A Fragile Field

The Development and Transformation of Science and Technology Studies in Switzerland

Regula Valérie Burri
HafenCity University Hamburg (DE)

Martina Merz
Alpen-Adria-Universität Klagenfurt (AT)

Abstract: This contribution reconstructs the history of Science and Technology Studies in Switzerland. With a focus on the institutional aspects of the field's emergence, it traces early initiatives to foster social research on science and technology, then considers, in more detail, the network building that led to the foundation of the Swiss Association for the Studies of Science, Technology, and Society (STS-CH). It also identifies important sites of STS research in the Swiss academic landscape. This reconstruction reveals characteristics of the field as it emerges such as the late uptake of STS research in Switzerland compared to other European countries, the importance of young researchers and bottom-up initiatives for the building of a relevant academic network, and processes of fragile institutionalization and of de-institutionalization. To conclude, the contribution reflects on the field's (inter)national and (inter)disciplinary configuration.

Keywords: STS; Institutionalization; History; Academic association; Interdisciplinarity; Switzerland.

Corresponding author: Regula Valérie Burri, Science and Technology Studies, HafenCity University Hamburg, Überseeallee 16, D-20457 Hamburg, Germany – Email: regula.burri@hcu-hamburg.de.

Science and Technology Studies (STS) scholars are interested in the ways local settings, cultural contexts, and transnational configurations shape the production and use of science and technology and, at the same time, ask how these contexts and configurations are themselves co-produced and reconfigured by scientific knowledge and technological applications. In perspective of STS, it may thus seem inadequate to focus on the history of an academic field within a *national* context. Nevertheless, national funding institutions and local (actor) networks did play an

important role for the emergence of STS, be it in Switzerland or elsewhere. In this contribution, we reconstruct the developments of STS within the Swiss context. In doing so, we follow the suggestion "to tell parallel stories of the emergence of STS from other national and regional vantage points" (Jasanoff 2010, 192).

Such an enterprise could inquire into the epistemic culture (Knorr Cetina 1999) or the conceptual approaches of STS researchers, or provide an overview on the topics and debates in STS scholarship – laboratory studies, investigations of the control and environmental or social impact of science, and studies that explore the manifold challenges of biomedicine or nanotechnologies, to name just a few. It could then examine how these topics have been investigated and discussed in the Swiss context. In other words, it could explore the epistemic dimension of the emerging field. While Swiss STS researchers indeed address a heterogeneous set of research topics, our contribution, however, does not trace the thematic orientations but rather focuses on the institutional and inter-disciplinary framings and network developments which have been shaping the field in Switzerland. Building on the claim that STS should inquire into the "local configuration" of new research fields, which would allow "to recover the situated practices and distinctive policies in terms of which new research fields happen to be constituted" (Merz and Sormani 2016, 2), our interest in this contribution is to reconstruct some of these local practices and policies that have been shaping the formation of STS in Switzerland.

The contribution is organized around specific characteristics identified when reconstructing the history of STS as it emerged. We first trace early initiatives from the late 1980s and 1990s before considering, in more detail, how a Swiss-wide network of STS scholars formed and a dedicated STS association came into being. The contribution then proceeds with a sketch of the institutional development and situation of STS at a number of Swiss universities. Finally, we conclude the contribution by reflecting on the field's (inter)national and (inter)disciplinary configuration. Having been actively involved in the long process of building STS in this country (while pursuing our careers outside Switzerland today), this article allows us also to revisit the sites and initiatives of science policy 'from below'[1].

[1] Both authors have been active in the Swiss STS community. Regula Valérie Burri was the co-president of the Swiss Association for the Studies of Science, Technology, and Society (STS-CH) from 2003 to 2011, and the co-president of the STS research committee of the Swiss Sociological Society from 2001 to 2013. Martina Merz was the co-president of the Swiss Association for the Studies of Science, Technology, and Society (STS-CH) from 2001 to 2012.

