



Annual Report

Wolfgang Paul-Programm

IFOMIS

Faculty of Medicine, University of Leipzig

Director: Professor Barry Smith

31. October 2002

Table of Contents

1. Overview	3
a. Research	3
b. Collaborations	5
2. Publications	6
3. Conferences and Seminars	8
a. Ontological Spring	8
b. Workshop on Ontology and WordNet	11
c. Public seminars in collaboration with the Intitut für Logik und Wissenschaftstheorie	12
d. Public seminars in collaboration with the Insitut für Philosophie	12
e. External conferences and seminars	13
f. In-House Seminars	15
4. IFOMIS Researchers	16
a. Prof. Barry Smith	
b. Prof. Ingvar Johansson	
c. Dr. Thomas Bittner	
d. Dr. Maureen Donnelly	
e. Pierre Grenon	
f. Katherine Munn	
g. Jörg Hainich, MD	
h. Luc Schneider, MA	
i. Jonathan A. Simon	
j. Martin Trautwein	
k. Lowell Vizenor	
l. Dr. Daniel von Wachter	

1. Overview

a. Research

How can we master the ever-increasing flood of medical information in a world in which each medical discipline and each hospital system uses its own guidelines for terminology and categorization? The branch of information science which concerns itself with questions such as this is called 'ontology' (Smith, in press). Ontology has the task of developing robust category systems for the management of data of all kinds through the application of methods derived not only from information science and its neighboring disciplines but also from philosophy.

Medical ontology seeks a structured representation of the medical domain in a form that is accessible to both human beings and computers. It should lead to more efficient ways of handling the huge amounts of data accumulated through clinical studies and serve also the development of translation-systems which can make medical data accessible to both expert and non-expert users.

IFOMIS, which was founded in April 2002 as part of the Faculty of Medicine of the University of Leipzig, is the only institute that is devoted to foundational research in the areas of formal and medical ontology. Its goal is the development of an ontological system based on theoretically sound principles that can be applied and tested in the medical domain. It seeks to make a contribution not only theoretically, through the establishment of a new science of medical ontology but also practically, by contributing to the useability, reliability and expressiveness of medical information systems.

The heart of the work of IFOMIS thus far has been dedicated to the construction of the system **BFO** (for: Basic Formal Ontology), which comprehends formal representations of basic ontological structures such as space and time, quality and relation, role and process, function and system, body and environment. **BFO** has two central axes: **SNAP-BFO**, a series of snapshot ontologies of *enduring entities* such as substances, qualities functions, and roles; and **SPAN-BFO**, an overarching ontology of *processes* unfolding in time. In addition **BFO** embraces a theory of granular partitions which allows the representation of ontological structure at different scales or granularities, from molecules to galaxies (see Bittner and Smith, in press).

BFO is a formal or domainindependent ontology. This means that it can be applied to entities of all types and in all regions of being. By extending its formal representations through the addition of medical content **BFO** is transformed into the system **MedO** (for: Medical Ontology). **MedO** is a regional ontology, comprehending sub-ontologies relating to sub-disciplines of medicine such as anatomy and physiology. **SNAP-MedO** will serve as the basis for the ontology of anatomy at successive levels of granularity, from molecular and cell anatomy to clinical and surgical anatomy. **SPAN-MedO** will serve as basis for the ontology of physiology. Thus it will comprehend within its domain the physical and chemical processes in the living human organism in its normal functioning.

MedO is in the first place a mesoscopic ontology; that is to say, it relates to entities in the medical domain which can be grasped in normal human perception and in medical practice. This mesoscopic ontology will need to be supplemented with ontologies in the biomedical domain at other levels of

granularity, including gene and protein ontologies, using methods drawn from our existing work on multi-granular ontologies (Bittner 2002, 2002a, 2002b, Bittner and Smith, in press). Given the central role of pathology in the realm of medicine, our work must embrace also a theory of normativity and of abnormality in the medical realm. Thus we shall need to have the resources to capture in our ontology the different categories of abnormal conditions and of disease processes. **BFO** itself will therefore be extended to comprehend an ontological theory of norms or prototypes and of deviations from the norm – in this way our research in medical ontology will have implications also for the structure of our formal-ontological theories.

The content of **MedO** will be developed through intensive collaboration with researchers from various branches of medicine in the framework of a project which we call *Medical Being*. This is designed to yield a complete category system for the representation of the various structures and constitutive systems of the human body, as well as of the processes which take place within the human body on various levels of granularity. Where MedO is designed to serve a variety of tasks in the digital world of medical information systems, the end-result of the project Medical Being will be a multi-volume work designed to represent the ontological structures in the medical domain in a way that is intelligible to human beings. It will include also ontological theories of the doctor-patient relationship and of other aspects of the medical environment in a way that is designed to make the results of our work applicable also in fields such as medical literacy and medical natural-language translation, as also in providing ontological foundations for the field of medical ethics.

