house, Grimstad, Norway. ABG, 2018.
- 15 Biestøa house, Grimstad, Norway. ABG, 2018.
- 16 Biestøa house, Grimstad, Norway. ABG, 2018.
- 17 Exploded axonometric of Biestøa house. Martina Bocci, 2019.
- 18 Section of Biestøa house. Martina Bocci, 2019.
- 19 Biestøa house, Grimstad, Norway. ABG, 2018.
- 20 Biestøa house, Grimstad, Norway. ABG, 2018.
- 5 Europäische Bildungsstätte für Lehmbau, Wangelin, Buchberg, Germany. ABG, 2018.
- 6 Lehmkloster, Europäische Bildungsstätte für Lehmbau, Wangelin, Buchberg, Germany. ABG, 2018.
- 7 Wangelin garten, Wangelin. Sabine, 2011.
- 8 Kritzower See, Kritzow, Germany. ABG, 2018.
- 9 Garden café, Wangelin garten, Wangelin. ABG, 2018.
- 10 Garden café, Wangelin garten. ABG, 2018.
- 11 Lehmhaus, Wangelin garten. ABG, 2018.
- 12 Garden café, Wangelin garten. ABG, 2018.
- 13 Garden café, Wangelin garten. ABG, 2018.
- 14 Gästehaus, Wangelin garten, ABG, 2018.
- 15 Lodgings, Tamera, Monte do Cerro, Odemira, Portugal. ABG, 2018.
- 16 Plan and sections of the Gästehaus. Martina Bocci and Federica Rossetto, 2019.
- 17 Gästehaus, Wangelin garten. ABG, 2018.
- 18 Gästehaus, Wangelin garten. ABG, 2018.
- 19 Gästehaus, Wangelin garten. Ajeschka/Marcin Kolakowski, 2011.
- 20 Gästehaus, Wangelin garten. Ajeschka/Marcin Kolakowski, 2011.
- 21 Gästehaus, Wangelin garten. Sabine/Stephanus/Hiroshi, 2011.
- 22 Gästehaus, Wangelin garten. Hiroshi, 2011.
- 23 Working drawing of Gästehaus vault. Hiroshi, 2011.
- 24 Wangelin, Buchberg, Germany. ABG, 2018.
- 21 Foundations of east wing, WISE, CAT. ABG, 2010.
- 22 Sheppard lecture theatre, WISE, CAT. Martina Bocci, 2017.
- 23 Lecture theatre ambulatory, WISE, CAT. ABG, 2010.
- 24 Section of rammed earth wall and ambulatory, WISE. Pat Borer modified by Martina Bocci, 2019.
- 25 Hemp-crete wall, WISE, CAT. Pat Borer, 2007.
- 26 Section of south façade of north wing, WISE. Pat Borer modified by Martina Bocci, 2019.
- 27 Rammed earth wall, WISE, CAT. Martina Bocci, 2017.
- 28 Rammed earth wall, WISE, CAT. Pat Borer, 2007.

## 9. Food economy system: Kamiyama Food Hub

- 1 *Daisuki Kamiyama walking map*. Inlet in top left corner: sketch of Kamiyama food hub premises. Tase Michio 田瀬理夫, 2016.
- 2 Nishiokubo, Kamiyama town, Tokushima prefecture, Japan. ABG, 2019.
- 3 Yorii, Kamiyama town, Tokushima prefecture, Japan. ABG, 2019.
- 4 Yorii, Kamiyama town, Tokushima prefecture, Japan. ABG, 2019.
- 5 Engawa office, Yorii, Kamiyama town, Tokushima prefecture, Japan. ABG, 2019.
- 6 Kamiyama food hub farm, Yorii, Kamiyama town, Tokushima prefecture, Japan. ABG, 2019.
- 7 Yorii, Kamiyama town, Tokushima prefecture, Japan. ABG, 2019.
- 8 Kama pan & store, Yorii, Kamiyama town, Tokushima prefecture, Japan. Food hub project, 2017.
- 9 Kama pan & store, Kamiyama. ABG, 2019.
- 10 Section and plan of Kama pan & store. Shimazu Architectural Design Office, 2016.
- 11 Kama pan & store, Kamiyama. Food hub project, 2017.
- 12 Kamiyama town, Tokushima prefecture, Japan. Food hub project, 2017.
- 13 Kamaya, Yorii, Kamiyama town, Tokushima prefecture, Japan. Food hub project, 2017.
- 14 Kamaya, Kamiyama. Food hub project, 2017.
- 15 Kamaya, Kamiyama. ABG, 2019.
- 16 Kamaya, Kamiyama. ABG, 2019.
- 17 Kamiyama food hub, Kamiyama. Food hub project, 2017–2018.
- 18 Kamiyama food hub, Kamiyama. Food hub project, 2016.
- 19 Kamiyama food hub, Kamiyama. Food hub project, 2016.
- 20 Kamaya, Kamiyama. Food hub project, 2017.
- 21 Kamiyama food hub, Kamiyama. Food hub project, 2016.

