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The Institute for a Global
Sustainable Information Society

Verein zur Integration und Implementation von System-, Informations- und
Gesellschaftswissenschaften

Report 2020 and Outlook

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Authored by W. Hofkirchner
Vienna, February 2020

A Research

Research activities focused on exploring the techno-eco-social transformation of societies into a Global Sustainable Information Society. In particular, questions of an economy of the commons, degrowth, a critical theory of media, resilience and sustainability, sustainable cities, social self-organisation, and digital humanism were investigated.

In that context, among others, connections were established with Degrowth Vienna and Fridays for Future Vienna.

The pandemic impacted us such that we had to face cancelations of face-to-face events and we started switching over to online meetings and lectures. However, exchange of research or teaching personnel and postgraduate and PhD students – as foreseen by the agreement with Xi'an Jiaotong University in Xi'an, China – had to be postponed.

1 Projects

Preparation and execution of, or autonomous collaboration in, research projects by The Institute with or without funding:

- **Emergent Transformation**
  Wolfgang Hofkirchner started a book project. The monograph will resume his book *Emergent Information* and devise a transdisciplinary theories framework for the third step in sociogenesis.

- **COVID-19 Epidemic Austria Simulation Model**
  Peter Fleissner simulated the Austrian and the German part of the pandemic and proposed a European strategy for the starving out of the Sars-COV2 virus. He was among a committee of experts that recommended the German government to fix the number of 50 for incidences to enable politics to control the pandemic.

- **Information Ethics, Responsibility and Sustainability**
  2020 was the first year of that project according to the contract between GSIS and the Faculty of Informatics and Statistics, Prague University of Economics and Business, 0013/VŠ/2020. Though personal meetings were limited, the following achievements have been made:
  - Tomáš Sigmund published a chapter in the book: Theoretical Information Studies, Information in the World which resulted from the cooperation between GSIS Vienna and Prague University of Economics and Business.
  - In September 2020, Tomáš Sigmund took part on the conference organized by the Institut für Design Science. He had a lecture on dialectics in nature which resulted from and harvested the discussions with GSIS members.
  - Also in September 2020, W. Hofkirchner was invited to the Senior Forum on The Philosophy of Information and the Development of Intelligent Society at Xi'an, China. His talk was about the ethical aspect of Artificial Intelligence: "Machines of loving grace" or "Tools for Conviviality"? A translation will be published in China besides an English version to be published in Germany.
  - In November 2020, W. Hofkirchner had an online lecture at the Leibniz Sozietät in Berlin on social systems which was influenced by our common development of system thinking.
  - In December 2020, W. Hofkirchner continued the discussion of discourse with a short research paper on the classification of disinformation with special focus on ethical implications.
  - A book on transhumanism (Transhumanism: The Proper Guide to a Posthuman Condition or a Dangerous Idea?) was published where Members of GSIS and Tomáš Sigmund have their chapters. The book editors were GSIS Members Hans-Jörg Kreowski and Wolfgang Hofkirchner.
  - Tomáš Sigmund prepared an article on ICT and metaphors which was earlier discussed and commented on by GSIS members.

- **Lernen lernen**
  Sophie Huber-Lachner's documentary "Lernen lernen" ("learn how to learn") is still in production – Corona was slowing down the process and working closely with the protagonists was not possible. Hence, together with senior producer Markus Fischer (Fischerfilm) it was decided to resize the project to a TV documentary (45-60 minutes). Eight additional shooting days are planned.