1. A Late Beginning

Science and Technology Studies (STS) has been established in several Western countries since the 1970s. In many European countries, academic departments devoted to the study of the social implications of science were founded with the expectation that they provide knowledge and advice to policy makers. However, in Switzerland STS was almost unknown at the time. Two decades later, the engagement with science and technology as a subject of scrutiny in the social sciences and humanities remained scarce. In the mid-1990s, a report on the academic situation of Science Studies commissioned by the Swiss Science Council called the status of the sociology of science in Switzerland "precarious". With the exception of a few researchers at the universities of Lausanne and Bern, the study found no institutional anchoring of research, and concluded that the sociology of science in Switzerland was equipped "extraordinarily poorly" compared to other countries (Heintz and Kiener 1995, 37).

In 1995, the Swiss Federal Institute of Technology (ETH Zurich) established a chair in philosophy of science and science studies. It constituted the first chair in an STS-related area of scholarship in Switzerland[2]. In Lausanne, Bern and Geneva a small number of researchers engaged in research associated with this field, predominantly relying on external funding. Considering these rare institutional initiatives, it does not come as a surprise that the social studies of science and technology did not advance significantly in the years that followed. Helga Nowotny, one of the prominent actors in the development of the field both internationally and nationally, recalls that STS had been adopted only hesitantly in Switzerland (Nowotny 1998).

2. Disciplinary Roots: The Role of Swiss Sociology in the Development of Swiss STS

The slow uptake of STS in the Swiss context was related to the local situation of the sociology of science and the history of science. Both of these important traditions within STS were institutionally weak in Switzerland until the mid-1990s. Nevertheless, within the Swiss Sociological Society, a few researchers took the initiative to create institutional frameworks for conducting studies on the social implications of science and technology. In 1987, a "research committee" (a section of the society) on work and technology was founded in Neuchâtel with the aim to foster research on the role of technology in the structuring of work ("Comité de recherche sur le travail et les techniques", SVPW/SGS 1987, 4). This re-

[2] Available at http://www.ethistory.ethz.ch/materialien/professoren/resultat.php (retrieved February 14, 2017).

search committee survived just a few years.

In the early 1990s, the *Bulletin* of the sociological association published a call for the foundation of a research committee on information technology and society. The author, Blaise Galland, who was at the time a researcher at EPF Lausanne, pointed to the social importance of information technologies. Comparable to a "macro-social super structure" ("superstructure macro-sociale"), emerging information technologies would create new worlds and shape society: its history, politics, and social interactions (SVPW/SGS 1992, 44). Such impacts, he concluded, should be explored and analysed in sociological research.

Soon after this call, the mentioned research committee was established. In 1993, it organized a European conference on *Computer Science, Communication and Society: A Technical and Cultural Challenge* in Neuchâtel in cooperation with the "Swiss Informaticians Society". This seems to have been one of the first international events on this issue in Switzerland (SVPW/SGS 1993). Nevertheless, the committee was dissolved a few years later.

In April 1995, a third attempt was made to create an institutional setting for research on the social implications of science and technology. Two postgraduate researchers from the universities of Lausanne and Bern, Francesco Panese und Bettina Heintz, initiated a research committee on science, technology, and knowledge ("Sciences, techniques et connaissances – Wissenschafts- und Techniksoziologie"). The two researchers emphasized the central role of science and technology in modern societies and called for the development of analytical tools to understand and handle the societal transformations resultant from science and technology. Such research, they wrote, should inquire into the complex and diversified processes of the production and deployment of science and technology and should examine the involved actors and places (SVPW/SGS 1995).

This committee, finally, turned out to be a booster for the further development of STS in Switzerland. It initiated a variety of activities and cooperated with the science and technology sections of the German and Austrian Sociological Associations at a common congress of the three associations (SVPW/SGS 1999). Members of the committee also published an interdisciplinary collection of articles on STS issues in Switzerland, including policy concerns (Heintz and Nievergelt 1998).

At the same time, researchers of the committee were involved in the large social science research program "Switzerland: Towards the Future". Funded by the Swiss National Science Foundation, the program included a module on "Knowledge Production and Value Change" and provided grants to young researchers (SVPW/SGS 1994; 2000). With funds from this program, two committee members, Bettina Heintz and Bernhard Nievergelt, organized a Spring School with the title *Science and Technology Studies in Switzerland* in 1999. The spring school marked a milestone in the history of the development of Swiss STS.