## 10. Soil and earth: Wangelin Garten

- 1 Lehmuseum, Gnevsdorf, Buchberg, Germany. ABG, 2018.
- 2 Lehmuseum, Gnevsdorf, Buchberg, Germany. ABG, 2018.
- 3 Wangelin garten satellite view. Reworked from Google earth, 2019.
- 4 Wangelin garten, Wangelin, Buchberg, Germany. ABG, 2018.

## 11. Education and inspiration: WISE at CAT

- 1 General plan of CAT premises. CAT modified by Redina Mazelli, 2019.
- 2 Segal-method house, CAT, Machynlleth, Powys, Wales. ABG, 2010.
- 3 Eco Cabins, CAT, Machynlleth, Powys, Wales. ABG, 2010.
- 4 Straw-bale theatre, CAT, Machynlleth, Powys, Wales. ABG, 2010.
- 5 ATEIC building, CAT, Machynlleth, Powys, Wales. Martina Bocci, 2017.
- 6 The Whole Home garden, CAT, Machynlleth, Powys, Wales. Centre for Alternative Technology, 2018.
- 7 David Lea and Pat Borer at WISE opening ceremony, CAT, Machynlleth, Powys, Wales. ABG, 2010.
- 8 Early scheme for bedrooms on separate site, WISE, CAT. David Lea, from **B323**.
- 9 Plans of WISE. Pat Borer, 2010.
- 10 Section of WISE. Pat Borer, 2007.
- 11 WISE, CAT. ABG, 2010.
- 12 WISE, CAT. ABG, 2010.
- 13 Dining space/lobby, WISE, CAT. Martina Bocci, 2017.
- 14 Entrance porch, WISE, CAT. ABG, 2010.
- 15 Morgan-Grenville courtyard, WISE, CAT. Martina Bocci, 2017.
- 16 Sheppard lecture theatre, WISE, CAT. ABG, 2010.
- 17 East wing staircase, WISE, CAT. ABG, 2010.
- 18 Open gallery on the north side of north wing, WISE, CAT. ABG, 2010.
- 19 Upper courtyard, WISE, CAT. ABG, 2010.
- 20 Building sequence of WISE. Pat Borer, 2007.

## 12. Reconciliation: Maruyama-gumi

- 1 Ichinosaka, Wajima city, Ishikawa prefecture. Hagino Kiichirō, 2008.
- 2 Map of the township of Mii-machi, Wajima city, Ishikawa prefecture. Adapted from Geospatial Information Authority of Japan, 2019.
- 3 Ichinosaka, Wajima city, Ishikawa prefecture. Hagino Yuki, 2013.
- 4 Maruyama, Mii-machi, Wajima city, Ishikawa prefecture. Hagino Kiichirō, 2013–2014–2011.
- 5 Maruyama-gumi. Hagino Kiichirō, 2011.
- 6 Maruyama-gumi at Hagino house. Hagino Kiichirō, 2012.
- 7 Hagino house, Mii-machi. Hagino Kiichirō, 2011.
- 8 Maruyama-gumi. Hagino Kiichirō, 2012.
- 9 *Tochi ni nezashita kurashi no koyomi Maruyama honzō* [土地に根ざしたくらしの暦 まるやま本草]. Hagino Yuki, 2014.
- 10 Maruyama. Hagino Kiichirō, 2010.
- 11 Hagino house, Mii-machi. ABG, 2019.
- 12 Wajima city, Ishikawa prefecture. Hagino Kiichirō, 2009.
- 13 Hagino house, Mii-machi. Hagino Kiichirō, 2010.
- 14 Axonometric projection of Hagino house. Martina Bocci, 2019.
- 15 Hagino house, Mii-machi. ABG, 2019.
- 16 Hagino house, Mii-machi. Hagino Kiichirō, 2008.
- 17 Hagino house, Mii-machi. Hagino Kiichirō, 2008.
- 18 Hagino house, Mii-machi. ABG, 2019.
- 19 Plans of Hagino house. Hagino Kiichirō, 2006.
- 20 Hagino house, Mii-machi. Hagino Kiichirō, 2010.
- 21 Hagino house, Mii-machi. Hagino Kiichirō, 2008.
- 22 Hagino house, Mii-machi. Hagino Kiichirō, 2009.
- 23 Hagino house, Mii-machi. Hagino Kiichirō, 2009.
- 24 Hagino house, Mii-machi. Hagino Kiichirō, 2009.
- 25 Hagino house, Mii-machi. ABG, 2019.
- 26 Hagino house, Mii-machi. Hagino Kiichirō, 2008.
- 27 Section of Hagino house. Hagino Kiichirō, 2006.
- 28 Surroundings of Hagino house. Maruyama-gumi, 2011.
- 29 Mii, Wajima city, Ishikawa prefecture. ABG, 2019.
- 30 Hagino house, Mii-machi. ABG, 2019.