- **SISI (Single Integrated Science of Information)**
  The following lecture is owed to the project:
  - Lecture at the Leibniz Society in Berlin in November 2020 on the Imperative of the Information Age by W. Hofkirchner (in German)

  The following publications were achieved:
  - Burgin, M. *Problem-oriented foundations of intelligence in the context of superintelligence,* Proceedings, 2020, v. 47, No.1, 21, 2 p.; doi:10.3390/proceedings47010021
  - Burgin, M. *Discerning Potential and Impact Information,* Proceedings, 2020, v. 47, No.1, 4, 5 p.; doi:10.3390/proceedings47010004
  - Burgin, M. *Information Processing by Symmetric Inductive Turing Machines*, Proceedings, 2020, v. 47, No.1, 28, 2 p.; doi:10.3390/proceedings47010028
  - Burgin, M., Eberbach, E. and Mikkilineni, R. *Processing Information in the Clouds*, in Proceedings, 2020, v. 47, No.1, 25, 5 p.; doi:10.3390/proceedings47010025
  - Burgin, M. and Dodig-Crnković, G. *Modeling Computing Devices and Processes by Information Operators*, Proceedings, 2020, v. 47, No.1, 18, 5 p.; doi:10.3390/proceedings47010018
  - Burgin, M. and Dodig-Crnkovic, G. *A Multiscale Taxonomy of Information in the World*, in Theoretical Information Studies: Information in the World, World Scientific, New York/London/Singapore, 2020, pp. 3–27
  - Capuro, R. and Burgin, M. The Structure of the World, Unity of Nature and the Problem of Time, in Theoretical Information Studies: Information in the World, World Scientific, New York/London/Singapore, 2020, pp. 139–176
  - Burgin, M. *Information Processing by Structural Machines*, in Theoretical Information Studies: Information in the World, World Scientific, New York/London/Singapore, 2020, pp. 323–371
  - Burgin, M. and Dodig-Crnkovic, G. (Eds) **Theoretical Information Studies: Information in the World**, World Scientific Series in Information Studies: v. 11, World Scientific, New York/London/Singapore, 2020, 532
  - Burgin, M. and Dodig-Crnkovic, G. *Prolegomena to Operator Theory of Computation*, Information, v. 11, No. 7, 2020, 349; doi:10.3390/info11070349
  - Burgin, M. and Cárdenas-García, J.F. *A Dialogue Concerning the Essence and Role of Information in the World System*, Information, v. 11, No. 9, 2020, 406
  - Hofkirchner, W. *A Paradigm Shift for the Great Bifurcation*, BioSystems, v. 197, Nov. 2020, 104193
  - Hofkirchner, W. *Intelligence, Artificial Intelligence and Wisdom in the Global Sustainable Information Society*, Proceedings, 2020, v. 47, No.1, 39, 4 p.; doi:10.3390/proceedings2020047039

- **glossaLAB**
  By the end of 2020, the project has reactivated its development plan, which was significantly slowed by several causes derived from the Covid-19 pandemic and related measures, which severely hit the countries involved. In particular, a new support was granted by Madrid Open University at the end of 2020 with the purpose of fulfilling project objectives and applying its development to educational contexts. At the moment, the development team has concluded several achievements:
    - (i) the conversion of the encyclopedic sources to markation language has been achieved,
    - (ii) the basic components of the platform are functional.

  At the same time, other achievements are on the way:
    - (iii) the provision of new contents has been done continuously,
    - (iv) a trial platform for sustainable management of glossaLAB has been developed,
    - (v) the integration of a clarification activity in the context of several international congresses has been agreed,
    - (vi) the Spanish Association for General Systems (SESGE) is collaborating with glossaLAB in the recovery and conversion of encyclopedic contents in Spanish developed by Charles François.

- **Evolution of Information Processing Systems**
  Annette Grathoff presented *Überlegungen zum Speichern physikalischer Information in der Natur* at the annual Wittenberg meeting to which the *Institut für Design Science München* had invited.
  The proceedings of the IS4SI Summit Berkeley 2019 containing an article of her related to the project were published in 2020.

- **Historical materialism, critical media and communication theory**
  This book project of Sebastian Sevignani and Sevda Arslan had to be postponed due to overwork.

- **Edgar Morin: Das Leben des Lebens**
  The translation of Edgar Morin's second volume on Method, carried out by Rainer E. Zimmermann und Cecile Malaspina, was delayed. A new publisher was searched.
  In 2021 a public event is considered to show substantial progress.

- **Transhumanism**
  The book *Transhumanism: The proper guide to a posthuman condition or a dangerous idea?*, edited by Hans-Jörg Kreowski and W. Hofkirchner, was made available in the end of 2020 (imprint 2021). It was published in the Springer series *Cognitive Technologies*.

