

4. Descriptions of Research Activities and Strategic Research Aspects

Department: Philosophy, Linguistics and Theory of Science

Panel: 1

Head of Department (submitter): Jan Lif

Contact details – email: jan.lif@gu.se, telephone: 031-7864575

4.1 General description of the department and research activities

The department is the result of an organisational reform at the Faculty of Arts in 2009, where the former departments of Linguistics and Philosophy were merged with the discipline Theory of Science (formerly at the Department of History of Ideas and Theory of Science). The department represents shared interests, established collaborations and a potential for cross-disciplinary research. Two professors (Elisabeth Ahlsén, Jens Allwood) were transferred to the Department of Applied Information Technology, effective January 1, 2010.

4.1.1 Organization and administration of unit

The highest decision-making body is the Departmental Board, chaired by the Head of Department (HoD), consisting of HoD, deputy HoD, two representatives of academic staff and one representative each for administrative staff, graduate and undergraduate students. Day-to-day management is conducted by a team consisting of the HoD, the deputy HoD, three associate HoD's with responsibility for undergraduate education, post-graduate education and research, respectively, and the administrative manager. The administrative manager is assisted by three administrative assistants. Management and Board can (and do) delegate tasks to particular members or groups of staff.

Organisational activities since the formation of the department have been devoted to preparing and designing organisational sub-structures to promote economic efficiency, research output and quality, and laying the foundation for sustainable research that realises potentials for collaboration. A process has been initiated to encourage Ph.D. candidates to be more active in collaborative publishing with senior academics, and to integrate the masters and Ph.D. levels. Suggestions have been made to the faculty management with regard to the performance-related part of the faculty's allocation of research funds to departments. There is a plan to allocate research time *within* the department more based on individual performance (measured, e.g., by publications) rather than the nature of the appointment (lecturer, professor etc.). Policies have been developed to ensure reporting to the university publications database

in order to facilitate this, as well as routines for allocating special support to secure sustainable research quality and encourage the progress of young researchers.

Several current or promising areas for collaboration have been identified, e.g., language technology & logic; health, health science and health policy; communicative interaction over cultural borders; and the interaction of language, values and technology in society. Basic insights governing the work of the management to further consolidate our research environments are that (a) research needs to be strongly present and visible at the university, internationally and in society, and that (b) successful *basic* research is increasingly dependent on the involvement in applied and cross-disciplinary research, where basic research results can come to use, and the outcome of such use can be fed back into basic research.

4.1.2 Special resources (unique equipment etc.)

- Dialogue Technology Lab
- Phonetics Lab
- Audio Studio Lab
- SweDiaDat dialect database
- CLT spoken language and dialogue corpora
- Equipment for analysis of MR brain images

4.1.3 General description of total research profile

The basic areas of research in the department are shown in Fig. 1:

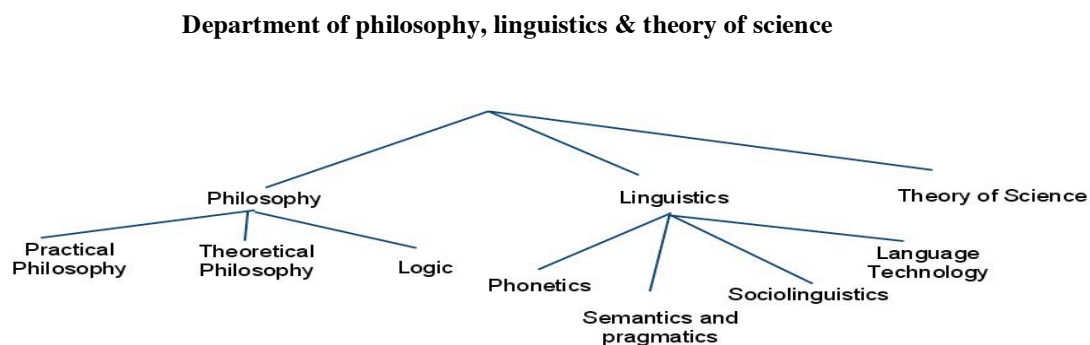


Fig. 1: Basic areas of research in the department

Within **practical philosophy**, work is carried out on applied ethics and political philosophy, ethics, metaethics, philosophy of health, and philosophical anthropology. Particular concentrations include *bioethics* and the *ethics of business & finance*, theories of *morality*, *rationality* and *responsibility*, and philosophy of health focusing on *quality of life*.

Theoretical philosophy includes work on: epistemology, philosophy of language, metaphysics, phenomenology and philosophy of cognition & mind. Special concentrations are *formal semantics/pragmatics* and , and the philosophy of *neurology* and *psychiatry*. In **logic**, *model-theoretical semantics*, *quantification* and *mathematical logic* are in focus. In **linguistics** there is an emphasis on spoken language and dialogue studies in all the four subareas. **Phonetics** has emphases on *forensic phonetics*, *dialectology* and *prosody*. A general focus is *formal semantics* and the *semantics and pragmatics of dialogue*, linked to the work on *dialogue systems* within **language technology**. **Sociolinguistics** has concerned political themes related to *education* and *migration*, as well as sociolinguistic aspects of *language change*. **Theory of science** includes *controversy studies* and *science and policy studies*, with a developed research program regarding controversy and expertise in *medicine and health policy*. Connections between the areas and opportunities for collaboration are discussed in sections **4.3** and **4.4**.

