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**“Practice-Oriented Research”. Fifteen Years of
Brass Projects at the Hochschule der Künste Bern**

When the Hochschule der Künste Bern HKB initially embarked on research in the middle of the first decade of the twenty-first century, no one could have foreseen that research into historical brass instruments would prove particularly successful in the long term, nor that this would soon develop into a whole series of research projects that would continue to this day. The brief retrospective that we offer here can only provide an interim snapshot, given that activities in this field remain ongoing. We shall trace the development of this project series, explain its results and its accompanying activities, and hope thereby to provide insights into the specific framework on which it is based and that has itself influenced the overall conception of the series.

New organisational forms and their legal foundations Research is a relatively recent phenomenon at universities of art, and especially at universities of music. In Switzerland, the rise of research at these institutions is closely related to a transformation that took place at the turn of the new millennium, when the traditional conservatories were made departments of the newly established universities of applied sciences and arts.¹ The Swiss music conservatories had previously been devoted mostly to instrumental and vocal teaching and had been financed by the cantons, but the *Fachhochschulgesetz* (FHSg, “Law on Universities of Applied Sciences”) that came into force in 1996 meant that they were no longer to provide exclusively artistic training, but were instead obliged to fulfil a ‘fourfold performance mandate’. This meant that they had to engage in “practice-oriented research and development”² in addition to teaching, further training and services. The

- 1 For the history of the Swiss universities of applied sciences and arts, see Hans-Kaspar von Matt: *Die Schweizerischen Fachhochschulen: eine Biografie. Geschichte und Geschichten über die Bildung eines neuen Hochschultypus*, Bielefeld 2022.
- 2 The German original runs “anwendungsorientierte Forschungs- und Entwicklungsarbeiten”, *Fachhochschulgesetz FHSg vom 6. Oktober 1995 (Stand am 1. Januar 2013)*, art. 3, para. 3, www.admin.ch/opc/de/classified-compilation/19950279/201301010000/414.71.pdf (all URLs in this text last accessed 28 July 2022). “Den FH wird somit eine Aufgabe übertragen, die für einige unter ihnen neu ist: die Forschung.” (“The universities of applied sciences are thus given a task that is new to some of them: research.”) *Aktion DORE – Kompetenzförderung in anwendungsorientierter Forschung an den kantonalen Fachhochschulen, Tätigkeitsbericht vom 19. August 1999 bis zum 31. Dezember 2001*, Bern 2002, p. 6. The FHSg was replaced on 1 January 2015 by the “Hochschulförderungs- und -koordinationsgesetz” (HFKG, “Law for the promotion and coordination of the universities”) of 30 September 2011, which came into force on

transformation into tertiary institutions that could meet these requirements, and whose curricula had to be redesigned according to the Bologna System, went hand in hand with the merging of smaller educational institutions into larger units. In Canton Bern, for example, the conservatories of Biel and Bern and the Swiss Jazz School Bern, which had hitherto existed independently as vocational colleges, were merged in 1999 to form the Hochschule für Musik und Theater and were separated from their respective general music schools (i.e. the music schools primarily for those of pre-university age). In 2003, this Hochschule für Musik und Theater was integrated in the newly created Hochschule der Künste Bern HKB, where it was divided into separate divisions for music and theatre.³ As Switzerland's first integrated university of the arts, which is itself a department of the Bern University of Applied Sciences BFH, it also includes divisions for design, art, conservation and restoration, literature, and a transdisciplinary 'Y Institute'.

Roman Brotbeck was initially the Director of the Biel Conservatory, then of the Hochschule für Musik und Theater, and ultimately the Head of the Music Division of HKB. Since he is a musicologist, the new task of integrating research into a tertiary music institution in Bern was taken seriously from the outset and never had to take a back seat thereafter. Already before its integration in HKB, the Hochschule für Musik und Theater set up a forward-looking "research and development institute for our own practice-oriented research" that was called the "Freie Akademie".⁴ Other departments at BFH, such as the School of Engineering and Computer Science, already had a long tradition of applied research. This helped to facilitate the establishment of an interdepartmental research culture that to this day continues to search for appropriate forms of interdisciplinary collaboration.

Musicians become researchers Research support infrastructure was subsequently set up at HKB at a central site. It is independent of the different artistic divisions, and in many instances its tasks mean that it has more in common with its umbrella institution BFH. The research competences that were now required were by no means merely bought in from outside, despite most of the teaching staff having been kept on from the predecessor institutions. Instead, a serious attempt was undertaken to introduce the staff to their new

1 January 2015 (current status as of 1 January 2020), www.admin.ch/opc/de/classified-compilation/20070429/202001010000/414.20.pdf.

3 The study area "Opera" was originally part of the Opera/Theatre Division, but was removed from it in 2018 and integrated in the Music Division.

4 "Eine wichtige Neuheit der Hochschule ist unser Forschungs- und Entwicklungsinstitut, die so genannte 'Freie Akademie', wo wir neue Wege im veranstalterischen Bereich und eine ganz eigene, praxisorientierte Forschung betreiben können". Hugo Schaller: Auf dem Weg zur Musikhochschule. [Interview with Roman Brotbeck], in: *Freiburger Nachrichten*, 12 July 2002, p. 3.

