III TWR CONFERENCE

TRANSDISCIPLINARY WORKPLACE RESEARCH

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Chiara Tagliaro, Alessandra Migliore and Rossella Silvestri (eds.)

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Department of Architecture and Urban Studies
Department of Management, Economics and Industrial Engineering

TWR NETWORK

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Chiara Tagliaro, Alessandra Migliore and Rossella Silvestri (eds.)

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Table of Content

PREFACE 14

TWR2022 CONFERENCE ORGANIZATION 16

TWR2022 CONFERENCE PROGRAM 19

SESSION 1A: CAMPUS AND ACADEMIC WORK 22

ACADEMIC WORK - SOMETHING ELSE? 23

Kaja Indergård, Norwegian University of Science and Technology
Geir Karsten Hansen, Norwegian University of Science and Technology
Dave Collins, Norwegian University of Science and Technology

AUTONOMOUS VS COLLABORATIVE WORKSPACES FOR ACADEMIC RESEARCH: A DESIGN ISSUE. THE CASE OF THE NEW SCIENTIFIC UNIVERSITY CAMPUS IN THE MILAN MIND DISTRICT 31

Barbara Camocini, Politecnico di Milano
Luisa Collina, Politecnico di Milano
Laura Daglio, Politecnico di Milano
Giulia Gerosa, Politecnico di Milano

MEANING MAKING THROUGH ARTISTIC INTERVENTIONS IN UNIVERSITY SPACES: AN AESTHETIC APPROACH 42

Federica De Molli, Università Cattolica del Sacro Cuore
Chiara Paolino, Università Cattolica del Sacro Cuore

WORKPLACE IN AFRICA: THE PLANNING OF ADMINISTRATIVE AND DIDACTIC SPACES FOR THE SOMALI NATIONAL UNIVERSITY 43

Rossella Silvestri, Politecnico di Milano
Gianandrea Ciaramella, Politecnico di Milano

SESSION 1B: GEOGRAPHY OF NEW WORKING SPACES 61

SPATIAL PATTERNS AND LOCATION FACTORS OF COLLABORATIVE SPACES IN POLAND. WARSAW CASE STUDY 62

Karolina Małochleb, Jagiellonian University
Katarzyna Wojnar, University of Warsaw

A SYSTEMATIC LITERATURE REVIEW OF THE EFFECTS OF COWORKING SPACES ON RESIDENTIAL AREAS AND THEIR POTENTIAL FOR IMPLEMENTATION IN EXISTING BUILDINGS 78

Thomas Vogl, Bauhaus-Universität Weimar
Hans-Joachim Bargstädt, Bauhaus-Universität Weimar

THE RISE OF COWORKING SPACES IN THE ITALIAN MEZZOGIORNO DURING THE COVID-19 PANDEMIC 89

Ilaria Mariotti, Politecnico di Milano
Ivana Pais, Università Cattolica del Sacro Cuore

SESSION 1C: SUSTAINABLE WORKSPACES 95

SUSTAINABLE DEVELOPMENT GOALS (SDGS) AND KNOWLEDGE WORK – A RESPONSIBLE MATCH? 96

Satu Kankaala, Aalto University
Suvi Nenonen, University of Helsinki

SUSTAINABILITY IN OFFICE BUILDINGS: A COMPARISON IN THE MEASUREMENT OF ENVIRONMENTAL IMPACTS 105

Alice Paola Pomè, Politecnico di Milano

SMART BUILDING ENVELOPE - TOWARD INCREASED BUILDING SUSTAINABILITY: A LITERATURE REVIEW 116

Sarel Lavy, Texas A&M University
Yash Thakur, Texas A&M University

SESSION 2A: HYBRID CAMPUS 124

TAKING ADVANTAGE OF THE PANDEMIC HYBRID EXPERIENCE: RATIONAL WORKPLACES FOR ACADEMIC AND BUSINESS ACTIVITY 125

Georgi Zabunov, University of National and World Economy
Albena Stefanova, University of National and World Economy

HYBRID LEARNING ENVIRONMENTS IN UNIVERSITIES – HOW TO MANAGE THE CO-CREATION PROCESS FROM DESIGN TO USE 134

Niclas Sandström, University of Helsinki
Suvi Nenonen, University of Helsinki
Anne Nevgi, University of Helsinki

UNIVERSITY HUBS: AN EMERGING PHENOMENON BETWEEN CAMPUS, WORK, AND SOCIAL SPACES 144

Alessandra Migliore, Politecnico di Milano
Chiara Tagliaro, Politecnico di Milano
Davide Schaumann, Technion, Israel Institute of Technology
Ying Hua, Cornell University

HYBRID STUDENT ACCOMMODATION: THE ROLE OF WORKPLACES IN THE TRANSITION TO A NEW FUNCTIONAL IDENTITY 155

Maria Teresa Gullace, Politecnico di Milano
Oscar Eugenio Bellini, Politecnico di Milano

SESSION 2B: NEW WORKING SPACES AND COMMUNITIES 167

WORKING THE BOUNDARIES: MANAGERIAL CHALLENGES IN TRANSFORMING PUBLIC WORKSPACES INTO CARING COMMUNITIES 168

Eduardo Calvanese, Università Cattolica del Sacro Cuore di Milano
Laura Galuppo, Università Cattolica del Sacro Cuore di Milano
Silvia Ivaldi, Università degli studi di Bergamo
Giuseppe Scaratti, Università degli studi di Bergamo

COMMUNITY-DRIVEN WORKSPACES AND LOCAL SOCIAL INFRASTRUCTURE 175

Irene Manzini Ceinar, University College London

COLLABORATION IN CO-WORKING SPACE IN JOHANNESBURG 184

Thabelo Ramantswana, University of the Witwatersrand
Ulemo Tholo, University of the Witwatersrand
Tshireletso Maruping, University of the Witwatersrand
Halatedzi Mudau, University of the Witwatersrand

IMPACT OF COWORKING SPACES ON THE LOCAL URBAN MILIEU. CASE STUDY OF POLAND 192

Karolina Małochleb, Jagiellonian University

SESSION 2C: CORPORATE REAL ESTATE 203

ADDRESSING LEADERSHIP CHALLENGES IN TIMES OF DIGITALIZATION OF THE WORKSPACE - RECOMMENDATIONS FOR SCIENCE AND INDUSTRY 204

Annette Kämpf-Dern, Frankfurt University of Applied Sciences
Verena Rock, TH Aschaffenburg University of Applied Sciences
Irina Kummert, Ostfalia University of Applied Sciences

SMART WORKING AND NEW SCENARIOS FOR COMPANIES' HEADQUARTERS 217

Carlo Capra, Assolombarda

WORKPLACE DIVERSIFICATION, WORKSPACE FLEXIBILISATION AND COMPANY STRATEGIES POST PANDEMIC. LESSONS FROM A PARIS REGION CASE STUDY 223

Julie Perrin, Université Gustave Eiffel
Anne Aguiléra, Université Gustave Eiffel
Laurent Terral, Université Gustave Eiffel

WORKPLACE BENCHMARKING: CURRENT BENCHMARKING PRACTICE OF THE REAL ESTATE INDUSTRY AND BENCHMARKING DEMANDS OF CORPORATE REAL ESTATE ORGANIZATIONS 235

Virna Monero Flores, Zurich University of Applied Sciences
Eunji Häne, Zurich University of Applied Sciences