In addition to our colleagues in the Medical Faculty in Leipzig we will work also with Prof. Hans Burkhardt of the Institut für Philosophie of the University of Munich. Burkhardt is not only an acknowledged expert in the history of philosophical ontology but also an experienced medical practitioner. He will work with Daniel von Wachter, recipient of the Bayerischer Habilitationsförderpreis, after the latter's move to Munich at the end of this year. Their work will focus on the topic of causation in medicine (Wachter 2002 and in press) and its applications to the different varieties of medical pathology.

b. Collaborations

In addition to **MedO** a series of other **BFO**-based regional ontologies are in process of being developed by research groups in Koblenz and in Buffalo. The Institut für Wirtschaftsinformatik at the University of Koblenz (<http://www.uni-koblenz.de/~iwi/UM>) plans to develop **EcO**, an ontology of the commercial domain with special reference to the business enterprise and its institutional setting. The Buffalo Center for Multisource Information Fusion (<http://www.infofusion.buffalo.edu>) is developing **MilO**, an ontology of the domain of military objects, as part of a United States Airforce-funded project on the formal representation of what the military call “level 3 abstract concepts” such as *threat*, *readiness* and *opportunity*. In addition, a group of researchers in Buffalo’s National Center for Geographic Information and Analysis (NCGIA) (<http://www.geog.buffalo.edu/ncgia>) is developing **GeO**, an ontology of the spatial domain with special reference to geographic entities.

Our collaboration with geospatial ontologists in the NCGIA framework grows out of our conviction that the ontology of space and time must be at the heart of any basic formal ontology. Barry Smith and Pierre Grenon will participate in the conference on Action-Oriented Approaches in Geographic Information Science at the University of Maine (November 2-4, 2002), where Smith will give a plenary lecture on the **BFO** ontology for dynamic entities. In additions we are collaborating with the Qualitative Spatial Reasoning Group in the University of Leeds (<http://www.comp.leeds.ac.uk/qsr>) and with the Institute for Sciences and Technologies of Cognition in Trento und Rom (<http://www.ladseb.pd.cnr.it/infor/Ontology>) in the development of a standard database of axiomatized formal ontologies. IFOMIS is also a member of Ontoweb (<http://www.ontoweb.org>), a European Union funded project for ontology-based information exchange, and in this way our work forms part of the current international effort in ontology construction

Finally, we are collaborating closely with the Belgian company LandC (Language and Communication NV, <http://www.landc.be>), which develops information systems for the extraction of digital content from unstructured texts, focusing on unstructured records in the medical domain. IFOMIS will contribute to the ontological infrastructure of these systems, and its theoretical initiatives will thereby be tested in very large industrial ontologies. We have collaborated with LandC also in preparing a critique of the draft ISO/CD 17115 document on “Health Informatics: Vocabulary on Terminological Systems” of the International Organization for Standardization. Initial results of our collaboration with LandC were presented in a keynote address to the 17th International Congress of the European Federation for Medical Informatics in August 2002.