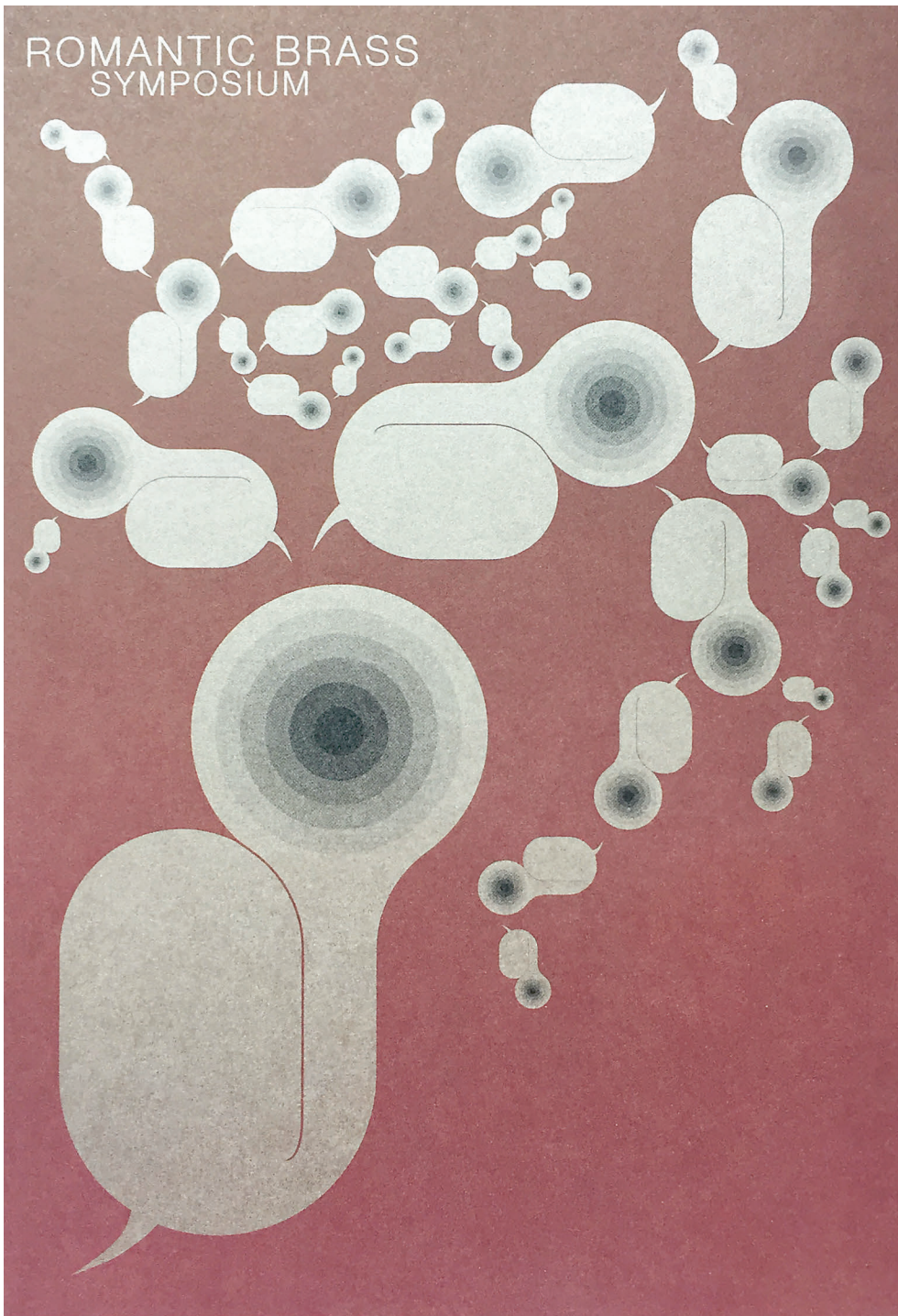


FIGURE 1 Flyer for the first Romantic Brass Symposium (2009).
Design & photo: Viola Zimmermann

task of conducting research, and to further qualify them to embark on such activities. Initial, preparatory research projects emerged when these lecturers were confronted with their new challenges. For example, the process of “de-standardising”⁵ the core Romantic repertoire of a conservatory was also important for establishing the strategic position and profile of the Music Division of HKB, and this was undertaken under the banner of “Interpretation practice in the nineteenth and early twentieth centuries”.⁶ In a subsequent step, greater attention was focused on performance practice on string instruments.⁷ Both these preparatory projects, which were financed by BFH, concluded with exemplary symposia⁸ and their results were published in a series of books that was set up especially for this purpose by HKB (the same series in which the present volume is being published).⁹ A spirit of close cooperation already existed at this early stage with the Institute of Musicology at the University of Bern – which is a cantonal institution, like HKB itself – and led a few years later to the founding of a joint doctoral school: the “Graduate School of the Arts” GSA, which since 2019 has been known as the doctoral programme “Studies in the Arts”, SINTA.¹⁰ However, the researchers involved in these early projects were initially artistic lecturers or assistants at HKB’s Department of Music. They had not previously been much involved in research, and were supported throughout

- 5 Regarding the German term “Entstandardisierung”, see Roman Brotbeck: *Das Forschungsfeld “Interpretationspraxis des 19. Jahrhunderts” an der Hochschule der Künste Bern*, in: *Zwischen schöpferischer Individualität und künstlerischer Selbstverleugnung. Zur musikalischen Aufführungspraxis im 19. Jahrhundert*, ed. by Claudio Bacciagaluppi, Roman Brotbeck and Anselm Gerhard, Schliengen 2009 (Musikforschung der Hochschule der Künste Bern, Vol. 2), pp. 189–200, here p. 197. All volumes and articles in this series are available on open access at www.hkb-interpretation.ch/musikforschung-der-hkb.
- 6 “Interpretationspraxis des 19. und frühen 20. Jahrhunderts”, BFH project 5004PT.HKB (2005), applicant: Roman Brotbeck, research staff: Claudio Bacciagaluppi, Manuel Bärtsch, Hans Peter Blochwitz, Carsten Eckert, Tomasz Herbut, Andreas Stahl, www.hkb-interpretation.ch/projekte/interpretationspraxis.
- 7 “Aufführungspraxis und Instrumentenbau der Saiteninstrumente im 19. und frühen 20. Jahrhundert”, BFH project 6003PT.HKB (2006), applicant: Roman Brotbeck, research staff: Claudio Bacciagaluppi, Elena Càsoli, Barbara Doll, Carsten Eckert, www.hkb-interpretation.ch/projekte/aspekte-der-streicherpraxis-in-der-romantik.
- 8 “Zwischen schöpferischer Individualität und künstlerischer Selbstverleugnung. Zur musikalischen Aufführungspraxis im 19. Jahrhundert” (14–16 December 2005), www.hkb-interpretation.ch/interpretationspraxis; “Aspekte der Streicherpraxis in der Romantik” (18/19 November 2006), www.hkb-interpretation.ch/streicherpraxis.
- 9 *Zwischen schöpferischer Individualität und künstlerischer Selbstverleugnung: Spielpraxis der Saiteninstrumente in der Romantik. Bericht des Symposiums in Bern, 18.–19. November 2006*, ed. by Claudio Bacciagaluppi, Roman Brotbeck and Anselm Gerhard, Schliengen 2011 (Musikforschung der Hochschule der Künste Bern, Vol. 3).
- 10 www.sinta.unibe.ch/index_eng.html.