SESSION 3A: CRITICAL THINKING AND WORKING ENVIRONMENTS 244

WORKPLACE AFFORDANCES OF SOCIAL WELLBEING: A CONCEPTUAL FRAMEWORK 245

Susanne Colenberg, Delft University of Technology
Natalia Romero Herrera, Delft University of Technology
David Keyson, Delft University of Technology

THE EVOLUTION OF WORKPLACES AND THE MEANING OF WORK FROM THE INDUSTRIAL REVOLUTION TO PANDEMIC TIMES. A CRITICAL PERSPECTIVE 256

Chiara Tagliaro, Politecnico di Milano
Maria Russo, Università Vita-Salute San Raffaele

DESIGNING WORKPLACES TO ALIGN WITH CULTURE(S) 265

Sally Augustin, Design With Science

IN SEARCH FOR CURRENT DESIGN SOLUTIONS SUPPORTING OUTDOOR OFFICE WORK. EXPLORATORY APPROACH THROUGH CUSTOMISING A PHOTO ANALYSIS 274

Aulikki Herneoja, University of Oulu
Annu Haapakangas, Finnish Institute of Occupational Health
Sara Malve-Ahlroth, Finnish Institute of Occupational Health
Laura Lahti, University of Oulu
Tuomas Raappana, University of Oulu

SESSION 3B: NEW WORKING SPACES AND STRATEGIES 285

WHY ARE COMPANIES USING COWORKING SPACES? AN EXPLORATORY STUDY ON "CORPORATE COWORKING" TRENDS IN ITALY 286

Sara Ciancio, Università Cattolica del Sacro Cuore di Milano
Laura Galuppo, Università Cattolica del Sacro Cuore di Milano
Silvia Ivaldi, Università degli studi di Bergamo
Eduardo Calvanese, Università Cattolica del Sacro Cuore di Milano

CREATING A COWORKING SPACE: MOTIVATIONS AND SUSTAINABILITY AFTER THE COVID-19 CRISIS 296

Patricia Lejoux, LAET-ENTPE
Aurore Flipo, LAET-ENTPE

NEW WORK COMMUNITIES: FROM THE FORDIST OFFICE TO THE WORKSPHERE 4.0 .. 303

Michela Bassanelli, Politecnico di Milano
Imma Forino, Politecnico di Milano

SESSION 3C: SALUTOGENIC APPROACHES 311

THE WELL-BEING EFFECTS OF BIOPHILIC DESIGN IN WORKPLACES: A VALUE-BASED APPROACH 312

Joyce Chan-Schoof, Loughborough University
Derek Clements-Croome, Reading University
Vicky Lofthouse, Loughborough University
Robert Schmidt-III, Loughborough University

FLOURISHING THE BIOPHILIC WORKPLACES: A CO-DESIGN TOOLKIT 327

Youmna Al-Dmour, Brunel University London
Vanja Garaj, Brunel University London

THE EFFECTS OF SALUTOGENIC WORKPLACE CHARACTERISTICS ON PRODUCTIVITY, STRESS, CONCENTRATION, AND MOOD IN A VIRTUAL OFFICE ENVIRONMENT 340

Lisanne Bergefurt, Eindhoven University of Technology
Rianne Appel-Meulenbroek, Eindhoven University of Technology
Theo Arentze, Eindhoven University of Technology

SESSION 4A: COVID-19 AND THE FUTURE OF WORKSPACES 353

THRIVING OR SURVIVING? HOW THE PHYSICAL WORK SETTING AT HOME WAS EXPERIENCED GLOBALLY DURING COVID-19 354

Saija Toivonen, Aalto University
Ina Blind, Kristianstad University
Riikka Kyrö, Lund University

PROFESSIONAL ISOLATION IN THE HOME WORKPLACE DURING THE COVID-19 PANDEMIC 363

Thijs Voulon, Eindhoven University of Technology
Rianne Appel-Meulenbroek, Eindhoven University of Technology
Lisanne Bergefurt, Eindhoven University of Technology
Monique Arkesteijn, Delft University of Technology
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Pity Jongens-Van der Schaaf, Aestate/Onrafelexperts

ENACTING INTERPERSONAL CONNECTIVITY REMOTELY DURING COVID-19: AN APPROACH OF DANISH MIDDLE MANAGERS 365

Nelda Andersone, Technical University of Denmark
Giulia Nardelli, Technical University of Denmark
Christine Ipsen, Technical University of Denmark
Kasper Edwards, Technical University of Denmark

DOES WORKING FROM HOME INCREASE ACADEMIC PRODUCTIVITY? THE ROLE OF GENDER, WORKSPACE, AND FAMILY WORKLOAD DURING THE COVID-19 PANDEMIC 375

Alessandra Migliore, Politecnico di Milano
Massimo Colombo, Politecnico di Milano
Cristina Rossi-Lamastra, Politecnico di Milano
Raffaele Mancuso, Politecnico di Milano

SESSION 4B: COWORKING SPACES, HEALTH AND WELLBEING 386

COWORKING SPACES AND THEIR EFFECTS ON WORKERS AND WORKING ENVIRONMENTS 387

Diane-Gabrielle Tremblay, TéLUQ University of Québec

WORK-LIFE BALANCE THROUGH COWORKING: AN INSIGHT FROM THE CZECH REPUBLIC 396

Gislene Feiten Haubrich, CITCEM
Lukas Danko, Tomas Bata University in Zlín

WELLBEING AT WORK IN COWORKING SPACES: AN OVERVIEW 405

Francesca Ciccarelli, Politecnico di Milano

SESSION 4C: WORK ENVIRONMENTS BETWEEN VIRTUAL AND PHYSICAL ACTIVITIES 406

DIFFERENTIATION OF WORKTASKS AT HOMES AND OFFICES 407

Alexander Redlein, Technische Universität Wien
Lisa Thrainer, Technische Universität Wien

WHAT DO KNOWLEDGE WORKERS ACTUALLY DO? A FRAMEWORK TO DEVELOP A NEW TAXONOMY FOR KNOWLEDGE WORKERS' ACTIVITIES 418

Maaike Niekel, Center for People and Buildings
Henk Jan Hoekjen, Center for People and Buildings
Bartele Hoekstra, Center for People and Buildings
Anca Gosselink, Center for People and Buildings

THE VIRTUAL REALITY WORKPLACE 430

Marko Orel, Prague University of Economics and Business

PLANNING THE ACADEMIC WORKSPACE: TRANSITIONING TO NEW WAYS OF WORKING 431

Isabelle Taylor, Turnberry Consulting
Samantha Hall, Campus Intuition

SESSION 5A: COVID-19 AND WORK OUTCOMES 439

COMPARING HOME OFFICE DETERMINANTS ON PERSONAL AND ORGANISATIONAL OUTCOMES IN GERMANY AND THE U.S. 440

Kyra Johanna Voll, Technical University of Darmstadt
Andreas Pfnür, Technical University of Darmstadt

FUNCTIONS AND RELEVANCE OF SPATIAL CO-PRESENCE: LEARNINGS FROM THE CORONA PANDEMIC FOR WORKPLACE MANAGEMENT 458

Lukas Windlinger, Zurich University of Applied Sciences
Marius Gerber, Zurich University of Applied Sciences

SHARED WORKSPACE DESIGN: ELEMENTS OF ANALYSIS FOR A HEALTHY WORK EXPERIENCE IN POST-COVID-19 TIMES 466

Ebru Baykal Uluoz, Istanbul Technical University
Goksenin Inalhan, Istanbul Technical University