4.1.4 Special multi- and interdisciplinary activities

- Participation by linguistics and logic in the **Centre for Language Technology (CLT)** together with the departments of Swedish Language, Computer Science & Engineering, and Applied Information Technology. CLT embodies the university's focus area on language technology. Contributions involve the **CLT seminar series**, and coordination of CLT's **Dialogue Technology Lab**.
- **Philosophical Investigations in Forensic Psychiatry (FILUR)**, http://www.neurophys.gu.se/sektioner/psykiatri_och_neurokemi/rattpsykiatri/Forensic_Psychiatry/), an interdisciplinary research group involving practical and theoretical philosophy in collaboration with the Department of Neuroscience & Physiology, jointly coordinated by our departments.
- Collaboration on forensic aspects of linguistics in the **CLIP** research group, **Department of Psychology**.
- Collaboration with the **N'CLAV** dialect research group, **Department of Swedish**.
- The department has started interdisciplinary seminar series in addition to seminars associated with our main research areas. These include: **Logic & Language Technology** (<http://clt.gu.se/page/llt-seminars>) involving Logic and Linguistics with participation from the other departments associated with CLT; **Humanities research on forensics & legal systems**, and **Advanced research on health issues**.

4.1.5 Interactions within the department

Since the department was founded there has been increased participation in the department's various seminar series (<http://www.flov.gu.se/forskning/seminarier/>) across the boundaries of the department's basic areas. This is in addition to the interdisciplinary seminar series mentioned in section **4.1.4**.

There are a few research projects proper across the basic areas, e.g., FILUR and a recent project on person centered care, plus a number of initiatives and applications. Potentials for further such projects are emerging, e.g. the transfer of academia to underdeveloped countries, the ethics of language technology in health care, empirical philosophy of language, ethics and forensic linguistics, logical approaches to interaction in natural language, sociolinguistics and ethics regarding discourse in legal and health care settings, see **4.4**.

4.1.6 Relation between research and teaching

Most researchers are active as teachers or involved in the planning and design of courses. Research is often applied directly in both graduate and undergraduate courses, for example: research on dialogue systems contributes to undergraduate courses on this topic, ethics courses for forensic psychiatric consultants, ethics teaching at the medical school, theory of science education for natural scientists.

Some researchers are authoring textbooks, e.g.:

- Bennet, C. (2004). *Första ordningens logik*. Lund: Studentlitteratur.
- Brülde, B. ; Strannegård, L. (2007). *Affärsetik*. Malmö: Liber.
- Lif, J. (red.) (2008). *Allt du behöver veta innan du börjar arbeta med jämställdhet i skolan*. Lund: Studentlitteratur.
- Malmgren, H. (2007). *Inlärnin g och minne i neurala nätverk*. Lund: Studentlitteratur.
- Sjöström, S. (2007). *Semantisk förändring: hur ord får nya betydelser*. Lund: Studentlitteratur.

4.1.7 Relation to and interactions with other departments within GU

- Through CLT we have collaborations with the departments of **Swedish Language, Computer Science and Engineering** and **Applied Information Technology**.
- Work on dialects and the sociolinguistics of language contact involve collaboration with the **Department of Swedish Language**.
- Work on forensic phonetics involves collaboration with the **Department of Psychology**
- Contribution to FILUR involves collaboration with the departments of **Psychiatry and Neurochemistry, Law and Political Science**.
- Work on applied ethics and metaethics involve collaborations with several departments in the faculties of **Business & Law, Health Sciences, Information Technology** and **Social Sciences**.
- Work on the theory of science involves collaboration with the **Department of Sociology**, the **Center for Global Studies**, and the **Faculties of Education and Health**.
- Researchers are invited to educational units and programmes at other departments in GU:
 - Faculty of the natural sciences masters program
 - Medical school
 - Department of Medicine (different programs)
 - School of education (teacher programme)
 - School of public administration
 - Specialist courses in medicine, e.g., forensic psychiatry
 - Speech therapist program

4.2 SWOT analysis with regard to the research of the department

S: (1) Solid basic and applied research in general linguistics, language technology, logic, phonetics, practical philosophy, theoretical philosophy and theory of science. (2) Excellent to outstanding research with a strong funding and publication record and a wide impact in the thematic areas of health, language and society.

W: (1) Unstable internal career paths for young researchers. (2) Uneven distribution of international publication and external funding among research staff.