by HKB’s in-house musicologist Claudio Bacciagaluppi. Their number was expanded at the symposia to include international experts in the fields in question.

Research funding Although the brass players had not yet been involved in these very first research activities at HKB, it is notable that it was they who, in the long run, proved to be the instrumental lecturers in HKB’s Music Department who were the most eager to experiment and the most adept at research. This was already evident when it became necessary to seek external, third-party research funding (at first, research funding had been provided by BFH – it was awarded competitively, to be sure, but nevertheless within the university of applied sciences itself). Just as it had never been questioned at HKB that universities of the arts could and should engage in research, so it was also clear from the start that such research activities would be organised as time-limited projects, and that the funds necessary to undertake them should be acquired externally in order to ensure quality control by funding institutions acting in line with the benchmarks of the international research community.

Parallel to the new research mandate given to the universities of applied sciences, Switzerland’s two most important national funding institutions, the Swiss National Science Foundation SNSF and the Commission for Technology and Innovation CTI, launched a joint funding programme in 1999 whose specific aim was to build up the necessary skills in the non-technological disciplines of social work, business, health and the arts, all of which were situated at the universities of applied sciences and were consequently rather new to research. Its name was DORE (short for “DO REsearch!”).¹¹ The special feature of this programme was that the university engaging in research projects was supposed to work together with external implementation partners. The goal of the first DORE project, initiated by the composer and organist Daniel Glaus while the Hochschule für Musik und Theater was still in existence, was to develop a wind-dynamic organ together with two organ-building companies.¹² The DORE funding programme had

11 “Um den Erwerb von Kompetenzen in anwendungsorientierter Forschung an den kantonalen FH zu unterstützen, hat das Parlament und der Bundesrat den Schweizerischen Nationalfonds (SNF) und die Kommission für Technologie und Innovation (KTI) mit einem entsprechenden Mandat betraut. Zur Erfüllung dieses Mandates haben die beiden Institutionen die Initiative ‘DO-REsearch!’ geschaffen”. Aktion DORE – Kompetenzförderung in anwendungsorientierter Forschung an den kantonalen Fachhochschulen, Tätigkeitsbericht 2000–2003, Bern 2004, p. 3. Cf. KTI und DORE: Gute Forschung findet starke Förderer, undated document, www.snf.ch/SiteCollectionDocuments/spe_dor_kti_d.pdf.

12 “INNOV-ORGAN-UM – Innovationen in der Kunst des Orgelbaus und -spiels”, SNSF DORE project 101162 (2003–2005), applicant: Daniel Glaus, implementation partner: Orgelbau Peter Kraul, Johannes Röhrig, <https://data.snf.ch/grants/grant/101162>.

meanwhile become the sole responsibility of the SNSF,¹³ and on a hunt for music lecturers who might be willing to take on limited-duration research tasks in addition to their teaching load, the Hochschule found the people it needed among the brass staff. At the same time, there were instrument builders in Switzerland who were keen to get involved in just such practice-oriented research projects as ‘implementation partners’.

Historical wind instruments as an object of research and reconstruction To some extent, the practice-oriented nature of this research naturally tended to focus on instrument-building. What’s more, the brass section of the classical orchestra was the group whose instruments had undergone the greatest structural changes during the nineteenth century, and where there was still much to be discovered that had hitherto remained unknown or forgotten. Starting with this instrument group promised to provide the greatest possible benefit in the shortest possible time by establishing a new perspective on the core Romantic repertoire of the traditional conservatory. Above and beyond this, it offered the prospect of taking the principle of historically informed performance practice – already a subject of international interest for the music of the Baroque and Classical eras – and extending it into the music of the nineteenth and early twentieth centuries. This would in turn enable HKB to contribute to the international research discourse.

The choice of topic for HKB’s first DORE project on brass instruments fell on representatives of their bass register that were in functional terms the precursors of the later tuba, but had fallen into disuse over the course of the nineteenth century. The main focus was on the ophicleide. The project was intended to include reconstructing the instrument itself so that it might be played more widely in historically informed orchestras.¹⁴ Guy Michel and Thomas Rüedi, HKB’s lecturers for tuba and euphonium, took part as HKB’s own contribution to the project. The actual research that was financed by the project was initially assigned to a HKB graduate, the tuba player Daniel Schädli. But he won the audition for the tuba position in the Bern Symphony Orchestra at the same time that the

13 “Seit 2004 wird DORE vom SNF allein weitergeführt”. DO REsearch (DORE) – Förderungsinstrument für praxisorientierte Forschung an Fachhochschulen und Pädagogischen Hochschulen, Tätigkeitsbericht 2004–2006, Bern 2006, p. 4.

14 “Rekonstruktion, Nachbau und Spielmethodik der originalen tiefen Blasinstrumente im 19. Jahrhundert am Beispiel von Cimbasso und Ophikleide”, SNSF DORE project 112469 (2006–2008), applicant: Roman Brotbeck, research staff: Roland Fröscher, Guy Michel, Thomas Rüedi, Daniel Schädli, implementation partner: Instrumentenbau Konrad Burri, <https://data.snf.ch/grants/grant/112469>. It was originally planned to include the cimbasso in the project, but this proved too ambitious for the two years planned for the project. This was instead postponed and intended for inclusion in a putative later project that up to now has not been realised.

