RESEARCH OUTSIDE THE ACADEMY

PROFESSIONAL KNOWLEDGE-MAKING IN THE DIGITAL AGE

EDITED BY LISA BÖRJESSON AND ISTO HUVILA

Research Outside The Academy

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Editors

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Abbreviations

CV	Curriculum Vitae
EBL	Evidence-based librarianship
eNGOs	Environmental non-governmental organizations
ERIC	Educational Research Information Center
EU	European Union
FAIR	Findable, Accessible, Interoperable, Re-usable
GDP	Gross domestic product
IAEA	International Atom Energy Agency
ICT	Information and Communication Technology
INIS	International Nuclear Information System
IRI	Independent research institutes
LIS	Library and Information Science
MA	Master of Arts
MLIS	Master of Library and Information Science
MOC	Mission oriented centres
OA	Open Access
OECD	Organization for Economic Cooperation and Development
PDF	The Portable Document Format
PRC	Public research centres and councils
R&D	Research and development
RBL	Research-based librarianship

RTO	Research (and) technology organizations
STI	Scientific and technical information
VTT	VTT Technical Research Centre of Finland

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Introduction

Lisa Börjesson and Isto Huvila

Archaeologist: I have applied for research funding from this foundation… This time I'll let the funding go into the company. It's very disadvantageous for me to live off stipends. Then you live off as little as possible, don't save for your pension, have no security if you get sick. That's useless!… One could say that I have one foot in academic research and the other in contract archaeology, even if my full-time employment is in contract archaeology… It's quite a schizophrenic situation, actually…

Interviewer: But why, what's motivating you?

Archaeologist: It's an interest, for what we do. I think these [academic research] projects are very engaging… And even if we have the obligation to be in the forefront of research, pose the smartest and newest research questions in the investigation plans [in contract archaeology], we don't always get the possibility to do that. It [contract archaeology]

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> is so streamlined today. For me, it [research] is some kind of breathing space… (Archaeologist in interview, September 22, 2015)

Where and when knowledge is made are core questions in studies of science and philosophy of knowledge. If we approach these questions from a more practical angle, they do slightly change shape to an interest in where researchers work and when research does take place.

Research takes place in a variety of organizations throughout the society from government research institutes, research and development (R&D) departments at private institutions, to independent research organizations (Nowotny et al. 2001). Research is also conducted by individuals and groups of individuals acting as independent researchers (Finnegan 2005). Citizen group-based research is sometimes branded citizen research or street science (Corburn 2005).

The distribution of research throughout society is sometimes linked to the emergence of what has been called the "information" (May 2002; Webster 2006) or "knowledge" (Böhme 1997) society. However, research taking place in a variety of different organizations is by no means a new phenomenon. Schiffer (2014) goes as far as to suggest that research, if defined broadly enough, has happened in all societies throughout the ages and involved people far beyond individuals who have committed their life to science and scholarship. Over time, many individuals and groups, for example, teachers and priests, have engaged in scholarship, and many experiments and inventions have sprung from industry and military. Moreover, government collection and analysis of data for practical purposes from census keeping and analysis (Brückweh 2015) to the past development of trigonometric tables for nautical purposes (Huebner et al. 2018) can be likened to research. What is special about the contemporary situation depends on a compound of reasons. Firstly, the degree to which students pursue higher degrees and enter into working life with research skills and ambitions supersede any earlier period (Kehm 2006). Secondly, research and knowledge making have special political and cultural connotations in the branding of states and organizations, and as means for improving their competitiveness (Miele 2014). In parallel, the notions of research, knowledge making and innovation have been detached from research

organizations to become potential assets and activities of all kinds of organizations (Amin and Cohendet 2004), and trade of 'research' itself has faced a wave of commodification through the establishment of markets for research and consultation services (Nordenflycht 2010).

The topic of this edited collection is the research taking place outside universities, with the aim to investigate the information-related premises for conducting research in these settings. Lately, both the scholarly and the popular interest in knowledge production outside academia has focused on amateur researchers, and on the catalysing effects of digital technologies, e.g. to elicit or crowdsource 'professional quality' knowledge from non-professionals. In contrast, and in spite of tendencies to emphasize the importance of evidence-based practices and applied research in society (e.g. in health care and education), there has been much less debate about, and scholarly interest in, knowledge production taking place outside academia, in extramural organizations. Today, a significant number of professional practitioners across disciplines have ambitions, and directives to use research methods, to make knowledge, and to contribute to knowledge development from organizations outside academia. In this book, we ask: what are their premises to do so?