2. Publications

- Bittner, T. 2002 “Reasoning about Qualitative Spatio-Temporal Relations at Multiple Levels of Granularity”, in: F. van Harmelen (ed.), *ECAI 2002. Proceedings of the 15th European Conference on Artificial Intelligence*, Amsterdam: IOS Press,
- Bittner, T. 2002b “Judgments about Spatio-Temporal Relations”, *KR2002: Proceedings of the Eighth International Conference on Principles of Knowledge Representation and Reasoning*,
- Bittner, Thomas and Smith, Barry (in press) “A Theory of Granular Partitions”, in Matthew Duckham, Michael F. Goodchild and Michael F. Worboys (eds.), *Foundations of Geographic Information Science*, London: Taylor & Francis Books.
- Cohnitz, Daniel and Smith, Barry (in press) “Assessing Ontologies: The Question of Human Origins and Its Ethical Significance”, in C. Kanzian and E. Runggaldier, eds., *Persons: An Interdisciplinary Approach*, Vienna: hpt&öbv.
- Smith, Barry 2002 “From classical metaphysics to medical informatics: IFOMIS has a unique opportunity to put philosophical theories to the test empirically”, *Humboldt-Kosmos*, August 2002. Italian translation forthcoming in *Giornale del Medico*.
- Smith, Barry (in press) “Ontology”, in Luciano Floridi (ed.), *The Blackwell Companion to Philosophy, Information and Computers*, Oxford: Blackwells.
- Smith, Barry (in press, a) “Ontology and Information Systems”, *Stanford Encyclopedia of Philosophy* (MS. 97 pp.).
- Smith, Barry (in press, b) “John Searle: From Speech Acts to Social Reality”, forthcoming in Barry Smith (ed.), *John Searle*, Cambridge: Cambridge University Press. (MS. 62 pp.)
- Smith, Barry and Zaibert, Leo (in press) “Real Estate: Foundations of the Ontology of Property”, in Heiner Stuckenschmidt, Erik Stubjkaer and Christoph Schlieder (eds.), *The Ontology and Modelling of Real Estate Transactions*, Aldershot: Ashgate, 2002.
- Smith, Barry and Simon, Jonathan (forthcoming) “The True™ Story”, *Rivista di Estetica*.
- Trautwein, Martin 2001 “Die selektive Realisierung partieller Informationen über Zeitstrukturen in der Verb- und Satzsemantik”, in J. Dölling/T. Zybatow (eds.), *Ereignisstrukturen (= Linguistische Arbeitsberichte Leipzig, 76)* Leipzig: Institute for Linguistics, pp: 35-58.
- Trautwein, Martin 2002 “A Unified Approach to the (Re-)Construction of Temporal Sequences in Narrative Texts” in W. H. Drescher/W. Thiele/Chr. Todenhagen (eds.), *Investigations of Narrative Structures (= Angewandte Sprach- und Kulturwissenschaft der Johannes Gutenberg-Universität Mainz in Gernersheim)*, Frankfurt: Peter Lang.
- Wachter, Daniel von 2002 “Agent Causation: Before and After the Ontological Turn”, in *Persons: An Interdisciplinary Approach (Contributions of the Austrian Ludwig Wittgenstein Society)*, C. Kanzian, J. Quitterer, E. Runggaldier (eds.), Kirchberg am Wechsel: ALWS, 276-278.
- Wachter, Daniel von (in press) “How a Philosophical Theory of Causation may help in Ontological Engineering”, *Comparative and Functional Genomics*.

Wachter, Daniel von (in press a) “Put Semantics Last: Die philosophische Position David Armstrongs”, *Information Philosophie*.

Technical Report

Heller, Barbara, Herre, Heinrich and Smith, Barry (eds.) 2002 *Ontological Spring*, IFOMIS Technical Reports Number 1 (Reader prepared in conjunction with the conference *Ontological Spring*).

Table of Contents

Ontology, *Barry Smith*

Bones, Holes, and Scales: On the Need for a Spatial Ontology for Anatomy, *Rainer Schubert*

The Ontology of (Bio)chemical Reactions: Implications for Biochemical Simulation, *William Andersen and Ursula Kummer*

The Entity-Relationship Model: Toward a Unified View of Data, *Peter Pin-Shan Chen*

The Semantic Web, *Tim Berners-Lee, James Hendler and Ora Lassila*

An Overview of the ONIONS Project: Applying Ontologies to the Integration of Medical Terminologies, *Aldo Gangemi, Domenico M. Pisanelli and Geri Steve*

Identity and Subsumption, *Nicola Guarino and Christopher Welty*

Relationships among Knowledge Structures: Vocabulary Integration within a Subject Domain, *Olivier Bodenreider and Carol A. Bean*

Ontological Issues in using a Description Logic to Represent Medical Concepts: Experience from GALEN, *Alan Rector and Jeremy Rogers*

GOL: A Framework for Building and Representing Ontologies, *Wolfgang Degen, Barbara Heller and Heinrich Herre*

Developing A Clinical Trials Ontology: Comments on Domain Modeling and Ontological Reuse, *Ida Sim and Glenn Rennel*

3. Conferences and Seminars

a. Ontological Spring

The workshop Ontological Spring was held in Naumburg an der Saale from April 17 to 20 2002. This workshop inaugurated the work of IFOMIS through a series of intensive tutorials given by experts in the fields of philosophical ontology, formal ontology and medical information systems. The tutorials served to provide initial training to IFOMIS researchers in the methodologies to be employed in their work, and also to bring them into contact with their collaborators in Italy (Trento, Rome and Padua) and in Belgium (the company Language and Communication NV). Participants were drawn from seven countries and from a variety of institutions in both industry and the academy. A conference reader was prepared, containing supplementary material for use in the tutorials, a table of contents of which is given above. In addition to the support received from the Alexander von Humboldt Foundation within the framework of its Wolfgang Paul Programme, Ontological Spring was co-sponsored by the Doctoral Programme in Knowledge Representation of the University of Leipzig.