DORE project was approved in 2006, so he had to reduce his research workload from the very start.

The work quota that had been freed up by Schädeli's reduction in research time was assigned to the euphonium player and HKB assistant Roland Fröscher. The resultant teamwork proved ultimately beneficial to the project and furthermore constituted a welcome boost to a member of the non-professorial teaching staff. Daniel Schädeli remained in charge of the core task of developing a replica of the ophicleide together with the instrument builder Konrad Burri, while Roland Fröscher worked on integrating the ophicleide as a variant instrument for tuba and euphonium students at HKB. He himself also embarked on extensive concert activities on the replica instrument. Ultimately, the results of such a project ought always to have practical, professional applications and should also have an impact on the professional training offered by the Music Division of HKB. Since Roman Brotbeck was both Head of the Music Division and Head of the Research Area Interpretation¹⁵ at HKB, he was able to plan appropriately and implement the results of the project, also using HKB's investment budget to purchase the reconstructed instruments upon their completion.

While the ophicleide project was still ongoing, HKB's second DORE project was already approved. It began in summer 2007 and was dedicated to reproducing the keyed trumpet.¹⁶ The primary implementation partner was once more Konrad Burri, though this project also marked the beginning of HKB's collaboration with the Egger company in Basel that continues to this day. This time, Markus Würsch, HKB's own trumpet lecturer, took on the research part of the project that was financed by the SNSF.

The results of these two DORE projects were presented at the first Romantic Brass Symposium in February 2009.¹⁷ Music research at HKB continued to grow, and in late 2010 a further symposium day was held to offer a larger-scale presentation of research at HKB that collectively took a "look back at the nineteenth century".¹⁸ After this, the discussion specifically on the topic of the keyed trumpet – a discussion that continues to this

¹⁵ The Research Area Interpretation was renamed the "Institute Interpretation" in 2019.

¹⁶ "Klappentrompeten – Rekonstruktion, Spielmethodik und Nachwirkungen der klassischen und frühromantischen Solotrompeten", SNSF DORE project 116291 (2007–2009), applicant: Roman Brotbeck, research staff: Markus Würsch, implementation partners: Instrumentenbau Konrad Burri, Egger Blasinstrumentenbau, Orchestergesellschaft Biel, <https://data.snf.ch/grants/grant/116291>.

¹⁷ "Romantic Brass Symposium [1]" (17–19 February 2009), www.hkb-interpretation.ch/rbs. See Fig. 1 for the flyer of the first Romantic Brass Symposium, and Fig. 2 for the programmes of the first four.

¹⁸ Symposium "Ein Blick zurück ins 19. Jahrhundert" (2–4 October 2010), section "Die Klappentrompete von Anton Weidinger: neue Quellen und Theorien", www.hkb-interpretation.ch/blick-zurueck.

day – had reached a point at which we felt able to embark on publishing the contributions to these symposia.¹⁹

The goals of the DORE projects These first two projects – on the ophicleide and the keyed trumpet – allow us to observe in exemplary form certain aspects that proved characteristic of both these projects and their successors.

Core repertoire Our starting point was always a work from music history that was as well-known as possible; the aim of each project was to place its interpretation on a new footing and to bring about a long-lasting shift in how it is performed. For the ophicleide, we chose several important works from the early Romantic orchestral repertoire: the *Symphonie fantastique* (1830) by Hector Berlioz, and the Overture and incidental music to Shakespeare’s *A Midsummer Night’s Dream* (1826–1843) and the oratorio *Elijah* (1846) by Felix Mendelssohn. For the keyed trumpet, we decided upon the two most important trumpet concertos of the Viennese Classical period: those by Joseph Haydn (1796) and Johann Nepomuk Hummel (1803). Later projects focused on the *Morceau de concert* op. 94 by Camille Saint-Saëns (1887), which is renowned among horn players, and Igor Stravinsky’s ballet *Le Sacre du Printemps* (1913). Another project took a close look at the repertoire of the on-stage band at the Paris Opéra in circa 1860 – though in this case, the main attraction was the man who directed the ensemble in question: Adolphe Sax. He was responsible not just for developing today’s ubiquitous saxophone, but also the family of saxhorns that were our prime focus of interest in this particular research project. In retrospect, this seemingly superficial feature of the HKB research projects – focusing on a concrete musical work – was in fact decisive in demonstrating their relevance and legitimacy: both to practical musicians who were hitherto unfamiliar with such research, to other researchers who were interested in collaborating with us, and – last but not least – to the peer-reviewers and decision-makers of the research funding institutions.

Original instruments Before we could replicate a historical instrument, we had to identify an appropriate model. What kind of instrument was actually used to play the work we had selected? Which original instrument was best suited in technical terms to being replicated, and which original was of the necessary quality and was sufficiently well preserved for our purposes? What new developments might open up a potential business field for our implementation partner, also after the end of the project? What instrument could also be used for a broader repertoire and be played by modern musicians as an

19 Romantic Brass. Ein Blick zurück ins 19. Jahrhundert. Symposium 1, ed. by Claudio Bacciagaluppi and Martin Skamletz, Schliengen 2015 (*Musikforschung der Hochschule der Künste Bern*, Vol. 4).

alternative instrument without any problems? Sometimes there were no open questions to discuss in this regard, and the instrument to be reconstructed had already been identified before the project began. As a rule, however, it was first necessary to engage in travel-intensive research to visit international instrument collections. In certain cases, our search for the one, right instrument remained unsuccessful, which meant that we had to make the best possible decisions based on various second-best options that were all equally valid. For example, we simply do not know on what kind of “organised trumpet” (“organisierter Trompete”) Anton Weidinger played when he gave the first performances of the trumpet concertos by Haydn and Hummel, because his own instruments have not survived.²⁰

This preparatory search process allowed us to put to an initial test the proposed collaboration between the instrument builder, the HKV’s artistic expert and the historical researchers who were also working on the project. The respective interests of the individual participants were in some cases very far removed from each other, so a consensus had to be established among them.