O: (1) Further integration, strengthening and consolidation of successful thematic research areas. (2) Room for strategic recruitment of research staff to the benefit of successful thematic areas, as well as the respective disciplines hosted by the department. (3) Several recently started research initiatives combining basic research, cross-disciplinary collaboration and useful applications.

T: (1) Possible decline of strong research environments, areas and disciplines due to the unstable internal career paths for young researchers. (2) Uncertainty regarding adaptation to present and future changes in assessment methods and funding patterns employed within the university, nationally and internationally.

4.3 Description of the most successful research areas with a strong national or international impact

The analysis underlying this report has revealed our research to be particularly successful in three broad thematic areas: **health**, **language** and **society**. These areas are bound together by a shared interest in phenomena involving human **interaction** that serves as a source for further developments described in 4.4. Success is evidenced by publication, attraction of external funding, recognition in the research community through, e.g., review and assessment responsibilities, and social impact. Some of the relationships between the thematic areas and the basic areas of research in the department are shown in Fig. 2.

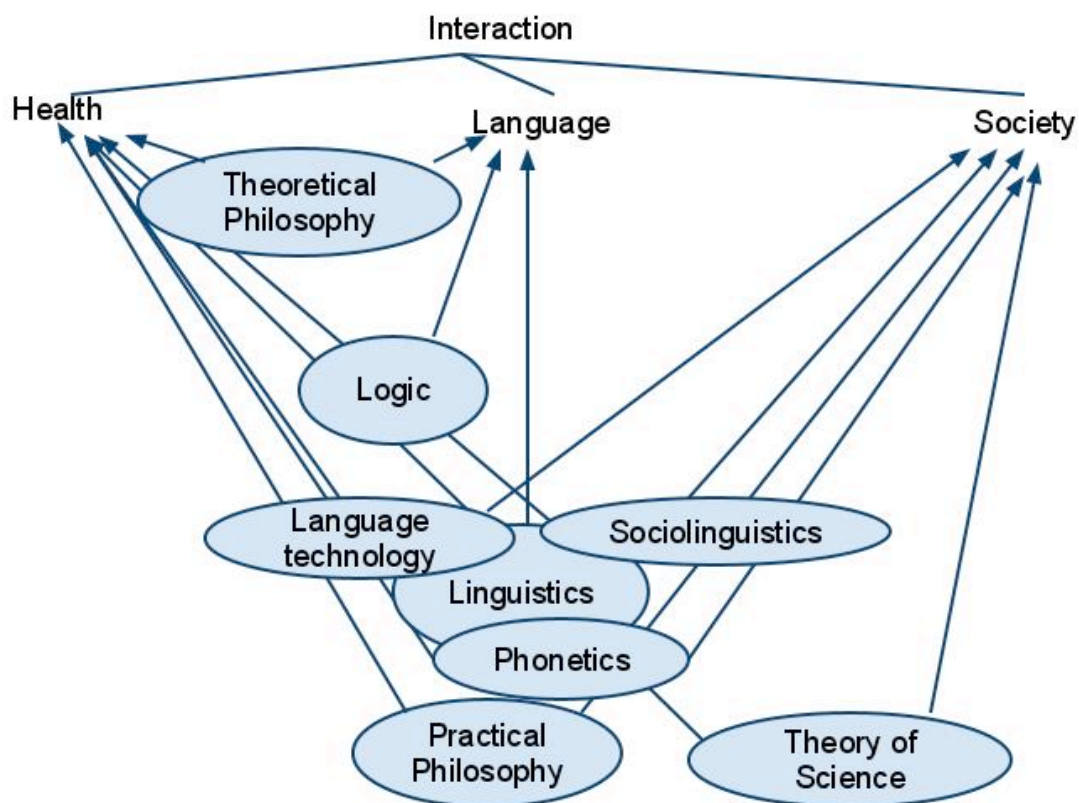


Fig. 2: *Some of the relations between basic research areas and the thematic areas*

4.3.1 Health

Contributions by:

- Bioethics
- Language technology for communicative disability
- Medical knowledge, expertise and controversies (MEC)
- Philosophy of health, medicine and quality of life

Empirical, theoretical, normative and development approaches to health-related practices, institutions and policies, involving cross-disciplinary collaborations, e.g., with genetics, law, neurology, psychiatry, public health, reproductive medicine, and sociology, as well as with practitioners and policy makers.

Bioethics: ethics and policy issues actualised by medical research, health care and health policy, e.g., regarding disability, embryo research, enhancement, forensic psychiatry, genetic and reproductive technology, person centered care, and public health. A growing concentration is attention to sociopolitical contexts.