## Acknowledgements

The introductory essay is a completely reworked and expanded version of an article I wrote on the invitation of Emiliano Michelena, “Tecnología y comportamiento humano,” *Revista de arquitectura*, 250, August 2013, p. 46–53.

Some parts of §5 and §13 are derived from *The Environmental Impact of Sieben Linden Ecovillage* [→B46]. Some short excerpts in §§0,3,6 are derived from *Werner Schmidt. Ecology Craft Invention* [→B44]. Some parts of §§6,9 are also reworked from articles that previously appeared in 2010/11 in *Il giornale dell’architettura*.

Basic research on some case studies was developed by students in the framework of their master or bachelor thesis: Daniliuc Sorin [§2], Martina Bocci [§4], Martina Gerace [§5], Guillermo Ráfales Sancho and Mathieu Rossi [§6], Giuseppe Salomone [§8], Federica Rossetto [§10]. Some contextual information was also collected by Andrea Antolloni [§0:~36], Virginia Bertolotti [§ 11], Cai Luyang [§7], Jessica Leão França [§ 7], Salvatore Satta [§0:~13], Alberto Valentino [§11]. Quantitative data regarding the environmental impact of the buildings (standardised technical drawings, 3D models, data mining from them to build the inventories, data processing) were systematised and processed by Martina Bocci, also with the help of Susanna Pollini, also based on preparatory work performed by graduate students of the “Appropriate technology and low-tech architecture” course (2018). Owners and designers of buildings visited kindly allowed access to their properties, shared information and opinions, and often offered meals—Bjørn Berge [§8], Pat Borer [§11], Anne Evans, Marit

Grinaker Smith [§8], Hagino Kibo and Yuki [§12], Lothar Helm [§4], Uta Herz [§10], Klaus Hirsch [§0], Peter and Cynthia Jones, Bjørn Kierulf [§6], Joel Kunz [§6], David Lea [§11], Gernot Minke [§6], Beate Neumerkel [§10], Roar Ousland [§8], Dorothee Piontek [§3], Burkard Rüger [§10], Werner Schmidt [§3,6], Peter Segger, Shiramomo Kaoru [§9], Olivier Sidler, Anders Solvarm, Gabriel and Cristina Suliman [§2], Tanemoto Hiroko [§9], Toki Hirokazu [§7], Franz Volhard [§4].

Arai Hiroshi, Elena Barthel of Rural Studio [§0:~33], Francesca Bretzel, David Eisenberg, Hara Miori [§1], Gabriella Morini, Peter Harper [§11], Janni Hentrich of Tamera, Itō Koji [§12], Ito Toyo, Alex Kerr, Kumagai Kuniji and Yuuki, Federica Larcher, Moriyama Madoka [§9], Giovanni Munari, Murasawa Kazuteru, Glenn Murcutt, Okabe Akiko, Eko Prawoto, Sanada Junko, Sasagawa Daisuke [§9], Bill Steen [§5], Mariya Stoycheva [§1], Christoph Strünke of Sieben Linden [§5], Annika Tengstrand of the Arkitekturmuseet Stockholm, Teruhisa Mizuno, Andrea Zanini shared documents and information.

Taki Yosuke translated research texts from Japanese and, what’s more important, played a continuous role as a builder of wisely selected cultural bridges between Japan and Europe. Shirokane Kosei helped establish connections with Maruyama-gumi [§12]. Luisa Montobbio edited our photographs, drawings, and charts.

Research has been funded by an individual research grant of the Politecnico di Torino and a Japan Society for the Promotion of Science (JSPS) fellowship I was awarded in 2015 thanks to the help of Ozasa Takao and Komatsu Hisashi.

**Andrea Bocco Guarneri**, Ph.D., is Professor of Architectural Technology at the Inter-University Department of Urban and Regional Studies of the Politecnico di Torino. He teaches *Appropriate technology and low-tech architecture*. His publications deal with, among other topics, Bernard Rudofsky, Yona Friedman, analysis of the built environment, regeneration of mountain villages, low-tech contemporary architecture, construction with natural materials, environmental impact, as well as thesauri for architecture and construction. He also worked in the field of urban regeneration, local development, and community hubs. He founded and directed the Local Development Agency of San Salvario (Torino).