GROUP CREATIVITY IN THE WORKPLACE BEYOND COVID-19 PANDEMIC 476

Amila Badungodage, University of Canberra

SESSION 5B: OFFICES, HEALTH AND WELLBEING 485

OFFICE NOISE - EFFECTS AND CONTROL 486

Valtteri Hongisto, Turku University of Applied Sciences

CONCEPTUALISING HEALTHY FLEXIBLE OFFICE DESIGN 498

Melina Forooraghi, Chalmers University of Technology

INDOOR ENVIRONMENTAL QUALITY SATISFACTION IN OFFICES - OFFICE TYPES AND DIFFERENCES BETWEEN CONTINENTS 507

Jenni Radun, Turku University of Applied Sciences
Valtteri Hongisto, Turku University of Applied Sciences

SESSION 5C: BOOK PRESENTATIONS 514

A HANDBOOK OF THEORIES ON DESIGNING ALIGNMENT BETWEEN PEOPLE AND THE OFFICE ENVIRONMENT 515

Rianne Appel-Meulenbroek, Eindhoven University of Technology
Vitalija Danivska, Breda University of Applied Sciences

RESEARCHING PHYSICAL AND VIRTUAL WORKPLACES: METHODOLOGICAL APPROACHES FOR WORKPLACE RESEARCH 516

Chiara Tagliaro, Politecnico di Milano
Marko Orel, Prague University of Economics and Business
Ying Hua, Cornell University

SMART WORKING STARTS FROM THE OFFICE 517

Luca Brusamolino, Workitect - Università degli Studi di Milano
Luisa Errichiello, Ismed - CNR
Clara Vicentini, Università degli Studi di Milano

BEYOND THE WORKPLACE ZOO 518

Nigel Oseland, Workplace Unlimited

SESSION POSTER 519

NEW OFFICE CULTURE: A CASE OF REAL-LIFE USER PREFERENCES 520

Anne Kathrine Overgaard, University of Southern Denmark
Karna Kühnell Gautier, University of Southern Denmark
Torben Durck Johansen, University of Southern Denmark

SPACE FOR SCIENCE AND HOPE - BUILDING A COMMUNITY FOR ACADEMICS AND THE GENERAL PUBLIC 522

Riikka Kyrö, Lund University
Rebecka Lundgren, Lund University
Tuuli Jylhä, TU Delft

THE RELUCTANT RETURNER 524

Ilana Como, Unispace
Vickie Collinge, BlueSky

SUMMER SCHOOL ON WORKPLACE MANAGEMENT 2022 - BEST PROJECT “THE NEST OF THE ENTREPRENEURS” 526

Yousra Yagoub Ahmed, Politecnico di Milano
Carla Iurilli, Politecnico di Milano
Shifu Zhang, Politecnico di Milano
Vika Zhurbas, Ukrainian Coworking Association
Maria Raphael Kottoor, Politecnico di Milano

SUMMER SCHOOL ON WORKPLACE MANAGEMENT 2022 - BEST PROJECT “CCC - COMMUNITY COWORKING CENTER” 528

Tamara Chamsi Bacha, Politecnico di Milano
Blanca Monni, Betahaus
Apoorva Sukathirtha, Politecnico di Milano
Ada Yildirim, Politecnico di Milano

SESSION 6A: PRACTICES OF HYBRID WORKING 530

MULTIFACETED EMPLOYEES’ FEEDBACK ON HYBRID WORK ENVIRONMENT: FINDINGS FROM A NEWS MEDIA COMPANY 531

Chaiwat Riratanaphong, Thammasat University
Artitaya Klongnarong, Facility and Real Estate Management (FREM) research unit

A HYBRID OFFICE HOW-TO: DEVELOPING A FRAMEWORK TO ADDRESS THE COMPLEXITIES OF THE POST-PANDEMIC RETURN TO THE PHYSICAL OFFICE 543

Kerstin Sailer, University College London
Matt Thomas, University of Birmingham
Rosica Pachilova, brainybirdz

DESIGNING THE HYBRID WORKPLACE AT SMES: INSIGHTS FROM A CASE STUDY 553

Güldem Karamustafa-Köse, School of Engineering and Management Vaud HEIG-VD. HES-SO University of Applied Sciences and Arts Western Switzerland
Anna Lupina-Wegener, School of Engineering and Management Vaud HEIG-VD. HES-SO University of Applied Sciences and Arts Western Switzerland

SESSION 6B: WORKSPACES, INCLUSION AND CORPORATE SOCIAL RESPONSIBILITY 554

UNDERSTANDING SUSTAINABLE COWORKING 555

Daniel Magnusson, Chalmers University of Technology
Hendry Raharjo, Chalmers University of Technology
Petra Bosch-Sijtsema, Chalmers University of Technology

SUSTAINABILITY PERFORMANCE OF THE WORKSPACE: AN ANALYSIS OF THE BEST FOR THE WORLD 2021 COMPANIES 566

Rossella Silvestri, Politecnico di Milano
Alice Paola Pomè, Politecnico di Milano

INCLUSIVE WORKPLACE: A SCOPING REVIEW 578

Chiara Tagliaro, Politecnico di Milano
Alessandra Migliore, Politecnico di Milano
Erica Mosca, Politecnico di Milano

MANAGERIAL UNDERSTANDINGS OF HYBRID WORK: COMPARING EFFICIENCY-FOCUSED, HUMAN RESOURCES FOCUSED, TEAM-FOCUSED AND CORPORATE SOCIAL RESPONSIBILITY-FOCUSED UNDERSTANDINGS 590

Gemma Irving, The University of Queensland
Grace Williams, The University of Queensland

SESSION 6C: WORKSPACES, CULTURE AND EXPERIENCES 598

DYNAMIC EXPERIENCE SAMPLING METHOD FOR EVALUATING WORKPLACE EXPERIENCES 599

Piia Markkanen, University of Oulu
Ville Paananen, University of Oulu
Simo Hosio, University of Oulu
Aulikki Herneoja, University of Oulu

REAL WORLD SPACES AND CREATIVE THINKING 610

Sally Augustin, Design With Science
Cynthia Milota, Ware Malcomb
Cristina Banks, Interdisciplinary Center for Healthy Workplaces

PEOPLE - ACTIVITY - PLACE TYPOLOGY - LITERATURE REVIEW OF THE STATUS OF RESEARCH 620

Ewa Strubelt, Frankfurt University of Applied Sciences
Annette Kämpf-Dern, Frankfurt University of Applied Sciences

SESSION 7A: THEORIES OF HYBRID WORKING 629

HYBRID WORLD OF WORK - WHAT IS KEEPING US FROM WORKING IN 'THE MATRIX'? 630

Vitalija Danivska, Breda University of Applied Sciences
Wouter van Tankeren, Breda University of Applied Sciences

JOB DEMANDS AND RESOURCES OF HYBRID TELEWORKING: A LITERATURE REVIEW 631

Kaire Piirsalu-Kivihall, University of Tartu

DETERRITORIALIZATION OF THE WORKSPACE: IS REPRESENTATION A NEW IDEOLOGY OF OFFICES IN INFORMATION SOCIETY? 643

Vesna Krizmanic, University of Belgrade / ARCHINOVA

RESILIENT ORGANIZATIONS AND EMERGING INFRASTRUCTURAL RELATIONS: THE MAKING OF DIGITAL RESILIENCE 648

Angelos Kostis, Umea University
Jonny Holmström, Umea University
Stefan Haefliger, Bayes Business School