- **Systems Thinking Origins**
  Annette Grathoff, Robert K. Logan and W. Hofkirchner met personally at the IS4SI Summit 2019 in Berkeley. Hofkirchner's contribution to the project was published in the proceedings.
  Also, Hofkirchner's paper for *BioSystems* (A paradigm shift for the Great Bifurcation), published in November 2020, is dealing with the issue.

In addition, several project proposals had been worked out and submitted for funding through intensive co-operation endeavours. One proposal was selected for a full proposal submission. The decision is expected in April 2021.

2 Presentations (selection)

Lectures or other appearances by Researchers or Members of The Institute at scientific events:

- **Christian Stary** | *The Internet of Behavior as Organizational Transformation Space with Choreographic Intelligence* | S-BPM ONE 2020, Bremen, Germany, 3 December 2020 (online)

- **Hans-Jörg Kreowski, Anne Schnerrer** | *Informatik zwischen Cyberpeace und Bits&Bäume* | NatWiss Kongress 2020, 27-28 November 2020 (online)

- **Shima Beigi** | *Everything we need to know about paradigm shifts* | TEDWomen 2020 FEARLESS, Tehran, Iran, 27 November 2020 (online)

- **Wolfgang Hofkirchner** | *Der Imperativ des Informationszeitalters* | Leibniz-Sozietät der Wissenschaften zu Berlin e.V., 12 November 2020 (online)

- **Joseph Brenner** | *Philosophy, Information, Intelligence, Society. A Complex Cognitive Ontolon* | Senior Forum, The Philosophy of Information and the Development of Intelligent Society, Xi'an, China, 12 September 2020 (online)

- **Gordana Dodig-Crnkovic** | *Computing for Intelligent Society. Info-Computational Approach* | Senior Forum, The Philosophy of Information and the Development of Intelligent Society, Xi'an, China, 12 September 2020 (online)

- **Wolfgang Hofkirchner** | *Artificial Intelligence: "Machines of loving grace" or "Tools for conviviality"?* | Senior Forum, The Philosophy of Information and the Development of Intelligent Society, Xi'an, China, 12 September 2020 (online)

- **Tomáš Sigmund** | *Dialektik der Schwachpunkte menschlichen Denkens* | Diskurstheorie, Wittenberg, Germany, 4-6 September 2020

- **Rainer E. Zimmermann** | *"Die Natur schlägt im Menschen ihre Augen auf." Eine Konzeption Schellings und die Sprechweise darüber* | Naturdialektik, Diskurstheorie, Wittenberg, Germany, 4-6 September 2020

- **Annette Grathoff** | *Die Evolution von Informationen verarbeitenden Systemen: Überlegungen zum Speichern physikalischer Information in der Natur* | Naturdialektik, Wittenberg, Germany, 5 September 2020, and GSIS, Vienna, 16 September 2020

- **Tomáš Sigmund** | *Effectiveness and sense of privacy policy statements* | IDIMT 2020, 2-4 September 2020 (online)

- **David Braunstein** | *Zum Ort der Wirtschaft in der Gesellschaft. Die Perspektive der Luhmannschen Systemtheorie als Erwiderung auf den "Homo oeconomicus"* | GSIS, Vienna, part 1 and 2 on 28 August and 16 September 2020 respectively

- **Irena Mostowicz** | *Dacha as a global urban alternative* | GSIS, Vienna, 28 August 2020

- **Hans-Jörg Kreowski** | *Ethische Aspekte der Rüstungsforschung* | DLR-Institut für den Schutz maritimer Infrastrukturen, 3 July 2020 (online)

- **Renate C.-Z.-Quehenberger** | *GAIA 5.0 – A holographic Image Ambience* | Milan Digital Week, 28 May 2020

- **Peter Fleissner** | *Die Covid-19-Pandemie in Österreich: Dynamik, Prognose und gesellschaftliche Folgen* | webinar, transform.or.at, 19 May 2020 (online)