Reconstruction The decisive reasons for situating such research projects at a university of the arts were provided by the actual process of developing the replica instrument, because this could never be reduced to a mere act of ‘copying’ the original. It was in fact a result of an intensive collaboration between the instrument builders and the practising musicians. New prototypes were made at regular intervals, tried out in practice, discussed, discarded or improved, and rebuilt again. The participants worked so intensively together and with such a high degree of intrinsic motivation that the funds originally earmarked in the project budget for items such as travel expenses proved quite inadequate. In retrospect, we are very grateful that it was thanks to a great deal of extra, private dedication and investment that these reconstruction projects were nevertheless always able to be completed by producing a finished instrument. Such replicas can be based on very different premises, for which the arguments in each case might be completely justifiable. In the initial projects, there was a kind of consensus among both the instrument builders and the practical musicians that their replicas should ‘improve’ on certain characteristics of the original, or ‘optimise’ them – such as in matters of intonation, volume and playability. In other words, they endeavoured to adapt the instrument to modern customs, since it was intended for use by today’s musicians – both students and professionals. Discussions about how close a replica should remain to the original were later conducted

20 In this regard, see the various contributions to *Romantic Brass. Ein Blick zurück ins 19. Jahrhundert. Symposium 1*.

at a symposium²¹ for a bassoon replica project²² that had run in similar fashion to the brass projects, and whose papers were subsequently published.²³

Expansion of the repertoire The search for instruments to replicate was accompanied by research into accompanying documents and a hunt for more works in the instrument’s repertoire. Besides the standard works that served as the thematic anchor of the project, we also searched for other pieces and for tutors about how to play the instrument. In this field of activity, the collaboration between the musicians and the musicologists supporting them proved crucial. The most important result of this process probably lay in broadening the horizons of the musicians with regard to the musical demands that had once been made on the original instrument – demands that had to be met by the replica they were constructing together with the instrument builders.

Edition The initial plan was for the participating musicians to use historical textbooks to write a modern tutor for the replica of the historical instrument. This was never realised, though historical tutors and other such sources were published in modern editions. Particularly worthy of note are the facsimile edition of Hummel’s Trumpet Concerto,²⁴ edited with a commentary by Edward H. Tarr, and the instructional works for the keyed trumpet that were collected and edited by Adrian von Steiger.²⁵ It is difficult to imagine today, but ten years ago, not all sources had been digitised and made available online, which is why such editions were commendable undertakings at the time. Above all, however, this scholarly collaboration on the keyed trumpet project marked Adrian von Steiger’s introduction to the HKB’s research into historical brass instruments. Over

21 See the symposium “Exakte Kopie oder ‘im Sinne’ historischer Vorbilder – Tendenzen des Nachbaus von Holzblasinstrumenten” (24–26 February 2012), www.hkb-interpretation.ch/exakte-kopie.

22 “Le Basson Savary. Studien an Originalinstrumenten, Nachbau für die historisch informierte Aufführungspraxis, Umsetzung im Konzert, Entwicklung eines Lehrwerks”, SNSF DORE project 129909 (2010–2012), applicant: Martin Skamletz, research staff: Lyndon Watts, Sebastian Werr, Marc Kilchenmann, implementation partner: Walter Bassetto Blasinstrumentenbau, <https://data.snf.ch/grants/grant/129909>.

23 Le Basson Savary. Bericht des Symposiums “Exakte Kopie” in Bern 2012, ed. by Sebastian Werr and Lyndon Watts, Schliengen 2017 (Musikforschung der Hochschule der Künste Bern, Vol. 8).

24 Johann Nepomuk Hummel: Concerto a tromba principale (1803), Faksimile in Farbe, ed. by Adrian von Steiger; supplementary volume with an introduction by Edward H. Tarr, Vuarmarens 2012 (HKB Historic Brass Series, Vol. 4).

25 Eugène Roy: Méthode de trompette sans clef et avec clefs. Faksimile (1824) mit historischer Einführung, ed. by Adrian von Steiger, Vuarmarens 2009 (HKB Historic Brass Series, Vol. 1). For further editions, see www.hkb-interpretation.ch/publikationen.

the years that followed, he made a significant contribution to the further development of this field.

Integration in university operations One of the core aims of a university of music is to offer its students the necessary additional skills in historically informed performance practice to help them adapt to a music market that is undergoing fundamental changes. Right from the start, HKB endeavoured to realise this aim and to ensure that the results of its research were implemented in the teaching sphere. After the research projects were completed, HKB's Music Division purchased the replica instruments that had been constructed in order to place them at the disposal of its students. To this day, for example, a tuba or euphonium player at HKB can choose the ophicleide as an alternative instrument. And HKB's trumpet students regularly play individual pieces on the keyed trumpet in their final examinations.

Use in professional concerts Also right from the start, Roland Fröscher embarked on intensive concert activities on our replica ophicleide. Given its repertoire, he was more often engaged as an 'extra' for performances by historically informed orchestras than as a soloist. The primary goal of Markus Würsch, however, was always to be able to play the solo concertos by Haydn and Hummel on the new keyed trumpet, accompanied by an orchestra. To this end, a concert was planned with the Orchestergesellschaft Biel from the outset of the DORE project. This also marked the beginning of a collaboration that has continued to the present day (since 2013, the orchestra has been known as the Sinfonie Orchester Biel Solothurn). The performance of the Haydn Concerto with Markus Würsch as soloist, playing the keyed trumpet recreated by Konrad Burri, took place in June 2010 under the baton of Biel's then chief conductor Thomas Rösner. In the autumn of that same year, Würsch also performed the concerto in Austria and in Bern with the Baroque orchestra Concerto Stella Matutina, proving that the replica instrument functioned both with a modern orchestra and with an ensemble devoted to historical performance practice – in other words, when tuned to different pitches and with a different sound balance.