3. Bottom-Up Initiatives and Young Scholars: The Spring School and its Aftermath

The Spring School took place in Zurich from March 1 to 5, 1999. It brought together a broad range of younger scholars with internationally renowned STS researchers like Susan Leigh Star, Karin Knorr Cetina, Helga Nowotny, Brian Wynne, and Timothy Lenoir. Paul Hoyningen-Huene and Werner Rammert acted as moderators. David Gugerli and Jakob Tanner complemented the Swiss speakers. The Spring School was fundamental for Swiss STS: it assembled the scattered researchers interested in social and historical studies of science and technology into an interdisciplinary community, and inspired many researchers to focus on science and technology issues for the first time.

Young scholars played an important role in this event. Most of the 80 participants were working on either PhD projects or early phase postdoc projects. Shortly prior to the Spring School, Helga Nowotny had remarked that, despite of the lacking institutionalization of STS in Switzerland, there existed young scholars acquainted with the international developments in STS who had shown to be "willing and capable" of participating in these developments "in consideration of the Swiss circumstances" (Nowotny 1998, 10-11, translation by the authors).

Two discussion events dedicated to the further development of STS in Switzerland took place during the Spring School. It had been the explicit objective of the organizers to develop a research agenda for Swiss STS and to create a network of Swiss STS researchers (SPP Zukunft Schweiz 1998). The participants of the discussion events agreed that a network fostering exchange among STS researchers was missing in Switzerland. An informal group formed spontaneously with the aim to explore the option of establishing a Swiss STS association and organize further meetings (see STS-CH Annual Report 2001-2002 and SVPW/SGS 2000). To foster communication among interested researchers Christoph Müller, a member of the organizing sociological research committee, set up a mailing list.

Convened by the aforementioned informal group a first meeting on *New Projects for the Establishment of STS in Switzerland* took place in Bern on January 19, 2000. Young scholars had organized this meeting, and most of the approximately two dozens of attendees were early career researchers in history, sociology, or geography. Only one of the participants was a professor (Lengwiler 2000). During the meeting it was decided to pursue the project of a Swiss STS association, to establish a website and to plan another spring or summer school. For each of these three tasks, a working group was set up[3].

[3] The working groups' members were as follows: Swiss STS association: Regula Valérie Burri, Christoph Müller, Andrea Scheller, Beate Wilhelm; Website: Bruno Strasser; next Spring/Summer School: Marc Audétat, Alain Kaufmann.

The dynamics and enthusiasm that had characterized the Spring School carried over into 2000, giving rise to further activities. Two workshops organized in Lausanne and Geneva served as a platform for additional networking as well as the discussion of ongoing research. These events were accompanied by a visit to a museum and to the European laboratory for particle physics CERN[4].

Structural issues were an important and ongoing topic of discussion in these meetings. Participants agreed that the sociological research committee, which had organized the Spring School and provided the organizational structure for the later meetings, should serve only as temporary organizational platform for the Swiss STS community. This agreement was based on the variety of disciplinary backgrounds, besides sociology, of the emerging community. An additional reason for reorganization was noted in a review of the Spring School, in which the sociological research committee claimed that the organizational frame of the research committee had been overburdened and that "a discussion on the structure was urgently needed" (SVPW/SGS 2000, 54, translation by the authors). The review suggested that, if the committee would further serve as an organizational structure for the Swiss STS community, it should change its name. When the working group "Swiss STS association" presented a first outline of bylaws during the workshops in Lausanne and Geneva, the attendees agreed that the newly established association should have its own organizational structure.

At the same time, the members of the sociological research committee were "carefully positive" with regards to the further existence of the committee: despite their engagement in the foundation of the new STS association, the committee members advocated the continuation of its activities (SVPW/SGS 2001). The committee received regular funding by the Swiss Sociological Association, which allowed the flexible and easy organization of small-scale events. In 2001, when the long-term president Bettina Heintz resigned, the committee decided to reconstitute itself, and Alain Kaufmann, Bernhard Nievergelt and Regula Valérie Burri were elected as new co-presidents. During the following twelve years, the committee organized a variety of events and activities. These included two visits to the exhibitions *iconoclash* and *Making Things Public* at ZKM in Karlsruhe in 2002 and 2005 as well as two international work-