SESSION 7B: WORKING ENVIRONMENTS: INTERDISCIPLINARITY BETWEEN RESEARCH AND EDUCATION 657

IN SEARCH OF BRIDGING KNOWLEDGE BETWEEN DISCIPLINES: ABOUT SPATIAL SOLUTIONS TO ENVIRONMENTAL SATISFACTION IN KNOWLEDGE WORK 658

Aulikki Herneoja, University of Oulu
Virpi Ruohomäki, Finnish Institute of Occupational Health
Annu Haapakangas, Finnish Institute of Occupational Health
Piia Markkanen, University of Oulu
Ville Paananen, University of Oulu
Simo Hosio, University of Oulu
Jussi Virkkala, Finnish Institute of Occupational Health
Ari-Pekka Rauttola, Finnish Institute of Occupational Health

INTERDISCIPLINARITY IN LIGHT OF ACTOR-NETWORK THEORY 668

Kaja Indergård, Norwegian University of Science and Technology

BEHAVIOUR SETTINGS FACILITATING THE INTERDISCIPLINARY RESEARCH AND DESIGN OF WORK ENVIRONMENTS 676

Martin Steffen, Offconsult AG

ROBOTISATION IN WORKPLACE AND FACILITY MANAGEMENT: THREAT OR OPPORTUNITY? A Q-STUDY INTO FUTURE VISIONS ON THE LABOUR MARKET AND ITS IMPLICATIONS FOR HIGHER EDUCATION 684

Bert Smit, Breda University of Applied Sciences
Nadine Oosterman, Breda University of Applied Sciences / CBRE
Lauren Voogd, Breda University of Applied Sciences

SESSION 7C: ACTIVITY-BASED WORKING: THEORY AND PRACTICE 690

FACILITATORS AND CHALLENGES IN IMPLEMENTING ACTIVITY-BASED FLEXIBLE OFFICES 691

Maral Babapour, Institute of Stress Medicine
Melina Forooraghi, Chalmers University of Technology
Annemarie Hultberg, Institute of Stress Medicine

ACTIVE UTILISATION OF DIFFERENT ZONES IN ABW OFFICE - RELATIONSHIPS TO EMPLOYEE EXPERIENCE 703

Heljä Franssila, Work Environment Unit, Senate Properties

ACTIVITY-BASED OR AVAILABILITY-BASED? FACTORS INFLUENCING EMPLOYEES' CHOICE OF WORKSTATION IN ACTIVITY-BASED OFFICES 716

Sepideh Yekanialibeiglou, Bilkent University
Leif Denti, University of Gothenburg
Halime Demirkan, Bilkent University

THE ROLE OF COHESION AND CONNECTION WITHIN THE ABW FRAMEWORK: A CRITICAL ELABORATION 728

Dennis La Brijn, Center for People and Buildings
Sjors Houtveen, Center for People and Buildings
Jacqueline Schlangen, Center for People and Buildings

PREFACE

In the wake of the COVID-19 pandemic, radical changes in the ways of working have rapidly put the workplace at the centre of a profound debate over its function and *raison d'être*. More than ever, employers, consultants, and researchers have acknowledged the necessity for a transdisciplinary approach to advance knowledge and practice in this area and foresee a reasonable evolution of the workplace.

These Proceedings address such pressing issues by collecting the most recent knowledge advancements in this field that were presented at the III Transdisciplinary Workplace Research (TWR) Conference, held in Milan, Italy, from September 7th to 10th 2022.

The Conference brought together work environment experts in a wide range of disciplines, from both academia and practice, in line with the spirit of the Transdisciplinary Workplace Research (TWR) Network (www.twrnetwork.org), whose aim since 2017 has been to encourage the convergence of the various aspects of the workplace that are usually studied in isolated academic and professional fields. The idea of the Network is that design and operations of healthy and productive working environments not only take individual economic, personnel, design, or technical-communicative aspects into account; integrative approaches beyond disciplinary paths are also necessary. Moreover, practical experience must underpin a sound evidence-based approach to research, in order to overcome the traditional theory-practice dichotomy. The TWR Network has an international board which contributes to expanding the types, methods, and reach of workplace studies, finding common paths across countries, and enhancing the differences among them.

With this aim, the TWR Network organizes a biannual conference that is brought every year in different parts of the world. After the first TWR Conference (2018) in Tampere, Finland, and the second one (2020) in hybrid form between Frankfurt and online, this year's conference took place in Milan, Italy, hosted by Politecnico di Milano.

The III TWR conference included a multiplicity of topics, regarding the physical work environment (such as architecture and design, building physics, material science), social work environment (such as human resources management, behavioural sciences, organisational science, business, health and safety, neuroscience, environmental psychology, philosophy), digital work environment (such as information communication technology, virtual reality, sensor engineering, data analytics), and management of the built environment (such as asset, facility and property management, economics, corporate real estate management, decision science). Presented research focused on an individual, team, organisational or urban level of analysis.

The tangible outcome of this initiative is this publication: the Proceedings of TWR 2022 gather all the 80 contributions that were included in the Conference program after a thorough selection of 120 submitted abstracts.

A special thank goes to all authors and reviewers for their diligent participation in the double-blind peer review process. On the one hand, all the authors presented original investigations described concisely and effectively. On the other hand, all the reviewers provided constructive feedback that the authors carefully considered to improve their work. Most of the authors gave their consensus to publish their short papers in this volume. For those who preferred to submit

their paper elsewhere, we included only the abstract. This is a remarkable collection of insights that keep adding value following up on the precedent TWR 2018 and 2020.

The III TWR Conference was for many of the attendees the first in-person large gathering after the COVID-19 pandemic. The enthusiasm about engaging in physical exchanges across borders and disciplines was clear in the large participation that the event obtained, demonstrated by the following numbers:
172 authors
26 countries
100 in-person presenters
8 virtual attendees (non-presenters)
71 papers
5 posters
4 book presentations
21 parallel sessions spanning from Corporate Real Estate to new working spaces, from salutogenic approaches to hybrid working, from communities to academic campuses
3 workshops with the industry about *diversity and inclusion* in the workplace
4 networking events
1 keynote speech proposing a philosophical perspective on spatial relations and mutual respect in the workplace
3 days and a half of workplace formal and informal chats among enthusiast people on state-of-the-art of transdisciplinary workplace research.

We would like to thank the TWR Network for all the support over the past (nearly) 2 years. In particular, the leading force, Rianne Appel-Meulenbroek, for her contagious passion for the TWR mission and values, as well as Mascha Will-Zocholl and Annette Kaempf-Dern, organizers of TWR 2020, for being always available to pass on their experience and share their guidelines.

Finally, this TWR 2022 would not have been possible without a common purpose that we achieved with Politecnico di Milano and Fondazione Politecnico di Milano, and with our sponsors - CBRE, Lendlease, Unispace, and StudioWé. In particular, we are grateful to our mentors Andrea Ciaramella, Ilaria Mariotti, and Cristina Rossi-Lamastra who put themselves on the frontline whenever necessary to endorse the initiative.
Enjoy the read!