Recordings Rounding off such productions with a CD recording might seem an obvious route to take, but funding issues posed an initial problem. It was just about possible to fund rehearsals for individual performances, but additional recording sessions would have required substantial, extra third-party funding. We also had to realise that as a research institute at a university of the arts, we just did not have the necessary profile or connections that would have enabled us to fill concert halls with audiences. Meanwhile, it has become obligatory to publish all research results on Open Access, and the channels

available for this have been professionalised to such an extent that commercial audio or video productions are simply no longer planned. Nevertheless, a somewhat belated CD production for the keyed trumpet project was released in 2018, though the personnel involved were different from those originally engaged in the research project.²⁶

Symposia Above and beyond creating replicas of instruments and using them in concerts, a practice-oriented research project also has to deliver scholarly results. In order to create a forum to discuss those results, we continued the practice of inviting as many people as possible who were involved in the project to participate in a symposium of several days where they could present their research findings and discuss them with invited international experts. Such a practice was still unusual for a university of the arts at that time.

Publications In addition to scholarly papers, we were also keen to include as many other symposium contributions as possible in the resulting volumes of conference papers – thus also explicitly including the workshop reports of the instrument builders and the musicians’ reflections on how they engaged with the original, historical instruments and on their collaborations with students and instrument builders. Numerous other publications in scholarly journals and other periodicals helped to disseminate the research results of each project.

It is thus clear that we had wide-ranging ambitions, even as early as our initial research projects on historical brass instruments. Most of the related activities presented completely new challenges for the staff of a university of the arts, which may excuse the fact that work did not immediately proceed with the same speed or sophistication in every one of the fields involved. In particular, the final step of publishing the research results often took us a disproportionately long time.

We should not forget, however, that our project acquisition and implementation activities as described above went hand in hand with the development and permanent expansion of the infrastructure for research administration at HKB – indeed, this was a prerequisite for being able to initiate and run the projects in the first place. When the present writer assumed the headship of the Research Area Interpretation in the summer of 2007 (because Roman Brotbeck was concentrating increasingly on his position as head of the Department of Music), HKB was still far from having a functioning administrative support system for its researchers. It was not until 2011 that a back office was properly established and adequately staffed with a stable team possessing the necessary expertise.

²⁶ The Trumpet Concerto by J. N. Hummel can be found on the CD *Cherubini in Wien*, FraBernardo FB 1811678 (2018), <https://frabernardo.com/portfolio-item/cherubini-in-wien-concerto-stella-matutina/>.

It proceeded to support and manage the research projects and left sufficient resources to develop the project series on a consistent basis and to engage in long-term staff development for the projects, positioning the different projects within HKB and with external partners, and anticipating developments at the funding institutions that were in a constant state of flux at the time.

New partnerships The next DORE project was on the Cor Chaussier,²⁷ and at first glance it looks similar to the first two. In fact, however, it was based on completely different premises. Only one specific instrument existed that we might replicate, namely the sole specimen of the omnitonic horn developed by Henri Chaussier (1854–1914) and built by the Millereau company in the 1880s that is held today by the Brussels Musical Instruments Museum MIM. The Egger workshop in Basel was obliged to produce “a perfect copy” of the original – far more ‘perfect’ than had been the case in the previous projects. This was also in the interest of the holding museum.²⁸ For once, the impetus for this project did not come from lecturers at HKB, but from the horn player Martin Mürner, who lived in Bern but was not attached to HKB, and in fact worked in the period instrument orchestra Anima Eterna in Belgium. For this, he joined forces with Daniel Allenbach, a musicology graduate who had begun horn studies at HKB back in 2007. Daniel Allenbach accordingly worked in this DORE project in parallel with his studies at HKB. When both his degree course and the project were completed in 2012, he was given a permanent position at HKB. Since then, he has become an indispensable pillar of the Institute’s work, especially with regard to publishing the volumes of papers resulting from the research projects.

In this case, the collaboration with the HKB Music Department involved one of its students, not its lecturers. Martin Mürner’s orchestral colleague Ulrich Hübner was then engaged for the final concerts on the reconstructed instrument. A performance at the Kultur-Casino in Bern in November 2012 with the HKB Symphony Orchestra under guest conductor Jos van Immerseel was followed by a concert with the Sinfonie Orchester Biel Solothurn in April 2013 under the baton of Julien Masmondet. Each concert featured Saint-Saëns’s *Morceau de concert* op. 94, which was written in 1887 for Henri Chaussier and

27 “Le Cor Chaussier. Dokumentation, Nachbau und Aspekte der solistischen und orchestralen Aufführungspraxis auf französischen Hörnern zwischen Natur- und Ventilinstrument in der 2. Hälfte des 19. Jahrhunderts”, SNSF DORE project 124640 (2009–2012), applicant: Martin Skamletz, project management: Daniel Allenbach, Martin Mürner, further researchers: Cyrille Grenot, Claude Maury, implementation partner: Blechblas-Instrumentenbau Egger, <https://data.snf.ch/grants/grant/124640>.

28 “The objective of the research [...] was to make a perfect copy of the original and then to perform the repertoire on the new instrument”. Communication of MIM Brussels, no longer available online.



FIGURE 3 Selected flyers and a CD inlay, 2010–2018

his horn. Ulrich Hübner had already given a recital with piano accompaniment on our replica Cor Chaussier at the MIM in Brussels in October 2012.²⁹

New funding formats The 2013 concert in Biel both presented the Cor Chaussier as a solo instrument and equipped the entire brass section of the Sinfonie Orchester Biel Solothurn with either original French instruments of the nineteenth-century or instrument copies by Egger. This concert signified the conclusion of the DORE project and of our first CTI project that had run in parallel, and whose goal was to replicate historical instruments using historical materials and historical working techniques. This had been a core desideratum on the part of Egger, our implementation partner.³⁰ This new requirement meant that we had to expand our research partnerships to include scientists from the Swiss Federal Laboratories for Materials Science and Technology Empa and the Paul Scherrer Institute. We selected them entirely according to Egger's requirements. This was because the difference between CTI and DORE projects lay in the fact that our implementation partner now had to provide concrete proof of his own funding for the project, with research funds for the participating research institutions being allocated on a matching basis.