Documented success:

- External funding: EuroPHEN (EC FP5, 2002-2006), Genetic Counselling and Presymptomatic Testing: Goals and Ethics for Clinical Practice, Caring and Education (Vårdalstiftelsen, 2000-2008), and AHEAD-EU (EC Erasmus Mundus, 2009-2010).
- International and national publication and recognition by, e.g., Bengt Brülde, Daniela Cutas, Niklas Juth, Christian Munthe, and Ingmar Persson. Ingmar Persson is visiting fellow in practical ethics at the University of Oxford.
- Collaborations within GU: FILUR (see **4.1.4**), caring science, clinical genetics, oncology, and reproductive medicine, and with the universities of, e.g., Central Lancashire, Frankfurt, John Hopkins, Karolinska, Leeds, London (ICL), Manchester, Oxford, Stockholm and Utrecht.
- Impact through research publication, expert commissions, popular writings, and media attention.

Language technology for communicative disability: development of a talking robot for children with communicative disabilities.

Documented success:

- External projects: TRIK (Promobilia and Magn. Bergvall's foundations, 2008-9), LEKBOT, (Vinnova, 2010-11).
- International publication by Peter Ljunglöf, Staffan Larsson.
- Collaboration with the Sahlgrenska University Hospital.
- Impact through research publication and commercial solutions.

Medical knowledge, expertise and controversies (MEC): the interaction of medical science, practice, policy and public understanding in areas of controversy involving claims to expertise. Topics include diagnostic categories (autism, ADHD, pain syndromes), standard-setting in science and policy, stem-cell science, and vaccination. MEC has also developed analytical tools for general science and technology studies.

Documented success:

- External funding: Research and politics (VR, 2008-2010), The controversy on the linking of MMR-vaccination and autism (FAS, 2005-2007), and Sexual abuse of children – a meta-study of acting parties, social consequences and the construction of problems (FAS, 2007-2008).

- National and international publication and recognition by, e.g., Fredrik Bragesjö, Lena Eriksson, Margareta Hallberg, and Dick Kasperowski.
- Collaborations within GU with health science and sociology, and with, e.g., the universities of Linköping, Uppsala, York and Örebro.
- Impact on through research publications, expert commissions popular writings and media attention.

Philosophy of health, medicine and quality of life: analysis and application of conceptual tools (e.g., diagnostic systems) in medical research, health care, and health policy. Topics include analysis of MR images, philosophy of psychiatry, and the concepts of health, disease, happiness and quality of life applied in health care, policy and research.

Documented success:

- Hosting of conferences, e.g., Philosophy, Phenomenology & Psychiatry (Göteborg, 2003), The Happiness Conference (Göteborg, 2007)
- International and national publication and recognition by, e.g., Bengt Brülde, Helge Malmgren, Filip Radovic, and Susanna Radovic
- Collaborations within GU (FILUR (see **4.1.4**), neurology, public health), through the Swedish Association of Philosophy & Psychiatry (SFFP), and the International Network of Philosophy and Psychiatry (INPP)
- Impact through research publication and infrastructure, participation in empirical research, popular writings, expert commissions, and media attention

4.3.2 Language

Contributions by:

- Sociolinguistics
- Language technology
- Logic, formal semantics and pragmatics
- Metaethics & philosophy of language
- Phonetics

Empirical, theoretical and development approaches to formal and natural language. Work on natural language has an emphasis on spoken language and dialogue. There are industrial applications and impact on policy making.

Sociolinguistics: Language development and variation, spoken and mediated interaction, the social contextualisation of language. Topics include multilingualism, language development, language policy and intercultural communication. A new focus is the study of discourse in, e.g., health care and legal contexts.

Documented qualities:

- External funding: Language and language use among young people in multilingual urban settings (RJ, 2002-2007).
- International and national publication record and recognition by, e.g., Sally Boyd, Staffan Larsson and Cajsa Ottesjö.
- Collaboration within GU (Swedish language), and the universities of, e.g., Lund, Stockholm, Melbourne, Toronto and York.
- Impact through research publication and infrastructure, expert commissions, and popular writings.

Language technology: Development of the information state update approach to dialogue system implementation and dialogue modelling, with a growing attention to interactive and dynamic aspects of semantic content and pragmatics. Other focuses are web standards and programming for language technology, and the grammatical analysis of free text.

Documented success:

- External funding: Focus area support (GU, 2008-2012), SemCoord (RJ, 2008-2011), SAICD (VR, 2010-2012), a series of EU projects, the last of which was TALK (EC FP6, 2004-2006).
- International publication and recognition by, e.g., Jenny Brusk, Robin Cooper, Stina Ericsson, Rebecca Jonson, Fredrik Kronlid, Torbjörn Lager, Staffan Larsson, Peter Ljunglöf, Sylvana Sofkova Hashemi, Jessica Villing and Kenneth Wilhelmsson.
- Collaborations within GU within CLT, and with the universities of, e.g., Cambridge, Edinburgh, Indiana, London (KCL), Saarland, Sevilla, and Stockholm.
- Impact through research publication and infrastructure, technological development, and commercial solutions.

Logic, formal semantics and pragmatics: model-theoretic semantics for natural languages and quantification in language and logic, compositionality, logical constants and semantics and pragmatics for dialogue. A growing focus is theoretical foundations of the scientific understanding of social interaction and the mixing of type- and model theoretic approaches to semantics for natural languages.