Ontological Spring Tutorial Overview

Barry Smith (Buffalo/Leipzig): An Introduction to Ontology and Its Applications

Ontology as a branch of philosophy is the science of what is, of the kinds and structures of the objects, properties and relations in every area of reality. It comprehends both the domains studied by the special sciences and also domains of practical activity such as law, medicine, engineering, commerce. The tutorial is designed as an introduction to the methods and principles of philosophical ontology. It will conclude with a consideration of applications of ontology in the field of information systems.

Barbara Heller and Heinrich Herre (Leipzig): GOL. A General Ontological Language

The tutorial is devoted to the concepts and principles of the language GOL which is designed to support the building and formal specification of ontologies. The use of GOL is demonstrated by examples taken from the medical domain.

Angelika Franzke (sd&m) and Bill Andersen (OntologyWorks): Introduction to Information Systems

An information system is (roughly) a software system that enables its users to search for information (for example about patients, diseases, books) that is stored in databases. We will try to give you an idea of how such systems work. You will learn how data is organized in relational and deductive databases, and how to search within such databases. Furthermore, we will show you how information systems are developed, with a special focus on data modeling techniques. We will conclude this tutorial by discussing the specific

features of ontology-based in information systems from software engineering point of view.

Aldo Gangemi and Domenico M. Pisanelli (Rome): Methodologies for Terminology Analysis and Ontology Building

Domain ontology building is still a craft, but it has at its disposal powerful conceptual and formal tools. The tutorial will introduce some methodologies for capturing domain ontologies, formalizing, and integrating them. The case studies will be chosen from different domains, including medicine (including the domain of clinical trials) and the law. The conceptual tools will be drawn from philosophy, linguistics, and actual implemented systems. The workshop serves as an immersion into the problems encountered in the everyday practice of domain ontology building.

Olivier Bodenrieder (National Library of Medicine, Washington DC) and Anita Burgun (Rennes): Foundations of Biomedical Ontology

We will present several examples of ontologies and of terminology systems (for example SNOMED or MeSH) which have been developed to capture vocabulary and knowledge in the biomedical domain. We consider which sorts of entities – for example facts or instances – need to be represented in a biomedical ontology, and we argue that one basis for the construction of such an ontology is provided by the UMLS (Unified Medical Language System) Metathesaurus, which comprehends some 800,000 concepts and 10 million relationships.

Ontological Spring Schedule

Wednesday 17 April 2002

Reception: 19.00-22.00

Thursday 18 April 2002

09.00 Introduction to the Workshop
09.15 Smith: Basic Formal Ontology
10.15 Coffee
10.30 Smith: Tools of Ontology:
Mereology, Topology, Dependence
11.30 Andersen/Franzke: Basic Concepts
12.30 Lunch
13.30 Andersen/Franzke: Databases and
Query Languages
14.30 Herre/Heller: Ontologically Basic
Categories and the Axiomatic Method
15.30 Coffee
15.45 Herre/Heller :The Syntax of GOL
16.45 Break
19.00 Dinner

Friday 19 April 2002

09.00 Gangemi/Pisanelli : Introduction to
the Use of Linguistic Sources to Extract
Concepts and Relations
10.00 Coffee
10.15 Gangemi/Pisanelli: Using Formal
Ontology to Refine the Results of
Linguistic Extraction
11.15 Bodenrieder/Burgun: Examples of
Biomedical Ontologies
12.15 Lunch
13.15 Bodenrieder/Burgun: Ontology vs.
Terminology and Knowledge Bases in the
Biomedical Domain
14.15 Herre/Heller: The Semantics of
GOL

15.00 Coffee

15.15 Herre/Heller : Principles of Ontology
Building with Applications in the

Medical Domain

16.00 Break

19.00 Workshop Dinner

Saturday 20 April 2002

09.00 Andersen/Franzke : Data Modeling
09.45 Andersen/Franzke : Ontology-Based
Information Systems
10.30 Coffee
10.45 Gangemi/ Pisanelli : A Principled Top-
Level Set of Inter-Categorial
Relations and Conceptual Templates
11.30 Gangemi / Pisanelli : Building Active
Catalogues of Topics Based on
Conceptual Structures
12.15 Lunch
13.15 Bodenrieder/Burgun: What Needs to
be Represented in a Biomedical Ontology?
14.00 Bodenrieder/Burgun: From UMLS
Concept Spaces to a Biomedical Ontology
14.45 Coffee
15.00 Smith: Tools of Ontology: Universals,
Partitions
15.45 Smith: Ontology in Information
Science: Its Glory and Its Misery
16.30 Break
19.00 Dinner