The researchers investigated a predefined group of fifty predominantly French brass instruments of the nineteenth century to determine the nature of their brass alloy and to measure their wall thickness. They also hunted for sources on historical manufacturing techniques. They identified a typical brass alloy that differed considerably from those used today, and subsequently manufactured it exclusively for use by Egger. This was a demanding process, not least because the mechanical properties of the alloy made completely different demands during processing.³¹ However, the process was overall successful, and to this day Egger is still building historical instruments on request using "MCM

29 www.hkb-interpretation.ch/cor-chaussier-bruessel. See Figure 3 for selected publicity material related to the projects, symposia, concerts and publications.

30 "Research on the Brass-Instruments of the 19th Century: Historic Alloys and Working Techniques in the Historically Informed Production of Musical Instruments", CTI project 10903.1 PFES-ES (2010–2012), applicant: Martin Skamletz, research partners: Swiss Federal Laboratories for Materials Science and Technology (Empa), Paul Scherrer Institute (PSI), project management: Adrian von Steiger, research staff: Hans J. Leber (PSI), Eberhard Lehmann and David Mannes (PSI), Marianne Senn and Martin Tuchschnid (Empa), implementation partners: Blechblas-Instrumentenbau Egger, Sinfonie Orchester Biel Solothurn, www.aramis.admin.ch/Grunddaten/?ProjectID=27505.

31 See Adrian von Steiger/Marianne Senn/Martin Tuchschnid/Hans J. Leber/Eberhard Lehmann/David Mannes: Can We Look over the Shoulders of Historical Brasswind Instrument Makers? – Aspects of the Materiality of Nineteenth-century Brass Instruments in France, in: *Historic Brass Society Journal* 25 (2013), pp. 21–38.

– French sheet metal of the 19th century”.³² The results of the DORE project on the Cor Chaussier and of the CTI project on historical manufacturing technologies were both presented in late 2012 at the second Romantic Brass Symposium³³ and were published together afterwards.³⁴

This search for new funding opportunities for our research into brass instruments was also necessary because the SNSF had already gained the impression in 2011 that there was no longer any need for special “start-up funding for [...] artistic research at universities of arts and applied sciences”. This is why it “integrated the funding for practice-oriented research at universities of arts, applied sciences and pedagogy in its general project funding, and phased out DORE”.³⁵ Projects to be organised with implementation partners would thus have to be financed in future via the CTI. When the universities of the arts wanted to apply for SNSF funding for basic research, they would now be required to compete with the traditional universities in the normal funding process, and would have to label their funding applications “practice-oriented”.

The next DORE project on brass instruments was thus also the last. When it began in 2011, it was HKB’s first research project that did not focus on a single historical instrument, but on an entire family of instruments, namely the saxhorns. Their inventor, Adolphe Sax (1814–1894), was the director of the stage band at the Paris Opera, and his activities there meant that his saxhorns played a role in a truly core repertoire in the second half of the nineteenth century.³⁶ Another aspect of this project that was new was that it no longer focused on replicating historical instruments, but rather on playing the

- 32 “On request, we manufacture the instrument from MCM material, a special alloy similar to that found in French romantic brass instruments.” <https://eggerinstruments.ch/en/historic/trumpets/trumpets-for-classical-romantic/>.
- 33 “Romantic Brass Symposium [2]” (7–10 November 2012), www.hkb-interpretation.ch/rb2.
- 34 Romantic Brass. Französische Hornpraxis und historisch informierter Blechblasinstrumentenbau. Symposium 2, ed. by Daniel Allenbach, Adrian von Steiger and Martin Skamletz, Schliengen 2016 (Musikforschung der Hochschule der Künste Bern, Vol. 6).
- 35 “Als Starthilfe für die sozialwissenschaftliche und künstlerische Forschung an Fachhochschulen (FH) und Pädagogischen Hochschulen (PH) hat der SNF gemeinsam mit der KT1 im Jahr 2000 das Programm DORE (DO-RESEARCH) lanciert. [...] Der SNF sieht für die kommenden Jahre eine breitere Förderung der anwendungsorientierten Grundlagenforschung vor, die auch die Förderungsbereiche von DORE betrifft. Daher hat er 2011 die Förderung der praxisorientierten Forschung an FH und PH in die allgemeine Projektförderung integriert und DORE auslaufen lassen”. [Anon.]: DORE – ein erfolgreiches Förderungsprogramm geht zu Ende, in: SNF Jahresbericht 2011, Bern 2012, www.snf.ch/SiteCollection/Documents/inb_jb_11_d.pdf, p. 18.
- 36 “‘Agilité, homogénéité et beauté’ – Das Saxhorn in Oper und Militärmusik”, SNSF DORE project 136957 (2011–2014), applicant: Martin Skamletz, project management: Adrian von Steiger, research staff: Martin Mürner, Krisztián Kovács, Reimar Walthert; implementation partner: Swiss Army Band, <https://data.snf.ch/grants/grant/136957>.

original saxhorns themselves. The many different sizes of saxhorn that were needed – from contrabass to soprano – meant that the energy and expense could not be justified that replicating them would have entailed. Moreover, sufficient original instruments existed in the necessary quality for our purposes, and there is even still a market for them. We were able to draw on the Burri Collection in Bern and on other private collections, especially in France, to assemble the required number of instruments. We also made several individual purchases. Our choice of ensemble to play in the final concerts fell on the Swiss Army Band under the direction of Colonel Philipp Wagner. Its musicians were coached by experts in playing historical instruments, namely Martin Mürner, Krisztián Kováts, Reimar Walthert and Koen Plaetinck. The results of the project were presented at the third Romantic Brass Symposium, which was organised in collaboration with the Historic Brass Society,³⁷ and published in the associated book series.³⁸ The Swiss Army Band was also invited to play at the opening of the exhibition celebrating Adolphe Sax's 200th birthday at the Musical Instruments Museum MIM in Brussels.³⁹