All That Glitters Is Gold?

The introductory questions are but half-answered. Research potentially takes place in a broad range of organizations throughout society. But is all that glitters gold? Can everything called research qualify as research? Is all research the work of research educated persons? Or only when they work to answer a certain type of questions in specific ways? There are a variety of ways of defining research, and a range of standards by which to evaluate research.

The definitions of research and scientific work range from broad inclusive ideas that all societies have been engaged in science to narrow perspectives of research as a clearly framed paradigmatic exercise (Schiffer 2014). It is relatively typical to define research either as a process or through its outputs (Brew 2001). Defining what research is, however, not the same as trying to demarcate it from non-research.

There is a plethora of ways of drawing lines between research and non-research and between different types of research on the basis of who funds the work and (e.g. public institutions, individuals funding their own research, commercial companies), where the work is being conducted (e.g. laboratory, field, at home, workshop), how the work is conducted and evaluated (e.g. is work peer-reviewed), if the work is accepted by other researchers (e.g. is it read and cited), and how individuals and groups themselves describe their work as research or as something else (e.g. as innovations, evaluations, consultancy deliverables). There is not much controversy to say that a research fellow at a university is probably conducting research and pre-school-aged children are, even if their exploration of the world would be driven by a similarly strong determination to know more, probably not engaged in research proper. But what about student work at universities, industrial development work outside of formal research organizations and laboratories, or 'research' done by journalists and consultants? Sometimes, the answer is undoubtedly positive, but it is doubtfully always a yes.

One of the most cited categorizations of academic and extra-academic research of the past few decades (Hessels and van Lente 2008) are the modes 1 and 2 coined by Gibbons and colleagues (1994) in a study funded by the Swedish Council for Research and Planning in the early 1990s. Mode 1 refers to research launched and conducted within universities and other research institutions. Gibbons et al. (1994) use Mode 2 to denote a novel approach to knowledge making distributed in the society and addressing societal knowledge needs. The idea is that Mode 2 type of knowledge making has emerged as a parallel to the more traditional, academic-oriented Mode 1 knowledge making. A later volume published by three of the authors of the work from 1994 (Nowotny et al. 2001) elaborated and theorized the discussion of the transformation of societal knowledge making, drawing on a broad range of authors from Giddens to Rorty and Latour.

In this edited collection, we use a pragmatic notion of extra-academic research to refer to situations in non-university organizations where people either are ordered to do research, or call their work tasks research. Many of these organizations can be described, following Gulbrandsen (2011), as *hybrid organizations* engaged in two or more

spheres, for instance, in commercial production in addition to research. The focus of the volume is on research in public organizations and organizations serving the public sector, but as many of the chapters show, the boundary between public and commercial research is all but clear-cut, and further, as Widén's text shows, the conditions of knowledge making in business organizations come close to and overlap the conditions of research in non-commercial organizations discussed in other chapters. Further, as, for instance, in the case of contract archaeology, knowledge production directed to the public is in some cases conducted by private actors and in others, by public organizations. The same applies to healthcare and many other public services. In this sense, it is difficult to provide a clear definition of what is denoted as public and the private sector even if it is apparent that in the current neo-liberalistic policy climate, a large number of countries have engaged in what Fleming (2014) has described as a massive confiscation of public property of the welfare state to a handful of private actors and a creation of a "false public sector".

By means of this pragmatic approach, we encircle research activities in government research institutes (Late) and public knowledge organizations (Koens, Harkema and Faasse), in environmental research organizations (MacDonald and Soomai), commissioned archaeology (Börjesson and Huvila) and libraries (Mizrachi). Furthermore, we include meta-perspectives on extra-academic research through chapters analysing knowledge and literature sharing practices (Schöpfel), bring contrast to the public knowledge making by providing a glimpse to business organizations (Widén), and the premises for knowledge production in these settings (Huvila). The research activities encircled by this pragmatic notion share the characteristic that they mainly take place outside university settings. The activities are financed by other means than through university-administered funding. The researchers work for other bodies than universities or university colleges.

By using the pragmatic notion of extra-academic research, we make academia and the outside thereof into ideal forms and set up an analytical demarcation between the two. When drawing such lines, it is important to emphasize that people in different disciplines, with different terms for employment, and in different situations, experience