Documented success:

- External funding: Excellent Researcher Grant (VR, 2005-2010), and LINT: Logic for Interaction (ESF, Eurocore & VR, 2008-2011, project leader Dag Westerståhl).
- International publication and recognition by, e.g., Christian Bennet, Denis Bonnay, Robin Cooper, Fredrik Engström, Martin Filin Karlsson, Staffan Larsson, Jörgen Sjögren and Dag Westerståhl.
- Collaboration within GU through CLT and with Chalmers, and with the universities of, e.g., Aachen, Amsterdam, Bologna, London, Oxford, Paris, Stanford, Tampere and UCLA.
- Impact through research publication and pedagogical material.

Metaethics & philosophy of language: The nature of semantic content and its connection to truth, knowledge and rationality – in metaethics, with particular regard to evaluative and normative language. A growing focus is social and pragmatic aspects of language, motivation and action.

Documented success:

- External funding: Relativism (RJ, 2002-2005), Morality and Agent-relativity (RJ, 2006-2008), and Moral Motivation: Evidence and Relevance (VR, 2010-2012).
- National and international publication and recognition by, e.g., Gunnar Björnsson, John Eriksson, Ragnar Francén, Palle Leth, Caj Strandberg, Anders Tolland and Dag Westerståhl.
- Collaboration within GU with applied information technology, and with the universities of, e.g., Chapel Hill, Duluth, Linköping, London (KCL), Lund, Oxford, Stockholm, and USC.
- Impact through research publication and popular writings.

Phonetics: acoustic phonetics and dialect variation, speech intonation and rhythm, speech and text recognition, emotive aspects of language, and multi-modality of communication. An emerging field is forensic and legal applications of phonetics, e.g., speech recognition and witness psychology.

Documented successes:

- External funding: Voice identification in a legal context (GU & Lund Univ. 2009-2011), Stress & rythm (VR, 2008-2011), SweDat (VR 2008-2011), SweDia (RJ 1998-2003).
- International and national publication and recognition by, e.g., Åsa Abelin, Anders Eriksson, and Jonas Lindh.
- Collaboration within GU through CLT, with psychology and with the universities of, e.g., Havana, Oslo, Paris, Sorbonne and Stanford.
- Impact through research publication and infrastructure, expert commissions, and commercial solutions.

4.3.3 Society

Contributed to by the work on health (4.3.1) and sociolinguistics (4.3.2), and additional contribution by:

- Applied ethics and political philosophy
- Forensic linguistics and phonetics
- Philosophical anthropology
- Science Policy Studies (SPS)

Empirical, normative, theoretical and development approaches to the function of social processes, institutions and regulatory frameworks. Topics include business & finance, environmental policy, education, language policy, migration, reproduction & sexuality, science policy, and the regulation of technology.

Applied ethics and political philosophy goes beyond **bioethics**, addressing ethics and policy issues broadly. Topics include the ethics of business & finance, risk, cross-cultural interaction, and sexuality & reproduction; philosophy of education, law and punishment; plus environmental-, global- and research ethics.

Documented success (besides bioethics):

- External funding: Sustainable Investment (MISTRA, 2008-2011), Relativism (RJ 2002-2005), the conference Secularisation & Secularism (VR & RJ, 2008).
- National and international publication and recognition by, e.g., Bengt Brülde, Daniela Cutas, Christian Munthe, Ingmar Persson, and Joakim Sandberg.
- Collaborations within GU through FILUR and with business & law, education, global studies, history of ideas, political science, psychology, and religion, and with the universities of, e.g., Birmingham, Brussels, Columbia, Emory, Manchester and Mons. Joakim Sandberg is visiting research fellow in global ethics at the University of Birmingham.
- Impact through research publication, popular writings, interaction with NGO's, the commercial and public sector, and media attention.

Forensic linguistics and phonetics: analysis and development of methods and applications related to text, speech and multi-modal communication in law enforcement and legal proceedings. Increased attention to the communication of scientific information in the legal context, and the discourse of court proceedings.

Documented successes, see phonetics in **4.3.2**.

Philosophical anthropology: theoretical issues regarding human nature and the human condition. Topics include action, cognition, free will, morality, responsibility, rationality and well-being. Increased attention to the social aspects of humanity, and collaboration with empirical research.

Documented qualities:

- External funding: see bioethics, metaethics & philosophy of language (**4.3.1**). Postdoc grant, John Eriksson (VR, 2009-2011).
- International publication and recognition by, e.g., Gunnar Björnsson, Bengt Brülde, John Eriksson, and Ingmar Persson.
- Collaborations within GU through FILUR, Environment & Health research school, and with the universities of, e.g., Copenhagen, Duluth, Lund, Uppsala and Oxford.
- Impact through research publication, and application of results to other areas.