Milan, September 2022

Chiara Tagliaro
Alessandra Migliore
Rossella Silvestri

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Remi Ayoko, University of Queensland, Australia
Maral Babapour Chafi, Institute of Stress Medicine, Denmark
Amila Badungodage, University of Canberra, Australia
Michela Bassanelli, Politecnico di Milano, Italy
Ebru Baykal Uluoz, Istanbul Technical University, Turkey
Pavel Bednář, Tomas Bata University in Zlín, Czech Republic
Oscar Eugenio Bellini, Politecnico di Milano, Italy
Lisanne Bergefurt, Eindhoven University of Technology, Netherlands
Torben Bernhold, FH Münster University of Applied Sciences, Germany
Petra Bosch, Chalmers University of Technology, Sweden
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Susanne Colenberg, Delft University of Technology, Netherlands
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Christophe Demazière, Université de Tours, France
Halime Demirkan, Bilkent University, Turkey
Mina Di Marino, Norwegian University of Life Sciences, Norway
Gislene Feiten Haubrich, CITCEM, Portugal
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Maria Teresa Gullace, Politecnico di Milano, Italy
Stefan Haefliger, Bayes Business School, UK
Udo-Ernst Haner, Fraunhofer IAO, Germany
Geir Karsten Hansen, Norwegian University of Science and Technology, Norway
Christopher Heywood, University of Melbourne, Australia
Henk-Jan Hoekjen, Center for People and Buildings, Netherlands
Sungil Hong, Georgia Institute of Technology, USA
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Goksenin Inalhan, Istanbul Technical University, Turkey
Christine Ipsen, Technical University of Denmark, Denmark
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Annette Kämpf-Dern, Frankfurt University of Applied Sciences, Germany
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Irene Manzini Ceinar, University College London, UK
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Grzegorz Micek, Jagiellonian University, Poland
Suvi Nenonen, University of Helsinki, Finland
Anne Nevgi, University of Helsinki, Finland
Marko Orel, Prague University of Economics and Business, Czech Republic
Nigel Oseland, Workplace Unlimited, UK
Anne Kathrine Overgaard, University of Southern Denmark, Denmark
Jenni Radun, Turku University of Applied Sciences, Finland
Hendry Raharjo, Chalmers University of Technology, Sweden
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Hilde Remoy, Delft University of Technology, Netherlands
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Mascha Will-Zocholl, Hessian University of Police and Administration, Germany
Lukas Windlinger, Zurich University of Applied Sciences, Switzerland
Thomas Wissingh, De Haagse Hogeschool, Netherlands
Eunhwa Yang, Georgia Institute of Technology, USA
Georgi Zabunov, University of National and World Economy, Bulgaria
Daria Zueva, HUST, Vietnam

TWR2022 CONFERENCE PROGRAM

WEDNESDAY
SEPTEMBER 7TH

9:00 - 11:00	**TWR Board Meeting** Event open only to TWR Board members Room 16B.2.1		
11:00 - 11:30	Welcome Coffee Room 16B.0.1		
11:00 - 11:30	**Conference Registration** Room 16B.0.1		
11:30 - 13:00	**Politecnico di Milano Campus Tour** Room 16B.1.1		
13:00 - 14:30	Lunch Break Room 16B.0.1		
14:30 - 16:30	**Parallel workshop sessions with industry sponsors, facilitated by Studio Wé**		
	Session W1 Unispace Workshop Room 16B.1.1	**Session W2** Lendlease Workshop Room 16B.2.1	**Session W3** CBRE Workshop Room 16B.3.1
18:00 - 21:00	**Welcome Aperitivo** @ Polimi Campus Leonardo - Room 16B.0.1		

THURSDAY
SEPTEMBER 8TH

8:30 - 9:00	**Conference Registration** Room 16B.0.1		
9:00 - 9:30	**Welcoming Session: Institutional Greetings from TWR Board and Politecnico di Milano** Room 16B.1.1		
9:30 - 10:30	**Opening Keynote by Roberto Mordacci** "Space relations and mutual respect" Room 16B.1.1		
10:30 - 11:00	Coffee Break "TWR anniversary celebration" Room 16B.0.1		
11:00 - 12:30	**Session 1A** Campus and Academic Work Room 16B.1.1	**Session 1B** Geography of New Working Spaces Room 16B.2.1	**Session 1C** Sustainable Workspaces Room 16B.3.1
12:30 - 14:00	Lunch Break Room 16B.0.1		
14:00 - 15:30	**Session 2A** Hybrid Campus Room 16B.1.1	**Session 2B** New Working Spaces and Communities Room 16B.2.1	**Session 2C** Corporate Real Estate Room 16B.3.1
15:30 - 16:00	Coffee Break Room 16B.0.1		
16:00 - 17:30	**Session 3A** Critical Thinking and Working Environments Room 16B.1.1	**Session 3B** New Working Spaces and Strategies Room 16B.2.1	**Session 3C** Salutogenic Approaches Room 16B.3.1
20:00 - 23:30	**Social Dinner** @ Museo della Scienza e della Tecnica Leonardo da Vinci, Sala delle Colonne		

FRIDAY
SEPTEMBER 9TH

8:30 - 9:00	**Conference Registration** Room 16B.0.1		
09:00 - 10:30	**Session 4A** Covid-19 and the Future of Workspaces Room 16B.1.1	**Session 4B** Co-Working Spaces, Health and Wellbeing Room 16B.2.1	**Session 4C** Work Environments Between Virtual and Physical Activities Room 16B.3.1
10:30 - 11:00	Coffee Break Room 16B.0.1		
11:00 - 12:30	**Session 5A** Covid-19 and Work Outcomes Room 16B.1.1	**Session 5B** Offices, Health and Wellbeing Room 16B.2.1	**Session 5C** Book Presentations Room 16B.3.1
12:30 - 14:00	Lunch Break Room 16B.0.1	**Poster Session** Room 16B.0.1	
14:00 - 15:30	**Session 6A** Practices of Hybrid Working Room 16B.1.1	**Session 6B** Workspaces, Inclusion and Corporate Social Responsibility Room 16B.2.1	**Session 6C** Workspaces, Culture and Experiences Room 16B.3.1
15:30 - 16:00	Coffee Break Room 16B.0.1		
16:00 - 17:30	**Session 7A** Theories of Hybrid Working Room 16B.1.1	**Session 7B** Working Environments: Interdisciplinarity Between Research and Education Room 16B.2.1	**Session 7C** Activity-Based Working: Theory and Practice Room 16B.3.1
20:00 - 23:30	**Farewell Party - Conference Closing** @ Balera dell'Ortica		

SATURDAY
SEPTEMBER 10TH

10:00 - 12:00	**Post-conference Event - Discover Milano** @ Monumental Cemetery of Milan

The Evolution of Workplaces and the Meaning of Work from the Industrial Revolution to Pandemic Times. A Critical Perspective

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ABSTRACT
The distribution of work has been evolving, especially after the COVID-19 pandemic. Activity-based and multi-located approaches date back to the 1990s, entailing people not to perform all their tasks at the same desk all day long but moving around the office and the territory at large, as their tasks change. This has both advantages and disadvantages. However, in the wake of the pandemic, more and more companies have allowed their employees to work from home or other places for multiple days a week, especially for concentrative work, while they are redesigning the company office as mainly a place for networking and collaboration. The leading assumption is that employees who are granted the freedom to choose where and when to work are happier and, therefore, more productive. A question arises though regarding the future of work: are we going back to a spatial model that suggests a tayloristic approach to the organisation of work? Or is this differentiation of spaces a way to grant employees more freedom of choice? This paper discusses the changing structure of the spatial experience of work and how this depends and, in turn, reflects on alienating dynamics and individuals' autonomy. It presents a brief history of the evolution of workplaces and the meaning of work from both a spatial and a philosophical point of view. After an overview of the initiatives undertaken during the emergency phase of the pandemic, changing working methods and spaces, it presents the case of a multinational telecommunications company as an example of how workplace strategies and workspaces are being reorganised. The paper concludes by proposing a few directions to ensure that the new working arrangements following the pandemic do not create further alienating dynamics, but rather better meet workers' needs and autonomy of choice.