[4] The workshop in Lausanne took place at EPF Lausanne on April 27, 2000. It was organized by Marc Audétat, Alain Kaufmann and Bernhard Nievergelt and included a presentation of several local initiatives: the recently founded Observatoire Science, Politique et Société, the study program European Studies of Society, Science, and Technology, the Laboratoire d´études sociales des sciences, and IMédia, a local initiative at the University of Lausanne dedicated to the communication between science and society. The workshop at the University of Geneva on October 19-20, 2000 was organized by Martina Merz and Bruno Strasser (see also SVPW/SGS 2001).

shops at the congress of the Swiss Sociological Association in 2003, which discussed the relationships between science, technology, and neoliberalism. Members of the committee also co-organized conferences with the Swiss Academy of Humanities and Social Sciences on topics like "technology research" (2003) and "biomedicine" (2004), and they cooperated selectively with TA-Swiss (Centre for Technology Assessment). Further activities were mostly organized in cooperation with the then founded STS association – many times by identical staff. In 2013, the members of the sociological research committee agreed that it would not make sense to keep up the committee and decided to dissolve it.

The Spring School and the activities following it had all been bottom-up initiatives. They were not initiated by departments or larger institutions but instead were organized by younger academics with little institutional power. The engagement of these researchers finally led to the foundation of the Swiss STS association.

4. Interregionality, Interdisciplinarity, and Internationality: The Foundation and Development of STS-CH

In fall 2000 and early 2001, the preparations for the foundation of the Swiss STS Association advanced. At the mentioned workshop in Geneva, the participants voted on the name of the new association, and opted for "Swiss Association for the Studies of Science, Technology, and Society (STS-CH)". After a further preparatory meeting in Bern in early 2001, the inaugural meeting of the association was convoked. On April 20, 2001, seventeen researchers from Zurich, Lausanne, Bern, Geneva, and St. Gall met in Bern to celebrate the foundation of STS-CH. The bylaws adopted at this meeting listed two main objectives of the association: "information exchange and the building of networks" and "the external representation of interests" by fostering STS activities and research[5].

During this event, the executive council and the presidency were elected. The first council of STS-CH (Marc Audétat, Monika Dommann, Martin Lengwiler, Martina Merz, Christoph Müller, Bruno Strasser, Beate E. Wilhelm) consisted of three postdocs and four doctoral students. The constitution of the council conformed to the members' quest to have all regions and disciplines represented. They considered it very important to have a balance of representatives from the French speaking part (EPF Lausanne, University of Geneva) and the German speaking part (the universities of Bern and Zurich, and ETH Zurich), as well as having both the

[5] See http://www.sagw.ch/de/sts-ch/Association/mainColumnParagraphs/0/text_de_files/file0/STS-CH-stat-2001-d.pdf (retrieved February 14, 2017, sections translated by the authors). The following sections rely on the annual reports of STS-CH and on documents in the private archives of the authors.

social science branch and the history branch of STS represented in the council. To guarantee a fair balance, the meeting's attendees also decided to establish a co-presidency, constituted by the historian Martin Lengwiler and the sociologist Martina Merz. The care for such a regionally and disciplinarily distributed council would be characteristic for STS-CH in its later years and remained one important criteria for the organization of activities and the self-understanding of the association until today.

Disciplinary heterogeneity was not only an issue in terms of the organizational structure of STS-CH. More importantly for the members of the association was the genuinely interdisciplinary character of the field of science and technology studies. The association's bylaws thus explicitly mentioned that "STS is not disciplinarily restricted"[6]. Interdisciplinarity was also an issue in the welcoming addresses that had been prepared for the occasion of the inaugural meeting by prominent international STS researchers (such as Geoffrey C. Bowker, Steve Epstein, Bernward Joerges, Karin Knorr Cetina, Ted Porter, Susan Leigh Star, and Steven Shapin). Karin Knorr Cetina, a former president and founding member of the Society for Social Studies of Science (4S), advocated fostering discussion between the disciplines:

> "May the new association stimulate as many intellectual controversies and bloodsheds among its philosophical, historical, sociological and other factions as 4S has done in the past! (...) and may it always insist that its members are simultaneously inside and outside the science, technology and society they study".
> (Welcoming address by Karin Knorr Cetina, April 19, 2001)

This quote underlines that interdisciplinarity was no guarantee for successful communication and cooperation between disciplines. Rather, the STS community would have to continuously struggle for a mutual understanding. In the context of an academic world that was (and still is) predominantly organized in disciplinary structures, as is the case for Swiss universities, it was more difficult to integrate and institutionalize enterprises of that kind.