Science Policy Studies (SPS): the governance of science and technology, the interplay between science and policy, and public understanding of science. Topics include financing and quality assessment of research, polar research, the regulation of internet, and the application of science in sport. Recent interests are mathematics education, and the global transfer of academic culture.

Documented qualities:

- External funding: Postdoc grant, Sverker Lundin (VR, 2009-2011).
- International publication and recognition by, e.g., Aant Elzinga, Dick Kasperowski, Christopher Kullenberg, Sverker Lundin, and Gunilla Priebe.
- Collaboration within GU with, e.g., Faculties of Information Technology and Education, plus global studies, and the universities of, e.g., Amsterdam, Arizona, Coventry, Hawaii, Madras, McGill, and Zürich.

- Impact through research publication, journal publishing, popular writings and expert commissions.

4.4 Description of most promising research areas or research directions in the department

The thematic thread of **interaction** runs through all of the areas described in 4.3, ranging from basic research in language technology, logic, philosophy of language & metaethics, sociolinguistics and philosophical anthropology to applications in applied ethics, forensic linguistics & phonetics, MEC and SPS. Many initiatives and potentials exist for mixing the identified clusters as a result of, e.g., the basic work on the logic of interaction, the methodological developments on the interaction of science and policy in MEC, the attention to empirical research and social complexities in philosophy and ethics, and the focus on interactive and pragmatic aspects in language technology, linguistics and philosophy. Increased integration can strengthen cross-disciplinary collaboration, and boost both innovation and the scientific and social impact of research. Specific areas of particular promise include:

4.4.1 Coordination and learning

This area builds on current work in the LINT, SemCoord and SAICD projects in language technology, linguistics and logic, using a combination of type-theoretic and model-theoretic approaches to semantics to construct a theory of the adjustments of meaning done by participants in a dialogue to communicate successfully. The work relates to how children learn language through interaction with other speakers and how languages change as a result of social interaction of the sort studied in sociolinguistics. The work aims at developing a theoretical approach that may facilitate the development of artificial computational agents capable of coordinating their language with users and learning language by interaction with users. This involves the investigation of machine learning techniques which enable the kind of incremental learning from interaction which humans seem to engage in rather than the kind of batch processing of large amounts of data which current machine learning techniques focus on. Such developments may be applied to health issues, as well as be used in the sort of research described in 4.4.2.

4.4.2 Empirical metaethics & philosophy of language

This area combines the theoretical modeling of human normative and evaluative language, thinking and practice with the approaches of the behavioural, cognitive, linguistic and social sciences. The philosophical side of this area has recently secured a grant from VR for a project involving four young researchers in metaethics and a collaboration with psychology in Lund. This project connects well to the areas of emotive and multi-modal communication, sociolinguistics, semantics & pragmatics and philosophical anthropology, thus providing a promising basis for strengthening collaboration, e.g., through studies of the semantics and

pragmatics of evaluative and normative natural language, and feedback of results to philosophical theory.

4.4.3 Globalisation of academia and research

This area mixes topics and recent initiatives from SPS, MEC, applied ethics, bioethics and sociolinguistics, and addresses a range of issues actualised by both the export of Western academic culture and institutions to developing countries, and the interaction between academic initiatives originating in non-Western settings with Western academia. Recent initiatives in this area are (1) a project developed by Gunilla Priebe on the build-up of higher education and research institutions in Africa, involving collaborations with the Center for Global Studies (GU), and academic bodies in Mocambique, that has attracted interest from the Swedish International Development Cooperation Agency, (2) A recently submitted EuroAid application (with Christian Munthe as Swedish representative in cooperation with Chinese and UK partners) regarding reproductive rights and sexual health in India and China, involving local field offices, 1-2 research assistants and 2-3 Ph.D. candidates for our department. These initiatives readily connect to existing work on the ethics of business & finance and research, global ethics and justice, intercultural communication and discourse, and the the production of scientific standards and quality indicators.

4.4.4 Humanities studies of forensics and legal systems

This area is suggested by existing initiatives to connect the work within FILUR to that of Forensic linguistics & phonetics. Both of these groups have in a short time produced a rich output of research publication, involve wide cross-disciplinary collaboration, several expert commissions within the legal system, and commercial solutions. This core can further involve MEC and SPS through studies of scientific expertise in the legal context, Bioethics through investigating, e.g., the implications of research on the genetics of criminality and the professional ethics of forensic experts, and new initiatives in sociolinguistics to study the discourse of legal proceedings. Having the potential to feed into general philosophy of law and legal and political theory, such work can result in a further widening of interdisciplinary connections at the Faculty of Arts, as well as with law, medicine and the natural and social sciences.