Ontological Spring Participants

Andersen	Bill	Ontoworks, Baltimore, USA
Barbero	Carola	University of Turin, Italy
Berlin	Karsten	Institute for Geoinformatik, /Münster
Bernardi	Luca	European Media Laboratory Heidelberg
Bittner	Thomas	Northwestern University/USA (now IFOMIS)
Bodenreider	Oliver	National Library of Medicine, Washington DC, USA
Burgun	Anita	Université du Rennes, France
Caputo	Stefano	University of. Turin, Italy
Casella Dos Santos, Mariana		Language and Computing NV (Belgium)
Ceusters	Werner	Language and Computing NV (Belgium)
Cohnitz	Daniel	University of Düsseldorf
Flett	Alan	Language and Computing NV (Belgium)
Franzke	Angelika	Software Design and Management, Germany
Gangemi	Aldo	Ontology and Conceptual Modeling Group, Rome Italy
Grenon	Pierre	IFOMIS, /Leipzig
Hagengruber	Ruth	Institut für. Wirtschaftsinformatik, Universität Koblenz
Hakimpour	Farshad	University of Zürich, Switzerland
Hasenclever	Dirk	IMISE/Leipzig
Heller	Barbara	IFOMIS/Leipzig
Herre	Heinrich	IFOMIS/Leipzig
Johansson	Ingvar	University of Umea, Sweden
Keller	Philipp	Université du Genève, Switzerland
Kohl	Ryan	University at Buffalo, /USA
Kühn	Kathrin	IMISE/Leipzig
Lapointe	Sandra	Université du Quebec a Montréal, Canada
Lippoldt	Kristin	IMISE/Leipzig
Loebe	Frank	IMISE/Leipzig
Lutz	Michael	Institut für Geoinformatik, /Münster
Pisanelli	Domenico	Italian National Research Council (CNR, Rome, Italy).
Plourde	Jimmy	Université du Genève, Switzerland
Probst	Florian	Institut für Geoinformatik, Münster
Raubal	Martin	Institute for Geoinformation, Vienna, Austria
Rock	John	University at Buffalo, USA
Schleicher	Hannes	Institut für Geoinformatik, /Münster
Schneider	Lars	LADSEB-CNR, Padova, Italy
Smith	Barry	IFOMIS/Leipzig
Trautwein	Martin	IFOMIS/Leipzig
Vizenor	Lowell	University at Buffalo, USA
von Wachter	Daniel	Oriel College, Oxford, U.K.
Winter	Stephan	Technical University of Vienna, Austria

b. Ontology and WordNet

This workshop, which will take place on November 27, 2002, will address issues at the interface of linguistics and ontology. It will focus especially on the case of WordNet, an online lexical reference system in which English nouns, verbs, adjectives, and adverbs are organized into synonym sets, each representing one underlying lexical concept. Information systems scientists use WordNet to help build common reference ontologies designed to facilitate the integration of taxonomy and terminology systems. The workshop is sponsored jointly with the Institute of Linguistics of the University of Leipzig and the Max Planck Institute for Evolutionary Anthropology.

Participants from outside IFOMIS will include:

Werner Ceusters (Zonnegem) is the director R&D of Language & Computing nv, a Belgian company that delivers products and services for ontology-based natural language understanding primarily but not exclusively for use in the medical field.

Christiane Fellbaum (Princeton) is one of the authors of WordNet and editor of *WordNet: An Electronic Lexical Database* (MIT Press, 1998). She is also director of a project on Collocations in the German Language under the auspices of the Wolfgang Paul Program of the Humboldt Foundation.

Nicola Guarino (Trento) is senior research scientist at the the Institute for Sciences and Technologies of Cognition in Trento and one of the leading figures in information systems ontology. He has published widely on WordNet-based ontologies.

Gerd Heyer (Leipzig) is professor for automatic language processing in the Institute for Informatics of the University of Leipzig. His research focuses on technology for language production, corpus linguistics, the semantics of natural languages as well as markup languages and representation standards.