- **Shima Beigi** | *Resilience against COVID-19* | Live Webinar, 13 March 2020 (online)

- **Thomas Allmer** | *'Digitale Arbeit, Möglichkeiten der Organisierung und gewerkschaftlicher Kämpfe'* | Invited talk in the panel at *ver.di goes digital* – Digitalkongress ver.di Bezirk München, Gewerkschaftshaus München, Germany, 7 March 2020

- **Wolfgang Hofkirchner** | *The concept of the global citizen – A possible third step in becoming truly human/e* | Keynote, 2nd Institute of Advanced Studies Köszeg Research Group Human 2.0 workshop, Köszeg, Hungary, 11 February 2020

3 Events

Scientific meetings organised by The Institute or in co-operation with Researchers or Members thereof:

- **The Digital Workplace – Nucleus of Transformation,** 12th International Conference on Subject-Oriented Business Process Management (S-BPM ONE 2020)**,** BIBA Bremen Institute for Production and Logistics, Bremen, Germany (online), 2-3 December 2020 (Chistiarn Stary, Hans-Jörg Kreowski)

- **Workshop "Eigentum, Medien, Öffentlichkeit",** Kritische Kommunikationswissenschaft (KriKoWi) Summer School 2020, Universität Paderborn, Paderborn, Germany, 24-25 September (Sebastian Sevignani)

- **GSIS Meeting on physical information and on Luhmann against homo economicus II,** GSIS, Vienna, Austria, 16 September 2020 (Annette Grathoff, David Braunstein)

- **Digitalized Economy, Society and Information Management,** 28th Interdisciplinary Information Management Talks (IDIMT-2020), Kutná Hora, Czech Republic, 2-4 September 2020 (Gerhard Chroust)

- **GSIS Meeting on Dacha as lifestyle and on Luhmann against homo economicus I,** GSIS, Vienna, Austria, 28 August 2020 (Irena Mostowicz, David Braunstein)

- **Post COVID-19 Societies,** Zoom Round Screen, Resilience for VUCA World 2020 Initiative, Center Leo Apostel for Multidisciplinary Studies, Vrije Universiteit Brussel, Belgium (online), 8 May 2020 (Shima Beigi)

- **Organizing without center,** Online workshop, GSIS, Vienna, Austria (online), 27 March 2020 (Evo Busseniers)

- **Future of Society and Humanism,** Workshop, Human 2.0 Research Group, Institute of Advanced Studies Köszeg (iASK), Köszeg, Hungary, 11 February 2020 (Wolfgang Hofkirchner)

4 Networking

Establishing new relations of The Institute with other organisations, including sharing positions.

So far, there exist three contracts on scientific collaboration that, due to Corona crisis, could not be executed in the full spectrum of agreed activities:

- with the **School of Humanities & Social Sciences, Xi'an Jiaotong University**, Xi'an, China;
- with the **Faculty of Informatics and Statistics, University of Economics and Business Prague**, Czech Republic;
- with the **Universidad a Distancia de Madrid**, Spain.

In addition, the following connections have been established:

- **Biocommunication and Natural Genome Editing**. Günther Witzany, independent philosopher, Salzburg, Austria

- **Austrian Study Centre for Peace and Conflict Resolution (ASPR)**. Stadtschlaining, Austria

- **Institute for Heterodox Economics**. WU Vienna, Austria

- **Institute of Advanced Studies Köszeg (iASK)**. Köszeg, Hungary

- **Fourth European Multidisciplinary Conference on Global Internet Governance Actors, Regulations, Transactions and Strategies (GIG-ARTS)**. Media Governance and Industries Research Lab & Jean Monnet Centre of Excellence FreuDE, Universität Wien, Austria

- **Fridays For Future Austria**. Vienna, Austria

5 Teaching

Courses or guest lectures for students at institutes of higher education Researchers or Members of The Institute are not affiliated with as well as tutoring external PhD students:

- Due to the Corona pandemic the planned course at Xi'an Jiaotong University, China, had to be postponed.
- The same holds for the exchange of postgraduate and PhD students according to the agreement between the School of Humanities & Social Sciences at the Xi'an Jiaotong University and GSIS.