4.4.5 Person centered care research

Departmental involvement in this research initiative at the university follows three paths: (1) Input in projects and applications at the Faculty of Health Sciences and GU leading up to strategic government funding underlying the recently launched Gothenburg Center for Person Centered Care Research (GPCC). Christian Munthe, Staffan Larsson and two young researchers are currently studying cross-cultural communication, decision making, ethics, responsibility, risk perception and semantic dynamics at GPCC, in collaboration with health sciences, organisational research and psychology, and further projects combining ethics and linguistics within GPCC are planned. (2) Language technology applications and methods to

be used for the documentation and communication of health information, as well as the collection and analysis of data in GPCC research will be a part of CLT's contribution to GPCC. (3) Researchers in linguistics, philosophy and theory of science oriented towards education and learning (e.g. via coordination by Dick Kasperowski of the LETStudio initiative at the Faculty of Education), whose competences are needed with regard to the methodologies applied within GPCC and the dissemination of results in health care education and practice.

4.5 Description of departmental strategy for societal influence and interaction

The department's Research and Education Strategic Plan states that the department is to be characterized by a desire to interact with other departments, faculties and universities both in Sweden and abroad. This involves the development of strong relation- and partnerships with government, society and the commercial sector. Link:

http://www.flov.gu.se/digitalAssets/1277/1277258_ForskUtbStratPlan.pdf (only in Swedish)

Research staff are encouraged to interact with the wider society through, e.g., the publishing of popular books or articles, or participation in public debates, the media, science fairs and festivals, etc. Commissioned research is similarly encouraged and facilitated by routines for negotiation of contracts. Staff can be given extra allocation of time to plan, develop and implement this type of action. Link:

http://www.flov.gu.se/digitalAssets/1277/1277241_PolicyTj_nstg_ringsskyldighet.pdf (only in Swedish)

The department has a consortium for developing commercial relationships. Established relations exist with the language technology companies Talkamatics (a spin-off from our department) and Artificial Solutions. The department hosts three knowledge development companies proper: Voxalys AB (forensic phonetics), Philosophical Communications (research and teaching) and Philosophical Issues (contract courses in philosophy). Two further ones are starting up: Spyderbrain Technologies (language technology), Abelin Language Doctors, and AB Veres (language consultancy). Link:

<http://www.flov.gu.se/samverkan/entreprenorsgruppen/> (only in Swedish)

The Department offers external training and further education in a variety of areas to businesses, non-commercial and governmental organisations and government agencies. Link:

<http://www.flov.gu.se/samverkan/uppdragsutbildningar/> (only in Swedish)

4.6 List of most important publications/documentations (any year)

- Bragesjö, Fredrik & Hallberg, Margareta (2009). *I forskningens närhet. En studie av MPR-kontroversens bakgrund och förvecklingar*. Nora: Nya Doxa. [English: In the proximity of research. A study of the background and complexities of the MMR-controversy].

- Cooper, Robin (2005) Records and Record Types in Semantic Theory. *Journal of Logic and Computation*, 15: 99–112
- Westerståhl, Dag & Peters, Stanley (2006). *Quantifiers in Language and Logic*. Oxford: Oxford University Press. Reprinted in paperback 2008.

4.7 List of publications which best represent innovative research activities (any year)

- Larsson, Staffan & Traum, David R. (2001). Information State and Dialogue Management in the TRINDI Dialogue Move Engine Toolkit. *Natural Language Engineering* 6: 323-340.
- Persson, Ingmar (2005). *The Retreat of Reason: A Dilemma in the Philosophy of Life*. Oxford: Clarendon Press. Reprinted in paperback 2008.

4.8 Publications and/or other important documentation showing considerable influence on social life (Government white-papers etc)

- Eriksson, Anders & Lacerda, F (2007). Charlatanry in Forensic Speech Science: A Problem to be Taken Seriously. *The International Journal of Speech, Language and the Law* 14 (2): 169-193.

Acknowledged as an important contribution to the knowledge of the use of "lie-detectors" by forensic science, police, security agencies and national health insurance. It has figured prominently in international debate on the freedom of academic publishing following an attempt by a company whose products were examined in the article to have the article withdrawn by threatening the publisher and the authors with legal action.

- Hallberg, Margareta & Hermansson, J. (2005). *Granskning av professor Eva Lundgrens forskning i enlighet med Uppsala universitets regler avseende förfarande vid anklagelse om vetenskaplig oredlighet*. Uppsala: Uppsala University. Online access: http://www.samgenus.uu.se/Granskarnas_rapport.pdf

Report of the official investigation of a highly publicised Swedish research fraud case. This case, as well as the report, continues to have an impact on Swedish debates on science policy, the ethics of academia, and the standards applied in gender studies research.

- Munthe, Christian: Membership of the standing government committee National Council for Medical Ethics (SMER) 2000-2006, connected and continued input to,

influence of and commissioned expert work in relation to legislative and policy making processes, e.g., regarding abortion, gene technology, reproductive medicine, screening, stem cell research and public health policy, mainly in Sweden but also to some extent in Europe. See, e.g., these online resources (all in Swedish):

- <http://www.socialstyrelsen.se/publikationer2009/2009-126-148>
- <http://www.smer.se>
- <http://www.regeringen.se/sb/d/5140/a/52638>
- <http://www.regeringen.se/sb/d/108/a/11478>

4.9 Publications from 2010 or formally accepted for publication, of special importance

- Boyd, S & Fraurud, K (2010). Challenging the homogeneity assumption in language variation analysis. In: Schmidt, J & Auer, P (eds.). *An International Handbook of Linguistic Variation*. Berlin & New York: Walter de Gruyter: 686–706.