Uwe Quasthoff (Leipzig) is a member of the Department of Automatic Language Processing of the Institute for Informatics of the University of Leipzig. He is currently working on text-based knowledge acquisition for ontology engineering.

c. Public seminars organized in collaboration with the Institut für Logik und Wissenschaftstheorie of the University of Leipzig

Barry Smith
Ontologische Grundlagen der Informationswissenschaft
17 January 2002

Barry Smith
Das glorreiche Scheitern des naturalistischen Ansatzes in der Ontologie der sozialen Wirklichkeit John Searles
4 April 2002

Randall Dipert (Buffalo/USA)
Metaphysics and the Ideal Description of the World
4 June 2002

John Kearns (Buffalo/USA)
Foundations of Illocutionary Logic
24 June 2002

Achille Varzi (Columbia University/USA)
The Morning Statue and the Evening Statue: On Persistence and Identity, Three-Dimensionalism and Four-Dimensionalism
27 June 2002

Chris Menzel (Texas A&M University/USA)
Ontology Theory
25 July 2002

Arkadiusz Chrudzimski (Salzburg/Austria)
Two Concepts of Tropes
29 August 2002

d. Public seminars organized in collaboration with the Institut für Philosophie of the University of Leipzig

Barry Smith
Kamikaze – und der Westen
(Public Lecture in the Series: *Terror und der Krieg gegen ihn*)
23 April 2002

Barry Smith
Was ist Wahrheit?
26 June 2002

Ingvar Johansson
Performatives and Anti-Performatives
16 October 2002

e. External Conference and Seminar Presentations

Thomas Bittner

Judgments about spatio-temporal relations
Eighth International Conference on Principles of Knowledge Representation and Reasoning (KR2002)
Toulouse, France, 16-17 April 2002

Reasoning about qualitative spatio-temporal relations at multiple levels of granularity
ECAI 2002: 15th European Conference on Artificial Intelligence
Lyon, France, 29 July 2002

Spatio-temporal ontologies for Geographic Information Systems
Workshop on Geo-Ontology, Sponsored by Ordnance Survey, UK,
Ilkley, 16-17 September 2002

IFOMIS: People, Aims and Methodology
Department of Computer Science, Division of AI
University of Leeds, 18 September 2002

Basic Formal Ontology and the SNAP/SPAN distinction
Department of Computer Science, Division of AI
University of Leeds, 18 September 2002

W. Ceusters, B. Smith, M. Dos Santos, J. Simon, M. O'Donnell, M. Fielding

Understanding the Message: Linking Aristotelian Realism to Linguistic Functionalism
MIE2002: XVIIth International Congress of the European Federation for Medical Informatics
(Keynote Lecture)
Budapest, Aug 25-29, 2002

Heinrich Herre

The GOL Project
Conference on Processes: Analysis and Applications of Dynamic Categories
Sonderborg, Denmark, 5-8 June 2002

General Ontological Language
Physik, Information und Informationssysteme, Symposium of the Arnold-Sommerfeld-Gesellschaft e.V.
University of Leipzig, 21 June 2002

Barry Smith

Granularität und Wissensrepräsentation
Institut für Informatik und Graduiertenkolleg Wissensrepräsentation
University of Leipzig, 23 January 2002

Wie testet man eine philosophische Theorie empirisch?
Institut für Philosophie, Universität Bonn, 2 May 2002

Ontology as the Master-Discipline of Information Science
Faculty of Informatics and School of Philosophy,
Prague University of Economics, 15 May 2002

A Unified Theory of Vagueness and Granularity Department of Philosophy
Marii Curie-Skłodowskiej Uniwersita, Lublin, Poland, 22 May 2002

Introductory Course in Ontology and the Forms of Social Organization
Catholic University of Lublin, Poland, 20-25 May 2002

How to Test a Philosophical Theory Empirically
Philosophentreffen, Alexander von Humboldt Foundation
Berlin, 19 June 2002

The Theory of Granular Partitions: A New Paradigm for Ontology
Between Data Science and Everyday Web Practice. Conference of the Gesellschaft für Klassifikation
Universität Mannheim, 20 June 2002

Quantentheorie: Kein Trost für Kantianer
Physik, Information und Informationssysteme. Symposium of the Arnold-Sommerfeld-Gesellschaft e.V.
University of Leipzig, 21 June 2002

How to Test a Philosophical Theory Empirically
Department of Philosophy, University of Lisbon, Portugal, 16 July 2002

Objects, Roles and Processes: A Basic Formal Ontology for Economics
Institut für Wirtschaftsinformatik, Universität Koblenz, 23 July 2002

The Moral Significance of the Question When a Human Being Begins to Exist (with Daniel Cohnitz)
Persons: An Interdisciplinary Approach: 25th International Wittgenstein Conference
Kirchberg am Wechsel, Austria, 14 August 2002

Metaphysics of Human Origins (with Daniel Cohnitz)
Persons: An Interdisciplinary Approach: 25th International Wittgenstein Conference
Kirchberg am Wechsel, Austria, 14 August 2002.