Another important issue, internationality – i.e. the ways a national STS association should relate to the international community – was addressed by Jakob Tanner, a Zurich based and internationally renowned historian:

> "My advice? STS-CH should write STS in capitals and CH in lower case. Academic research heads toward an open future without any national number plates. Instead, academic curiosity, the ability to amaze, and irritability are needed. Big, sedated explana-

[6] See http://www.sagw.ch/de/sts-ch/Association/mainColumnParagraphs/0/text_de_files/file0/STS-CH-stat-2001-d.pdf (retrieved February 14, 2017, sections translated by the authors).

> tory models should for now be parked. This is how experimental expeditions to new scientific territories come about, and thus emerges the space for the needed search movements and unexpected encounters".
> (Welcoming address by Jakob Tanner, April 19, 2001, translation by the authors)

The founding members of STS-CH shared this view. The association's "national number plate" was never meant to foster specifically Swiss research topics but rather pointed to the context in which most activities of STS-CH would take place. From the very beginnings, researchers advocated an international orientation of the association that was in accordance with the international character of science in general, and STS in particular. This orientation was supported by the communication practices of the academics involved in the foundation of the association. Starting with the Spring School in 1999, academics had communicated in English rather than German and French, as it had been mostly the case before. The use of English was meant to prevent researchers from the distinct linguistic regions in Switzerland from teaming-up and excluding persons from the respective other region. Equally important, the establishment of English as the association's official and unofficial communication language allowed researchers from abroad to participate in the activities of STS-CH without language barriers.

In the academic landscape of the Swiss humanities and social sciences the language policy that was adopted had an innovative element. While, for example, the sociological research committees engaged in research on science and technology had been using English mainly in their workshops and conferences, STS-CH was one of the first academic associations that would use English in their official communication as well as in the daily exchanges of members from different language regions.

Since the foundation of STS-CH, its council and its members have initiated and carried out a large number of national and international activities and events. Often these were conceived and organized in cooperation with local teams with the aim of pooling organizational resources, as well as furthering contact across locations. Besides more confined workshops, there were also discussion sessions on topics of both scientific and societal importance and STS-informed guided tours through exhibitions. STS-CH has co-organized four larger international meetings to this day. These so-called Swiss STS Meetings covered a range of topics and took place at the then central locations of STS in Switzerland: *Knowledge in Plural Context* (Lausanne, 2001); *Sites of Knowledge Production* (Basel, 2004); *Science Futures* (Zurich, 2008); *Collecting, Organizing, Trading Big Data* (Lausanne, 2014).

That STS-CH had acquired a good reputation abroad was apparent with the invitation issued by the European Association for the Study of Science and Technology (EASST) to jointly organize one of their biennial

meetings in 2006. The EASST-Meeting 2006 took place in Lausanne, in August, under the title *Reviewing Humanness: Bodies, Technologies and Spaces*. This event marked the moment from which on, without doubt, the Swiss STS community – not only individual researchers or teams – had arrived on the field's international map. In the same year, STS-CH gained further respectability also nationally when the association was accepted as a member of the Swiss Academy of Humanities and Social Sciences. The approval procedure required the association's co-presidents (at the time, Regula Valérie Burri and Martina Merz) to argue convincingly that (a) STS-CH could not be represented by one of the existing, discipline-oriented member societies and that (b) the field, and its association, had a future lying ahead.

In the next section we will move back in time to take a closer look at the debates about and the processes of institutionalizing STS in Switzerland, especially as organizations of higher education are concerned.

5. Institutionalization (and De-institutionalization): STS Centers and Chairs

How STS could be institutionalized has been an important topic of discussion since the beginning of the field's broader introduction in Switzerland in the late 1990s. The question of potential forms of institutionalization would be difficult to answer, according to Helga Nowotny (1998), due to the extant profound structural crisis of universities that seemed to offer little opportunity for experimentation. Nowotny suggested that such instances of crisis lend themselves to transdisciplinary approaches and models "that consciously build on a 'light' and networked form of organization affording the exploitation of all extant personnel and institutional resources" (Nowotny 1998, 10-11, translation by the authors). Such networks should cross the existing disciplinary and institutional boundaries and, in addition, they should not be constrained by boundaries between the academic and extra-academic realms (idem). In these early years, another visionary account proposed the construction of an interdisciplinary centre for Science and Technology Studies in Switzerland (Nievergelt 1998).