6 Publications (selection)

Scientific papers, edited volumes, special journal issues, and monographs documenting research findings that serve the purpose of The Institute, (co-)authored or (co-)edited by Researchers and Members thereof:

- **Yurii Mielkov** | From sustainable development to degrowth: philosophical and educational strategies for sustainability. *Filosofiya Osvity. Philosophy of Education 26(1).* https://philosopheducation.com/index.php/philed/article/view/612
- **Christian Stary, Klaus Fuchs-Kittowski (eds.)** | Zur Wiedergewinnung des Realismus als notwendige Grundlage einer am Menschen orientierten Informations systemgestaltung und Softwareentwicklung. Leibniz Online 41. https://gsis.at/wp-content/uploads/2020/12/03_Stary_Fuchs_Realismus-v2_rh-fk-cs_rh-cs.pdf
- **Wolfgang Hofkirchner, Hans-Jörg Kreowski (eds,)** | *Transhumanism: The Proper Guide to a Posthuman Condition or a Dangerous Idea?* Springer, Cham
- **Joseph Brenner, Abir U. Igamberdiev** | *Philosophy in Reality. A New Book of Changes.* Springer, Cham
- **Peter Brödner, Klaus Fuchs-Kittowski (eds.)** | *Zukunft der Arbeit.* wbv, Berlin
- **Rainer E. Zimmermann** | *Münchener Vorlesungen zur Grundlegung der Philosophie.* wbv, Berlin
- **Rainer E. Zimmermann** | *Metaphysik als Grundlegung von Naturdialketik.* wbv, Berlin
- **Petr Doucek, Gerhard Chroust, Václav Oškrdal (eds.)** | *IDIMT-2020.* Trauner, Linz
- **Gerhard Chroust** | Human and Cultural Impacts on Projects. In: Doucek, P., et al. (eds.), *IDIMT-2020,* Trauner, Linz
- **Yagmur Denizhan** | Evolution of the mental model: From archaic myths to modern myths. *BioSystems 197*
- **Abir U. Igamberdiev, Joseph Brenner** | The evolutionary dynamics of social systems via reflexive transformation of exzerenal reality. *BioSystems 197*
- **Wolfgang Hofkirchner** | A paradigm shift for the Great Bifurcation. *BioSystems 197.* https://www.sciencedirect.com/science/article/pii/S0303264720300885?via%3Dihub
- **Vangelis Papadimitropoulos** | *The Commons: Economic Alternatives in the Digital Age.* University of Westminster Press, London. https://www.uwestminsterpress.co.uk/site/books/m/10.16997/book46/
- **Christian Fuchs** | *Communcation and Capitalism. A Critical Theory.* University of Westminster Press, London
- **Christian Fuchs** | *Kommunikation und Kapitalismus. Eine Kritische Theorie.* utb, München
- **Uwe Krüger, Sebastian Sevignani** | *Ideologie, Kritik, Öffentlichkeit.* Westend, Frankfurt
- **Mark Burgin, Gordana Dodig-Crnkovic (eds.)** | *Theoretical Information Studies.* World Scientific, Singapore
- **Mark Burgin, Gordana Dodig-Crnkovic (eds.)** | IS4SI 2019 Summit. proceedings 47
- **Shima Beigi** | *Mindful Smart Cities. Rethinking Smart Cities with Mindfulness Engineering.* VUBPress, Brussel

- **Christian Fuchs** | Everyday Life and Everyday Communication in Coronavirus Capitalism. *tripleC 18 (1)*
- **Sebastian Sevignani** | Klassenbildung im digiatlen Strukturwandel der Öffentlichkeit. *Argument 335*
- **Sebastian Sevignani** | The development of informational needs and prospects of a need-based critique of digital capitalism. *Annual Review of Critical Psychology 16*
- **Die konvivialistische Internationale** | *Das zweite konvivialistische Manifest*. transcript, Bielefeld
- **John Collier✝, Michael Stingl** | *Evolutionary Moral Realism*. Routledge, London
- **Wolfgang Hofkirchner** | *Emergent Information*. China Social Sciences Press, Beijing [in Chinese]

B Development of organisation

The General Meeting, held electronically 25-27 May 2020, confirmed Hofkirchner as **Director** und Allmer und Sevignani as **Co-Directors**.