Keywords
Diffused work, Pandemic, Autonomy, Marx, Critical theory.

1 INTRODUCTION

This paper will deal with the latest developments in the organisation of workspaces after the digital revolution and after the emergency phase of the pandemic, through the use of an interdisciplinary method between architecture, workplace management and philosophy. In particular, it will talk about diffused work and how today the traditional office is undergoing a process of "deconstruction and decomposition" in favour of a whole series of other places each of which is supposed to become a hyper-specialised space equipped according to the various daily professional needs (including, spaces for meetings, for concentration, and so on). The question we aim at disentangling here is: are we going back to a spatial model that suggests a tayloristic approach to the organisation of work? Or is this differentiation of spaces a way to

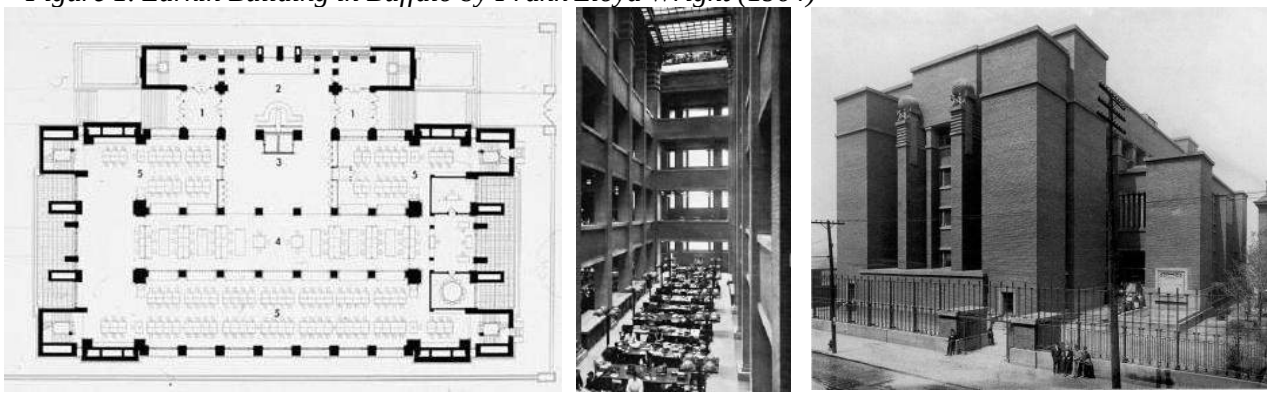
grant employees more freedom of choice? The role played by space in shaping the relationship between companies and employees is unquestioned: *"From Taylor to Foucault, space has in fact always been considered to be supportive or constraining of organisational activity"* (Lo and Feiten Diochon, 2019, p. 2). Power-based perspectives on space claim that space is constraining in the sense that spatial layout, the physical environment, and architecture are *"central in establishing and maintaining relations of power"* (Taylor and Spicer, 2007, p. 331) between employees and employers. Throughout time this relationship has evolved, together with organisation and management studies. Nevertheless, since the inception of the modern office (van Meel, 2000), individuals have never been so free to decide when, and even whether, to use the office as an anchor for their work and for their relationship with the employer. According to various observers and commentaries (e.g. Tagliaro, 2020; Fayard, Weeks, and Khan, 2021) the office is going to change its principal function of hosting work activities and is destined to become: (i) a social anchor; (ii) a training ship to pass company culture and way of working; (iii) a place for unstructured collaboration and creativity (Fayard, Weeks, and Khan, 2021). The rest of work can be performed either at home, in third places or elsewhere, based on a multi-located (Hislop and Axtell, 2009) and "hybrid" work mode (Fayard, Weeks, and Khan, 2021). The paper will therefore examine the criticalities linked to this concept of widespread work, such as a lack of planning that often leaves the management and use of these spaces to chance or the initiative of the individual (Hislop and Axtell, 2009). From a philosophical point of view, also the implications of this "colonisation" of personal spaces by the working dimension will be considered, as happened especially with working from home during and after the emergency phase of the pandemic. The paper develops as follows: in the first section, it will present a brief history of the evolution of workplaces and the meaning of work also from a philosophical point of view. Then, it will outline an overview of the initiatives undertaken during the emergency phase of the pandemic, which changed working methods and spaces. In particular, data collected on the case of a multinational telecommunications company will be reported as an example of how many companies are currently reshaping their workplace strategies and workspaces. Finally, in the last paragraph it will be asked what direction could be taken in organising workspaces to ensure that the new working arrangements following the pandemic do not create further alienating dynamics, but rather better meet workers' needs and autonomy of choice.

2 WORK AND WORKPLACES FROM THE INDUSTRIAL REVOLUTION TO THE CONTEMPORARY SCENARIO

Philosophy has repeatedly addressed the issue of work, its evolution, its management and, above all, its meaning for the individual. According to Hegel, work is even the means by which the servant (who has lost the struggle against the master according to the well-known dialectic set out in the *Phenomenology of Spirit*) can recognize themselves and recover their experience of freedom (Hegel, 1807/2018). And yet, it takes only a few generations to arrive at Marx's conception of alienation, who becomes a witness to the inequalities and injustices that characterised the expansion of the industrial revolution and the establishment of the economic system of capitalism (Marx, 1988). According to Marx, the product of labour is completely taken away from the worker, who therefore can no longer recognize themselves in what they do. Moreover, with hyper-specialisation and the introduction of the assembly line, work has become increasingly fragmented and depersonalised, so that the worker in the factory reproduce the same tasks without grasping an overall meaning, just like Charlie Chaplin's character in *Modern Times* who keeps seeing bolts even after working hours are over. In the words of Marx and Engels, *"This division of labour made it possible to supply products faster and therefore more cheaply. It reduced the activity of the individual worker to a very simple,*

constantly repeated mechanical motion which could be performed not only as well but much better by a machine." (Marx and Engels, 1948/2020, p. 78). Not by chance, the first modern office buildings, as defined by van Meel (2000) manifest this fragmentation and depersonalization in their very architectural features. The Larkin Building in Buffalo by Frank Lloyd Wright (1904) is an example of the so-called "white collar factories" (Figure 1). In the early 20th century office, it was not uncommon to find mechanical conveyor belts to transport papers and documents from desk to desk, arranged in a classroom-like layout. The physical working environment was purposely organised so that the employees could have been monitored by the managers, thus emphasising the lack of autonomy over the work activity that Marx interprets as negative alienation. In addition to these alienating dynamics, those who were previously used to processing products in their homes, with the first textile industries are forced to move to the city in dormitory blocks and perform their work functions exclusively in the factory. People would indeed 'go to work', a place definitely separated, and most of the time far from home (O'Mara, 1999).