Interestingly, science policy actors actively initiated and furthered this debate. To provide an example: the Parliament had commissioned the Swiss Science Council (SSC) to address science studies within its funding period 1992-1995. In this context, the SSC held a closed meeting with the title *Science Studies – Problems and Perspectives* in 1994 and launched a comprehensive review of the field (SWR 1995; Heintz and Kiener 1995). The conclusions note "a consensus that Science Studies is worthy of support, concerning the level of fundamental research as well as teaching" (SWR 1995, 61, translation by the authors). At that time, the office for

technology assessment ("Stelle für Technikfolgenabschätzung", the later TA-SWISS) was in a trial phase under the umbrella of the SSC. Foreign experts, in their evaluation of the TA office, also asserted that Switzerland lacked researchers qualified in conducting social studies of science and technology (Heintz and Nievergelt 1998). Such statements may well have contributed to the positive attitude that science policy actors in Switzerland held towards STS.

The Swiss National Science Foundation (SNSF) also showed a general openness for and interest in science studies, e.g. in the context of the aforementioned Priority Program "Switzerland: Towards the Future". The SNSF supported the field through project funding and by awarding research professorships (SNSF professorships) to scholars with projects in or closely associated with STS (Marcel Weber, Basel; Martina Merz, Lucerne; Valérie November, Lausanne; Monika Dommann, Basel; Marianne Sommer, Zurich and Lucerne). While the SNSF's continuing support played an important role to initiate and sustain research efforts in STS, it nonetheless could not contribute directly to institutionalizing the field at the university level. A first reason was the limited duration of each of the funding initiatives, a second that universities were wary of the SNSF's potential intervention in their strategic decisions, in particular where interventions would impact upon disciplinary configuration (Merz 2009).

At the same time, a number of Swiss universities pursued initiatives with the view to implement STS more strongly, albeit without coordinating their respective projects. As we will show below, the initiatives were adopted at different organizational levels of the universities, combining bottom-up approaches with the top-down implementation of new chairs. Two locations, Zurich and Lausanne, stood out with their long-term engagement in STS and associated areas of scholarship. Each location will be examined in more detail, followed by brief sections on other selected locations' involvement in STS.

5.1 Zurich

At ETH Zurich, philosophers of science Ferdinand Gonseth (chair in mathematics 1929-1960, also dedicated to philosophy of science since 1947) and Paul Feyerabend (chair in philosophy of science 1979-1991) had been active many years before a combined chair for "Philosophy of Science and Science Studies" was established in 1995. First held jointly by Yehuda Elkana (until 1999) and Helga Nowotny (until 2002), this chair, now a chair for Science Studies, has since become an attractive and lively center of considerable standing, of importance especially for the German-language academic community[7]. Together with other chairs at ETH Zur-

[7] Available at http://www.ethistory.ethz.ch/materialien/professoren/ (retrieved March 1, 2017).

ich, the chair for Science Studies offers an interdisciplinary Masters program in the history and philosophy of science.

In 1997, ETH Zurich established the Collegium Helveticum. Inspired by the interdisciplinary Wissenschaftskolleg in Berlin, this new unit pursued the objective of fostering discussion and cooperation between the natural and technical sciences, on the one hand, and the social sciences and humanities, on the other. Besides ETH professors Adolf Muschg and Iso Camartin, the aforementioned Yehuda Elkana and Helga Nowotny established the Collegium Helveticum as a centre that offered an interdisciplinary fellowship program for doctoral students of different disciplinary origin and a guest program for artists, writers, and scientists. Numerous symposia, workshops, literary readings, and exhibitions brought together scholars from abroad with the local team and engaged the sciences in dialogue with the public[8]. Right from the beginning, central approaches and themes of STS constituted important topics of debate and enriched inter- and transdisciplinary exchange. In the years following 1998 – the year Helga Nowotny took over as head –, the Collegium Helveticum developed into the central location for STS in Switzerland. It continues to be a centre for reflection and debate about science and its relation with society also under its new bi-institutional roof of both ETH Zurich and University of Zurich since 2004.