Barry Smith and Jonathan Simon

The True™ Story
Ontologie Analitiche: Centro Interuniversitario di Ontologia Teorica e Applicata, Dipartimento di
Filosofia
University of Turin, 24-25 October 2002

Martin Trautwein

Events Under Negation: The Grammatical and Ontological Basis of Negative Event Descriptions (with
Andreas Späth)
Sinn & Bedeutung VII, Annual Conference of the Gesellschaft für Semantik
University of Konstanz, 5 October 2002

The Spatiotemporal Window of Sortal Description
6th Conference on Conceptual Structure, Discourse and Language
Rice University of Houston, 12 October 2002

Daniel von Wachter

The Tendency Theory of Causation
Conference of the European Society for Analytic Philosophy
Lund, Sweden, 14-18 June 2002

Agent Causation: Before and After the Ontological Turn
Persons: An Interdisciplinary Approach: 25th International Wittgenstein Conference
Kirchberg am Wechsel, Austria, 11-17 August 2002

f. In-House Seminars (Selection)

25.-31.07.2002	Seminars with Chris Menzel (Texas A&M University)
6.8.2002	Ingvar Johansson: Applied Mereology
8.8.2002	Thomas Bittner: Misprojection
20.8.2002	Pierre Grenon: Mereology of Time
22.8.2002	Topics in the Theory of Granular Partitions
27.8.2002	Barry Smith: Rules for Ontology
5.09.2002	Daniel von Wachter: Causality
13.09.2002	Thomas Bittner: Leeds talk
19.09.2002	Pierre Grenon: Knowledge Management and the Ontological Standpoint
26.09.2002	Martin Trautwein: The Spatiotemporal Window of Sortal Description
10.10.2002	Ingvar Johansson: Projections, Truthmakings, Cells – and Prisons
18.10.2002	Barry Smith and Katherine Munn: Medical Being
19.10.2002	Igor Paparkin (Riga): The Ontology of Urology

4. IFOMIS Researchers

a. Prof. Barry Smith

Born 1952 in England. Studied Philosophy and Mathematics in Oxford and Manchester (PhD 1976). Julian Park Professor of Philosophy in the University at Buffalo.

Principal Research Areas: Formal ontology, medical ontology, ontology and information systems

Current Work: Completing a book manuscript with Thomas Bittner on the theory of granular partitions and its ontological applications. Completing a book manuscript with Berit Brogaard under the title *The Meaning of Life*.

Awards: SUNY Chancellor's Award for Excellence in Scholarship, October 2002.

b. Prof. Ingvar Johansson

Born 1943 in Sweden. Studied philosophy in Gothenburg (PhD 1973). Professor of Theoretical Philosophy at Umeå University, Sweden.

Principal Research Areas: Ontological theories of universals, functions and systems, especially in the medical domain.

Current Work: Functions as Fourdimensional Shapes (with Pierre Grenon), A Formalisation of the Peculiarities of Aristotelian Universals.

c. Dr. Thomas Bittner

Born 1963 in Germany. Studied Electrical Engineering in Leipzig and Spatial Information Science in Vienna (PhD 2001). He was research fellow at: Department of Computer Science at Queen's University in Kingston, Ontario, Canada; Department of Geomatics at Laval University in Quebec City, Canada; and Department of Computer Science at Northwestern University In Evanston, Illinois, USA.

Principal Research Areas: Formal ontology, medical ontology, ontology and information systems

Current Work: Completing a book manuscript with Barry Smith on the theory of granular partitions and its ontological applications. Completing a journal version of the paper "Systems of granular partitions" with Barry Smith and Maureen Donnelly. Completing a journal version of the paper "Granular Spatio-Temporal Ontologies" with Barry Smith

d. Dr. Maureen Donnelly

Born in 1966 in Zambia. Studied Mathematics at Washington University in St. Louis (M.A. 1992). Studied Philosophy at the University of Texas at Austin (Ph.D. 2001).

Principal Research Areas: Formal ontology, mereotopology, formal theories of geometry

Current Work : Thomas, Bittner, Barry Smith and Maureen Donnelly "Systems of Granular Partitions", submitted to: Symposium on Logical Formalizations of Commonsense Reasoning, AAAI 2003 Spring Symposium.

e. Pierre Grenon

Born 1973 in France. Studied Mathematics and Physics in Tours (1992-1995). Studied Philosophy and Logic in Paris (Sorbonne): DEUG Philosophy and Logic (1997), Licence de Logique (1998), Licence de Philosophie (1999). Worked as Knowledge Engineer and Ontologist at Cycorp, Texas (2000-2002).