At the end of 2020, The Institute counts **34 Ordinary Members** (a plus of 7 compared with 27 in 2019), among them **1 Institutional Member**, und **3 Honorary Members** (one of whom is also Ordinary Member).

Besides, The Institute disposes of **5 Researchers** being **no Members** at all (a plus of 2 compared with 4 in 2019, while one Researcher has become Member).

We regret that **Mario Bunge**, Member of our Advisory Committee, passed away.

The **financial situation** shows no significant change, though the membership fees provide an improvement perspective. We are still expecting to be listed as receiver of tax-deductible donations.

Despite the Corona pandemic, the **LAB** had been inaugurated.

C Outlook

1 Projects

Due to Corona crisis, the project activities planned in 2019 for the last year were postponed except for the Human 2.0 collaboration with iASK in Hungary and the decarbonisation application in Austria. This affects the four fields that are still on the agenda:

- **HOPE** filmproject with film-maker Hans Selikovsky
- **Convivial/sustainable interaction design** (working title) with Modestos Stavrakis and Christian Stary
- **Rhetorics of the Third** (working title) in Israeli-Palestinian dialogue with Francesca Vidal
- **Complexity and IT** (working title) application with Helena Knyazeva at the Russian Science Foundation or the Russian Foundation of Basic Research

All other projects will be continued.

2 Events

Out of six events planned for 2020, five could take place. Planned are now:

- besides an event with **Modestos Stavrakis** on **"Convivial and sustainable interaction design"** (postponed in 2020),
- an event with **Gerhard Chroust** on **"Cultural Differences"**;
- an event on **"Ein neuer, digitaler Strukturwandel der Öffentlichkeit"** at the **Kongress of Deutsche and Österreichische Gesellschaft für Soziologie in Vienna**, 23-25 August, organised by **Sebastian Sevignani** et al.;
- an event on **Digital Humanism** in the framework of the IS4SI 2021 Summit 12-19 September, co-organised with **Forum InformatikerInnen für Frieden und gesellschaftliche Verantwortung**;
- the yearly **Wittenberg** event, co-organised with the **Institut für Design Science München;**
- an event of the **Netzwerk Kritische Kommunikationswissenschaft** on 18-20 November, co-organised with the Institute of Heterodox Economics, WU Vienna;

and the support of

- the **GIG-ARTS-conference** that was postponed in 2020;
- the online lecture series of the **Austrian Study Centre for Peace and Conflict Resolution (ASPR)** from spring to summer,
- the yearly **State of Peace (STOP) conference** at the **ASPR** in the beginning of summer,
- and the **ASPR Summer Academy** in September, all three being academic milestones in the campaign **"Homeland Earth"** after **Edgar Morin**, member of our Advisory Board, expecting his 100th birthday in the beginning of summer.

3 Networking

In the course of becoming a messenger of the ASPR campaign on **"Homeland Earth"**, we will be able to reach out to various organisations.
- In particular, we will establish relationships with the **Convivialist International** that was initiated by the involvement of Edgar Morin.

4 Teaching

Due to Corona crisis, the course **"Information and Society"** at the School of Humanities & Social Sciences, Xi'an Jiaotong University, to be held by Wolfgang Hofkirchner, scheduled for the summer semester 2020, had to be postponed. Another date is not yet clarified, as it shall be held as presence course.

Fixed is the following:
- **"Reflections on Computer Science, Society and Ethics"**, two courses to be held by Wolfgang Hofkirchner, scheduled for the summer semester 2021, at the IMC University of Applied Sciences Krems, Austria, for Informatics Bachelor second and fourth semester students (online)

5 Publications

Among others, it is planned
- a special edition of the journal "Sustainability" on the topic **"Sustainability and Information Society"** (working title)