Figure 1. Larkin Building in Buffalo by Frank Lloyd Wright (1904)



Moreover, the dynamics of alienation do not stop with the already gruelling hours of work in the factory, which were initially characterised by a total lack of protection for human rights. During the 1940s, the theorists of the Frankfurt School, who took up the Marxist tradition, intercepted the totalizing and colonising tendency of the productive system of capitalism, which sought to extend its dynamics beyond the world of work. This is what Horkheimer and Adorno (1944/2002) emphasised in their essay on the cultural industry in *Dialectic of the Enlightenment*: thanks to the models transmitted by the entertainment industry and the mass media, an attempt is made to deactivate the critical spirit and the possibility of forming a class consciousness, which is essential for trying to modify the most inhuman conditions of work. The diagnosis of these authors is particularly radical: "*The powerlessness of the workers is not merely a ruse of the rulers but the logical consequence of industrial society, into which the efforts to escape it have finally transformed the ancient conception of fate*." (Horkheimer and Adorno, 1944/2002, p. 29). Another exponent of the Frankfurt School, Marcuse, would go so far as to say that the performance principle has now replaced the reality principle itself (Marcuse, 1955/1974). In the advanced industrial society, the system of capitalism tends to absorb any drive, including those that would seem to be opposed to the system, until it comes to the paralysis of criticism and the one-dimensional society and man (Marcuse, 1964/1991). This flattening of any individual peculiarity to celebrate performance can be exemplified by the change in workplaces' architecture. While the introduction of the so-called "Action Office" in the 1960s by Robert Prost for Hermann Miller was meant to liberate employees by allowing them to modify the desk arrangement freely, the economy was growing at too fast a pace and executives needed something more easily reproducible. Therefore, the "Action Office" was

diverted into what is popularly known as cubicle farm, as it entails every workstation being identical to the others: a "workstation for the human performer" (Saval, 2014). Since the 1960s many offices worldwide, especially in the U.S., adopted this solution, which might have contributed to people losing any drive, and their identity as distinct individuals. In the second half of the twentieth century, workplaces were undoubtedly characterised by healthier conditions than in the first factories, but after a brief period of economic boom, work once again became highly precarious. In fact, there have been a series of economic and political choices that partly annul the conquests achieved by decades of strikes and struggles for social rights. Since the 1970s, the deregulation of neo-liberalism has impoverished the so-called welfare state, imposing the paradigm of a free market without any external checks and balances. This goes hand in hand with the professionalisation of corporate real estate and facility management, and with the outsourcing of office services (Appel-Meulenbroek, Clippard, and Pfnür, 2018). In addition to lowering wages and increasing labour volatility, these choices have also led to several cyclical crises of capitalism, firstly industrial (especially in competition with the emerging economies of China, Taiwan and Singapore), but also financial (think of the 2008 disaster) and even partly digital (the dot-com bubble at the beginning of the millennium). Some argue that the growing number of contingent workers within the gig economy is granting more flexibility, independence, self-fulfilment and enterprise (Fayard, 2021). Conversely, many observe that the imperative to save on labour costs unfortunately remains one of the main business models. Beyond the wave of firings that followed first the crisis of the American real estate bubble and then the COVID-19 pandemic, we need only think of the case of the freelancers of Uber, Gloovo or other platforms who have no protection and suffer new forms of exploitation. In corporate real estate and workplace management the driver of cost reduction means reducing the cost of the facilities, which progressively led to a reduction in the number of workstations in favour of desk sharing, hot desking and hotelling policies with contrasting effects on employees productivity and performance (Bosch-Sijtsema, Ruohomäki, and Vartiainen, 2010). This work mode has been often associated to an "activity-based working" approach (Figure 2), according to which "*multiple settings are provided which have different technical and physical attributes assembled to support the variety of performance 'modes' that take place in a work environment*" (Robert Lucchetti Workplace Consultants). At the same time, advances in technology have progressively enabled workers to adopt a multi-location work mode, which supposedly empowers employees to perform different tasks at different places (Felstead et al., 2005). Nevertheless, this entails constant effort by the workers in creating and producing a workplace in the locations that they use, with uncertain power relations between them and their employers (Hislop and Axtell, 2009).

Figure 2. Activity Based Office by Robert Lucchetti Workplace Consultants

In parallel with the evolution of workspaces and workplace management, philosophy has never ceased to offer a critical analysis of the world of work such as in the research of Jaeggi (2014), Srnicek (2017) and Zuboff (2019), sometimes even proposing very radical solutions such as the introduction of the Universal Basic Income, which can be achieved by taxing not the work of human beings, but the machines and means of production (Van Parijs and Vanderborght, 2017). To sum up, two opposing narratives emerge about what work means after the industrial revolution and within capitalist system (Fayard, 2021): on one hand, work is represented as monotonous and meaningless tasks to be achieved for the production of artefacts, services or experiences in exchange for compensation (e.g. Schwatz, 2015); on the other, work enables self-fulfilment and the exploration of possible selves (e.g. Cukier, 2018). This distinction echoes the contrast between *labour* and *homo faber's work* that Arendt (1958/1998) contends, and that of Harding (2013) between labour, which reduces people into zombie-machines, and work, which empowers self-construction of individuals. Workspace design appears to resemble this tension in its evolution over time.

3 HOW COMPANIES ARE RETHINKING THEIR WORKSPACES AFTER THE EMERGENCY PHASE OF THE PANDEMIC

Newspapers, magazines and journalists have claimed that the COVID-19 pandemic has brought about a new era for the offices. In addition to guidance on safety in the workplace, there has been increasing talk about the wellbeing of workers and the need to think about how to find a compromise between the needs of the company and those of its employees or collaborators (even when this may not be about company benefits, but just the quality of the environment and relationships). This theme was, however, already present in the same years in which there was the one-dimensional flattening well described by Marcuse, precisely as an attempt to respond to these issues. In hindsight, user satisfaction and wellbeing have become important drivers in office design since the 1960s (van Meel, 2000), with the advent of environmental psychology followed by the discovery of work-related illnesses (e.g. the Sick Building Syndrome). Nowadays, based on a renewed sensitivity toward individual needs and preferences, an even more radical "activity-based" way of arranging the workspace has inspired many organisations to expand the spatial limits of work to the whole city and even broader geographical boundaries. Particularly with regard to certain jobs, the idea of shortening the working week or making it possible to work from home on certain days has been under discussion for decades, but recently it has become the dominant strategy for many companies worldwide (OECD, 2021). The assumption is that such flexible working arrangements (H.R. 4219, 2017) will, on one hand, make it easier for workers to organise their family and personal commitments and, on the other, reduce the company's fixed costs. The rise of coworking spaces since the 2000s seems to combine well with this trend. Lo and Feiten Diochon (2019) argue that such places can enable low-power actors to empower themselves, as these spaces are characterised by hybridity, indeterminacy and flexibility. Nevertheless, it was only in the context of the spread of the COVID-19 virus that a new type of working mode came to be experienced *en masse*, whereby every type of task was managed from one's own home, regardless of one's family status. This has clearly had advantages, especially in terms of lowering transport costs, in cases where the office is several kilometres away from the employee's home. In addition, in some cases there has even been an increase in productivity (e.g. Tagliaro and Migliore, 2022). However, there were also significant disadvantages, which go beyond the increasing virtuality of relationships with one's colleagues, suppliers or customers. First of all, this situation led to a lot of inconvenience for those who did not have a suitable flat to have a dedicated area for an office and who at the same time could have one or more children at home from school to manage. Like all crises, the pandemic, far from making