In 2005, the University of Zurich and ETH Zurich founded the Center History of Knowledge as a joint centre of competence with the objective of fostering and coordinating research and teaching in historical, philosophical and cultural studies perspective on modern knowledge systems and knowledge societies. The centre has become the largest institution in Switzerland that addresses topics associated with Science and Technology Studies within perspectives of the humanities, such as, in particular, history. It also hosts a doctoral program on the history of knowledge, which is supported by the Swiss University Conference[9].

In 2014, the new Center for Higher Education and Science Studies took up work at the University of Zurich with the objective of conducting research and performing advisory functions.

Next to these centres, the professorship of history of technology at ETH Zurich, a chair in the history department of the University of Zurich, and, more recently, the chair of popular culture at the University of Zurich have become important locations in which STS research is being carried out.

[8] See also Nievergelt (1998).

[9] Available at http://www.zgw.ethz.ch/de/doktoratsprogramm.html (retrieved March 6, 2017).

5.2 Lausanne

Lausanne is the other Swiss location in which activities in STS go back to the early 1990s. First initiatives in research and teaching were primarily undertaken by younger scholars. For example, an organizational unit at EPF Lausanne was involved in setting up the international Master's program European Studies of Society, Science, and Technology and participated in the program when the first cohort started in 1993[10]. This international study program connected (and still connects) students and teaching staff at selected universities in a number of European countries. Through the continuing engagement of scholars at EPF Lausanne and the University of Lausanne, first steps toward institutionalizing STS were undertaken. A success in this respect was the establishment of an assistant professorship in sociology of science and technology at the University of Lausanne in the year 2000.

The year 1999 saw the founding of the Observatoire Science, Politique et Société at EPF Lausanne which, in its activities, focused primarily on higher education research and its boundary areas with STS. In 2005, the Observatoire was transferred to the University of Lausanne where it became integrated into its Faculty of Social and Political Sciences. In this Faculty a chair for social studies of science and technology was established in 2011. Since 2016, the Faculty's STS scholars meet regularly in the context of the newly created STSLab: a research unit that gathers almost a hundred regular members, doctoral students and associates[11].

With its two universities, Lausanne is today amongst the most dynamic sites in Switzerland for STS research, especially in its social scientific orientation. The local community of STS scholars is well connected internally and is also closely associated with other fields of research and activity. These connections have afforded new profiles for positions. For example, the aforementioned assistant professorship established in the year 2000 was transformed, in 2008, into a full professorship held jointly by the Faculty of Biology and Medicine and the Faculty of Social and Political Sciences. In Lausanne, a social science and humanities perspective on medical research is well established, encompassing the history of medicine and public health. To mention another example, it was again those scholars who had engaged in fostering STS early on who took the initiative to found the Interface Sciences – Société. This is a platform promoting and organizing dialogue between science and the public that offers an institutional home for science mediators and researchers alike for more than fifteen years.

[10] https://prezi.com/xhdhvcb0rbx7/esst-timeline/ (retrieved March 6, 2017).
[11] https://www.unil.ch/stslab/en/home.html (retrieved March 6, 2017).

5.3 Further Locations

A number of other locations developed activities in STS that were more closely aligned with particular research fields. For more than a decade, for example, *Basel* had been an important location for STS, especially for the sociology of science and knowledge. A professorship for Science Studies was established in 2001. However, after the professor left the university to take up a position abroad in 2013, the Rectorate closed down this unique centre for the social studies of science and technology at a university in German-speaking Switzerland. Since then, research and teaching associated with STS, in particular history of science, have been located primarily at the university's Department of History.

At the *University of Geneva*, since the early 2000s, it was a small number of scholars associated with the history of medicine that undertook activities in the field of STS. While STS has not become strongly institutionalized at this university so far, considerable research activity exists with a focus on biology and medicine. Two professorships have been of importance in this context: a chair of philosophy of science and a chair of science education and history of science.