This article represents the re-emergence of sociolinguistics as an important focus at our department, and also exemplifies the move towards the analysis of linguistic interaction that has been pointed out above as a key feature in the integration of our disciplines.

- Munthe C, Radovic S, Anckarsäter H (2010). Ethical Issues in Forensic Psychiatric Research on Mentally Disordered Offenders. *Bioethics*. 24 (1): 35-44.

Being a recent output of FILUR, thus representing humanities research on forensics and legal systems, this article presents a seminal mapping and analysis of the intricate ethical issues arising within forensic psychiatric research. One of the authors being professor of forensic psychiatry, it is also a good example of the degree of cross-disciplinary ambition of this group.

4.10 Other achievements of innovative significance (introduction of new fields etc.)

- *The philosophy of happiness and quality of life research*: Bengt Brülde has advanced this field in collaboration with empirical researchers, as well as practice oriented NGO's. This work has had a notable impact on empirical research in the area of happiness and quality of life, documented through a string of papers, book-chapters and books (e.g., Happiness theories of the good life. *Journal of Happiness Studies*. 8 (1): 15-49), and secured Brülde a recognition as an international expert on the theoretical complexities, results and practical implications of this field of research, and a leading expert nationally. He has been instrumental for introducing the international research in this field in Sweden, and for boosting its practical impact, e.g., through organising The Happiness Conference at GU in 2007.

- *Model-theoretic semantics for natural language, including quantification in language and logic*: the work in this field by Robin Cooper, Dag Westerståhl, and co-workers has won international acclaim and is a significant factor in the Gothenburg approach to language technology. Specifically for quantification in natural language, Cooper is one of the founders of the field and still active in it, and Westerståhl has numerous recent publications, including a book with Stanford linguist Stanley Peters (see above), which is likely to be a standard reference for years to come. The theories, models, and formal methods developed in this research area will continue to be of crucial importance when language technology research takes the turn towards highly dynamic, interactive, and multi-modal models of language and communication.

4.11 Prizes and awards

- Robin Cooper: honorary doctorate, Uppsala University.
- Robin Cooper: Fellow, British Academy
- Robin Cooper: elected member, Academia Europaea.
- Dag Westerståhl: excellent researcher award, Swedish Research Council, 2005-2010.
- Dag Westerståhl: elected member of the Royal Academy of Sciences.
- Talkamatics (Fredrik Kronlid, Staffan Larsson): Vinn Nu prize, Vinnova, 2009.
- Spyderbrain Technologies (Torbjörn Lager) and Voxalys (Jonas Lindh): several innovation, entrepreneur and business/commercial development prizes/grants from GU Holding and The Region of Västra Götaland, e.g. Venture Cup West, 2008.
- Robin Cooper, Aant Elzinga, Helge Malmgren, Christian Munthe, Dag Westerståhl: elected members of the Royal Society of Arts and Sciences in Gothenburg.

4.12 Links to additional relevant information

- Homepage of the department: <http://www.flov.gu.se/english>
- Research page: <http://www.flov.gu.se/english/research/>
- Graduate School of Language Technology: <http://www.gslt.hum.gu.se/>
- Centre for Language Technology: <http://www.clt.gu.se/>
- Voxalys AB: <http://www.voxalys.se/>
- Talkamatic AB: <http://www.talkamatic.se/>
- Logic for Interaction: <http://www.ilc.uva.nl/lint/>
- SAICD: <http://sites.google.com/site/saicdproject/>
- SemCoord: <http://www.flov.gu.se/english/research/semantic/>
- EuroPHEN: http://www.leeds.ac.uk/hsphr/ihsphr_ph/europhen.html
- TALK: <http://www.talk-project.org/>
- AHEAD-EU: <http://www.disabledstudents.eu/drupal/>

4.13 Other significant information that is not covered by 1-12 above

The department here wishes to highlight one additional quality and one undesirable feature of our research environment.

- **Mobility:** An important factor in securing a successful research environment is a high level of national and international mobility and this is a central objective of the department's strategy. The department exhibits a great deal of exchange of staff, project collaboration, and workshop and conference activity with other universities, participation in scientific quality assessment activities, and joint publication. Many Ph.D. candidates spend extended time at other universities and/or participate in international courses and workshops, and leading international researchers are often engaged as opponents at Ph.D. thesis defences.
- **Gender Profile:** There is a notable uneven gender distribution of senior research staff, in particular, regarding logic and philosophy. Looking at our younger researchers, this pattern is less extreme, although still salient in philosophy and logic.