us all the same as certain media slogans we saw in 2020, has exacerbated social inequalities. Moreover, in many cases this has led to an undue extension of working time (e.g. Tagliaro and Migliore, 2022), since there was no longer a break between work and rest, in a sort of hypertrophic application of the performance principle described by Marcuse. Despite contrasting views on flexible work arrangements, after the most critical phase of the pandemic many companies are considering maintaining remote work for most of their employees indefinitely (The Economist, 2020) therefore dismissing their office buildings. The companies that are opting to still use the office are considering it as one of the multiple locations for work taking up only a small percentage of the work time of their employees for very specific tasks, as Felstead et al. (2005) had already anticipated. Let's discuss the example of one specific multinational telecommunications company. To document this case we use secondary sources provided by the company's workplace manager (i.e. presentations given at university courses and conferences to describe the company's future workplace strategy). This company considers that only between 20 and 40% of the overall working time will be spent in the office. Accordingly, the office becomes a "hub", a temporary location among others, including coworking spaces, cafés, home and anywhere else. Vodafone space models assume that the Hub will be used mainly for connection, co-creation and inspiration, whereas individual and concentrative work will be performed elsewhere. This re-functionalization of the office has a significant impact in terms of square metres occupied, with forecasts allowing between 20% and 40% of the current real estate to be released. The company is making this decision not independently from their employees' opinion. Workplace managers have been busy with focus groups and surveys for two years, in the attempt to figure out how to best accommodate the needs of their people. Their findings demonstrated that concentration at the office accounts for only 5% of the experience, whereas connection and co-creation are what really attract people to the office. As a consequence of these investigations, the company is taking action to refurbish their London headquarters by increasing space dedicated to connection from 8% to 42% of the floor area, augmenting space for co-creation from 20% to 45%, adding space for inspiration (that is currently non existing) up to 2%, and decreasing space for concentration from 72% to 11%. In order to support concentrative activities performed at home, the company is providing the employees with specific incentives to create comfortable home-offices, even though their surveys confirm that the most used work arrangement in the office is still the individual station. This way of planning and designing the workplace can be conceived as an extended "activity-based working" approach. In the last part of this paper, it will therefore be asked whether analogous changes in the organisation of workspaces are going in the direction of greater freedom of workers in accordance with their needs or instead towards an even more radical alienation, with a total colonisation of space and time.

4 DOES THE CURRENT ORGANISATION OF WORKPLACES ALLOW MORE FREEDOM TO ITS WORKERS OR DOES IT RISK INCREASING THE DYNAMICS OF ALIENATION?

If, according to Marx, capitalism takes away the product of labour from workers, so that they can no longer recognize or identify themselves in what they do, what is happening now when the worker seems to be progressively deprived even of the space for work? Relying on behavioural science studies and self-determination theory (SDT), a Cornell University research (Baard, Deci, and Ryan, 2004) of 320 small businesses demonstrated that the growth rate of companies whose employees were autonomous in their work was four times higher than that of control-oriented firms. The same study proved that turnover in businesses granting workers autonomy was one third than that in companies adopting top-down policies. This applies to workspace management, as well. According to Gensler (2013), employees who can choose

when and where to work are more innovative and perform better in focus effectiveness (+7% compared to employees without choice), collaboration effectiveness (+4%) and learning effectiveness (+3%). Research shows that when workers are granted freedom of choice over when and where to work, they are more productive and also happier (e.g. Bloom, Liang, Roberts, and Ying, 2015). However, after COVID-19 many companies have been wondering how to reorganise the office given the new flexible workstyle which leaves the workspace often empty or underutilised. A question arises if such reorganisation will lead to the office assuming a well-defined and rather restricted function, therefore inevitably hindering real freedom of choice. We argue that, if offices are increasingly being transformed into places for collaboration, training and culture transfer, the risk is that the supposed subject's freedom of choice is in reality constrained and multi-local work does not become a benefit but a limitation for employees whose activities will be segmented across different spaces. The risk is to go back to the taylorist approach of separation of activities and micro-silos, where management of supply chains will prevail over management of people (Pink, 2009). However, a philosophical perspective cannot be content to stop at a critique of reality; it must also imagine a possible reversal in the direction of a new and better future. If therefore several critical issues have been highlighted by Marxist thought and several authors of critical theory, one can also point to alternative ways of allowing personal re-appropriation of one's own space through a personalization of work that goes in the direction of both greater personal wellbeing and more concrete social justice. Indeed, allowing the individual professional to manage their own work is part of a concept of autonomy and participatory democracy linked to the world of work and not only in the political sphere (Gould, 1988). The question is therefore: through a reorganisation of workspaces based on the needs and well-being of the individual, is it possible to more effectively embody those assumptions of a welfare that neoliberalism has instead challenged? The idea is precisely to make workers participate in the choices of their own company, in a sort of democratic sharing that can also stimulate a virtuous feeling of belonging to the company itself (such as in the example presented above). In this sense, there is a need for greater personalization of employment contracts that would meet the concrete needs of individual workers. It is not a question of satisfying arbitrary preferences, but of having tools for analysis and classification that make it possible to assess the living conditions of the individual employee or collaborator. Therefore, employment contracts should consider three main factors, that, from our point of view, are: 1) the family condition; 2) the characteristics of one's living space; 3) the potential of choosing among a widespread network of private and public spaces for work. With regard to the first point, allowing greater flexibility in both working hours and the possibility of working from home could have a radical impact on the organisation of the individual worker's life. Clear legislation on flexible working hours and working space for those with children, regardless of gender, would reduce discriminatory practices whereby young women who become mothers are often forced into unemployment to meet family needs. The same should apply to people who take care of elderly parents or relatives, achieving a possible balance between working life and relational one that does not involve choosing one of these universes of meaning to the detriment of the other. Secondly, in order to understand whether flexible working arrangements can be an advantage for individual workers, we need to start from their living space. One could think of individual incentives to equip a part of one's home as an office, or the company could guarantee coworking spaces in different areas of the city or region. In fact, one could try to make a more targeted analysis of the potential of interactive spaces, such as the aforementioned coworking. This particular modality of workplaces' organisation both a) improves the quality of relations and thus of the working environment, b) results in an increase in productivity, guaranteed by interaction and the ability to network and not by a progressive increase in individual working hours. Meeting

the needs of the worker, even before their ambitions, could strengthen both the identity link between the individual and the company and their capacity for self-determination, without compromising the final result in terms of productivity. In this way, virtuous practices could be put in place that go in the direction of privileging the aforementioned *work* dimension over the *labour* one. In addition, if we erode the narrative of competition and individualism, we can discover new practices of corporate growth based on a more collective concept of work, given by both the sharing of physical and digital spaces, where we can understand that *"we are becoming more intelligent collectively because we are developing ways to connect partial understandings productively on a new scale"* (Stalder, 2013, p. 17). Overall, companies should be aware that *"a change in material circumstances may make it possible for new values to emerge"* (Anthony, 1977, p. 315). Therefore, a radical change in the way we conceive, plan, design and use office buildings is likely to trigger sooner or later a totally new way for individuals to identify with the work they do, share the values and culture of their organisations, and to feel empowered with real autonomy of choice. Starting from the organisation of working spaces, which necessarily also implies a rethinking of working time, it is possible to mitigate the dynamics of alienation described by critical theory and to give a different meaning to work itself, towards new forms of recognition and identity integration. The idea would be that the design should somehow counteract the tendency of spaces to host particular tasks (Felstead et al., 2005) rather than support and maximise the characteristics of the space that already make it predominantly suitable for a given task. We believe that understanding what these forms might concretely be could be the result of further and more in-depth research that exploits the interdisciplinary collaboration between architecture, workplace management and philosophy.

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