At the *University of Lucerne*, founded as a modern higher education institution in the year 2000, research and teaching associated with science studies first took place in the Department of Sociology. A promising perspective for the future emerged only with the establishment of a chair for Science Studies in 2010. A year later, the chair holder together with the newly appointed professor for cultural studies (who happened to be a science studies scholar) founded the Department of Cultural and Science Studies. As of late, STS activities in Lucerne have taken up momentum; similar to the situation in Zurich, however, social science scholarship that addresses science and technology is still limited.

In addition to these locations, the chair of social and cultural geography at the University of Neuchâtel and some dispersed researchers at other Swiss universities, including universities of applied sciences, have engaged in STS research.

In summary, the current situation of STS in Switzerland is one of ambivalence (see also below). While the Zurich and the Lausanne contexts have succeeded in institutionalizing STS by way of dedicated professorships and the bundling of activities in centres, the situation looks quite different in other locations. In particular, the closing of the STS chair in Basel points to a de-institutionalization of the field, which had taken up considerable momentum locally to the benefit of STS in Switzerland more generally.

6. Conclusion

Our reconstruction of the history of STS in Switzerland has revealed several characteristics of the emergence of the field: a late uptake of STS research in both academic and institutional terms; the importance of one discipline, sociology, as a driver for the building of an STS network in its early stage; the engagement of young academics in organizing events and fostering the dialog bottom-up; the involvement of different language regions and academic disciplines in such activities; the orientation towards the international STS community; and, finally, processes of fragile institutionalization (and de-institutionalization).

In our concluding reflections, we will revisit two related themes. *First*, from the literature on the development of new research fields or disciplines it is known that institutionalization involves different levels and processes: in particular, the establishment of journals, associations, chairs, and degree programs (e.g. Heilbron 2004). The fact that STS was no longer a novel research field internationally when its development finally took off in Switzerland left its mark on how it evolved in this country. Initiatives at the *national* level, such as STS-CH, were geared toward the international state of the field and its international scientific community right from the beginning. "CH" indeed remained written in lower case (as a welcoming address had suggested, see above). No serious attempt was undertaken to create a separate epistemic space for "Swiss" STS in the form of, e.g., a journal. While also selected initiatives at Swiss universities closely cooperated or aligned with developments abroad (e.g. the early participation of EPF Lausanne in constructing a European Master's program in STS), the establishment of dedicated university positions and centres, however, depended more strongly on *local* particularities. Academic positions in STS have remained a scarce resource until today. In many cases, STS activities are undertaken either 'undercover' (i.e. under the denomination of another field) or in the context of positions that associate STS with other areas of scholarship. This scarcity of dedicated positions may be one of the reasons why the two Swiss locations in which STS is best institutionalized today are those in which two universities (a cantonal university and a Federal Institute of Technology) coexist: Zurich and Lausanne. The richer institutional milieus of such co-habitation may offer more opportunities for bottom-up initiatives to create chairs, centres, or degree programs and provide more options to reassemble local networks and resources to the benefit of a still fragile field like STS.

A *second* issue of interest pertains to the disciplinary configurations of STS in Switzerland. We again observe two separate trends when comparing the national level of the Swiss-wide association and the local, departmental level. STS-CH was founded deliberately to engage with STS in its broadest sense: involving scholarship from the full spectrum of disciplines as well as transdisciplinary activity. In contrast, individual centres and departments in many cases reproduce the organizational separation that

has also gained traction internationally: that between STS in a narrow sense (associated with the social sciences only) and its counterpart in the humanities, in particular the history of science, technology, and knowledge. When we take into consideration this distinction, the Swiss landscape of Science and Technology Studies shows a more nuanced picture than presented in our brief summary above. In Zurich, the cultural studies and humanist orientation of STS is particularly well established. With the Center History of Knowledge, and its broad spectrum of scholarship in the humanities, Zurich has become the most visible and important location for the history and philosophy of science in Switzerland. In contrast, as far as the social science orientation of STS is concerned, only the Lausanne context has succeeded in institutionalizing the field by way of professorships and the bundling of activities within the STSLab. The situation of STS in other locations keeps evolving, in varying directions. The fragility of STS in Switzerland is thus not only a feature of limited resources (personnel and other) but also of the unpredictability and contingent nature of its development.

Acknowledgement

This contribution is based on Burri and Merz (2014) and is in large parts a translation of this text. We thank Sophie Ritson for the English editing of the manuscript.

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