Principal Research Areas: Formal ontology, spatio-temporal ontology and reasoning, medical ontology, geographical ontology, philosophy of knowledge representation, ontology and information systems

Current Work: Formal Ontology of Spatio-Temporal Reality and its Formalization; Philosophical Foundations of Basic Formal Ontology; Typology of Processes; Agents and Participation in Medical Ontology; Comparative Study of Medical Ontology and Geospatial Ontology.

f. Katherine Munn

Born 1979 in the USA. Studied literature, languages, and political science at Rutgers University. Worked as writer and editor in New York City.

Principal Research Area: Medical ontology

Current Work: Editing and compiling the IFOMIS's book project *Medical Being*. Collaborating with Jörg Hainich on a paper about the ontology of the environment as it relates to medicine. Paper in progress on the ontology of aging.

g. Jörg Hainich, MD

Born 1973 in Rochlitz, Germany. Studied Medicine in Leipzig and Salamanca, Spain. Approbation 2002.

Principal Research Areas: Children and allergies, environment, medical ontology

Current work: Completing a doctoral thesis on the influence of lifestyle and environment on the development of allergies in children; collaborating with Katherine Munn on a paper about the ontology of the environment as it relates to medicine; collaborating on a taxonomy of body systems with Ingvar Johansson.

h. Luc Schneider, MA

Born 1968 in the Grand Duchy of Luxembourg. MA in Philosophy and Linguistics at the Eberhard-Karls-Universität Tübingen (1993). Research Associate at the Institute of Comparative Socio-Economic Research CEPS/INSTEAD in Luxembourg between 1996 and 2000. MSc in Computing Science at the Department of Computing, Imperial College of Science Technology and Medicine, London (2001). Research Associate at LADSEB/ISIB – Italian National research Council (Group of Nicola Guarino) between November 2001 and November 2002.

Principal Research Areas: Formal ontology, semantics, information systems (logic programming)

Current Work: “Formalised Elementary Formal Ontology”, ISIB-CNR technical report 03/02: <http://www.ladseb.pd.cnr.it/Ontology/Papers/ISIB03-2002.pdf>. Formal ontology as basis for a realist semantics of logic programs (logical agents).

Awards: Morgan Stanley Prize 2001 for Best Individual Project, Imperial College, London

i. Jonathan A. Simon

Born 1980 in Washington, D.C., USA. Studied Philosophy and Mathematics at Columbia University (BA 2002).

Principal Research Areas: Formal ontology, semantics and ontological realism, vagueness, medical ontology, systems of mereology

Current Work: Collaboration with Dr. Werner Ceusters, development of a tractable but thorough medical ontology. A truthmaker-semantics for natural language; investigation of the semantic properties of axiomatic systems of mereology.

j. Martin Trautwein

Born 1970 in Germany. Studied Philosophy and Linguistics in Konstanz and Leipzig (M.A. 1998). Doctoral student associated with the Graduate Project *Universality and Diversity - Linguistic Structures and Processes*, Center for Cognitive Science, University of Leipzig (Ph.D. thesis submitted in 2002)

Principal Research Areas: Ontology of natural language, vagueness and granularity, the ontology of non-existence (failure, deviation, prevention)

Current Work: Preparing a comprehensive paper on the ontology of plans, executions, and results. Investigations into the granularity-dependency of materials, textures, and aggregates.

k. Lowell Vizenor

Born 1973 in the USA. Studied Philosophy at the University of Wisconsin - Green Bay (BA). PhD student at the University of Buffalo.

Principal Research Areas: Formal ontology, medical ontology, diagnostic reasoning.

Current Work: Ontology and the diagnostic process, conceptions of risk in medicine (with Katie Ainsworth-Vizenor).

Awards: Recipient of a Deutscher Akademischer Austausch Dienst Scholarship (2002-2003).

l. Dr. Daniel von Wachter

Born 1970 in Munich. Studied mechanical engineering, theology, philosophy, and musicology in Munich, Liechtenstein, Innsbruck, Hamburg, and Oxford. Mag.phil. in Philosophy, University of Innsbruck, Dr. phil. in Philosophy, University of Hamburg, M.Phil. in Philosophical Theology, University of Oxford.

Principal Research Areas: Ontology, metaphysics.

Current Work: Development of a theory of causation and integrating it into Basic Formal Ontology. Preparing a doctoral thesis on modality and the causal structure of the world for submission to the University of Oxford.

Awards: Bayerischer Habilitationsförderpreis (October 2002).