New subject areas The decisive insight provided by this saxhorn project was the need to apply aspects of conservation and restoration to those historical instruments that are in practical use today. To this end, the first SNSF project outside DORE was carried out, using an interdisciplinary funding format that no longer exists in that form⁴⁰ (it also overlapped chronologically with the saxhorn project). We were able to win the Collection Centre of the Swiss National Museum as our partner for the conservation aspects of the project. After long-term trials on the process of corrosion in instruments that are played, the Centre developed a procedure for drying them after use.⁴¹ The original aim of the

37 “Third International Romantic Brass Symposium: Adolphe Sax and his Saxhorns” (4–5 February 2014), www.hkb-interpretation.ch/rb3.

38 *Das Saxhorn. Adolphe Sax' Blechblasinstrumente im Kontext seiner Zeit. Romantic Brass Symposium 3*, ed. by Adrian von Steiger, Daniel Allenbach and Martin Skamletz, Schliengen 2020 (Musikforschung der Hochschule der Künste Bern, Vol. 13).

39 There were further Saxhorn Concerts in Switzerland and Brussels in February 2014, www.hkb-interpretation.ch/saxhorn-konzert.

40 “Brass instruments of the 19th and early 20th centuries between long-term conservation and use in historically informed performance practice”, SNSF CORE project 146330 (2013–2017), applicant: Martin Skamletz, research partners: Marie Wörle (Collection Centre, Swiss National Museum), Eberhard Lehmann (Paul Scherrer Institut), Bernhard Elsener (ETH Zurich), project management: Adrian von Steiger, research staff: Daniel Allenbach, Marion Alter, Emilie Cornet, Florian Kergourlay, Martin Ledergerber, Tiziana Lombardo, David Mannes, Martin Mürner, <https://data.snf.ch/grants/grant/146330>.

41 See Adrian von Steiger/Daniel Allenbach/Martin Ledergerber/Bernhard Elsener/David Mannes/Federica Cocco/Marzia Fantauzzi/Antonella Rossi/Martin Skamletz/Martin Mürner/Marie Wörle/Emilie Cornet/Eberhard Lehmann: *New Insights into the Conservation of Brass Instruments*. Brass

project was to reconstruct the brass section of the orchestra that had played in the Théâtre des Champs-Élysées in Paris in 1913, in order to use those instruments in a concert to commemorate the 100th anniversary of the world premiere of Stravinsky's *Le Sacre du Printemps*. While we were able to commemorate the 200th birthday of Adolphe Sax in 2014 as described above, our plans to commemorate Stravinsky in 2013 did not come to fruition. We made several unsuccessful attempts to enter into a cooperation with an orchestra. It was not until 2017 that an ensemble of HKB students was able to give a concert with the instruments, though it constituted only excerpts from *Le Sacre* for brass alone. This concert took place at the fourth Romantic Brass Symposium, which was organised jointly with the Museum für Musik Basel and the Schola Cantorum Basiliensis, and also featured the 2017 Annual Congress of the International Committee of Museums and Collections of Instruments and Music CIMCIM.⁴²

A new generation of lecturers While our funding formats have been in a constant state of flux, requiring us to develop new strategies for the acquisition of third-party funding on a constant basis, an almost complete generational change has also taken place within the teaching body of the HKB's Music Division since the beginning of our research activities fifteen years ago. New lecturers have brought new ideas and new needs – and in some cases, they play instruments that have not previously been represented in our research projects.

The trombonist Ian Bousfield acted as an expert in the context of a further CTI project. Egger wanted to develop a trombone that would be suitable for the symphonic repertoire of the second half of the nineteenth century, and to this end we initiated a project that covered the whole spectrum of research activities as described above. We had to find suitable models in museums and private collections, try them out, measure them (both their external dimensions and the composition of their alloy and other aspects), and then replicate them with repeated feedback from Ian Bousfield.⁴³ The replica instru-

Instruments Between Preventive Conservation and Use in Historically Informed Performance, in: *Historic Brass Society Journal* 30 (2018), pp. 85–101.

42 "CIMCIM Annual Congress 2017 and Fourth International Romantic Brass Symposium: Presentation, Preservation and Interpretation. The Challenges of Musical Instrument Collections in the 21st Century" (22–25 February 2017), www.hkb-interpretation.ch/cimcim. The present volume is based on papers held at that symposium.

43 "The Sound of Brass. The materiality, acoustics and history of brass instruments as exemplified by the trombone", CTI project 17974.1 PFES-ES (2015–2018), applicant: Martin Skamletz, project management: Adrian von Steiger, research partner: Armin Zemp (Empa Materials Science and Technology), research staff: Ian Bousfield, Martin Tuchschild, implementation partner: Blechblas-Instrumentenbau Egger, Sinfonie Orchester Biel Solothurn, www.aramis.admin.ch/Grunddaten/?ProjectID=37465.

ment was subjected to public appraisal in November 2018 – in line with the practice established since the beginning of our series of projects – in a concert⁴⁴ at the fifth Romantic Brass Symposium.⁴⁵ Ian Bousfield played the *Concertino* by Ferdinand David, accompanied by the Sinfonie Orchester Biel Solothurn conducted by Kaspar Zehnder. Since the beginning of the project series, HKB students had also steadily become more involved. The HKB trombone class attended a full, intensive week on research into brass instruments at the time of the symposium, and they joined their professor in the final orchestral chorale of the David *Concertino* (see the music example below).

Allegro maestoso

340

Trb. solo

3 Trb. ATB

Timp.

colla più gran forza

fff

MUSIC EXAMPLE Ferdinand David: *Concertino* for trombone and orchestra Op. 4, bars 340–343: solo part with the first entrance of the trombone chorale towards the end of the work (reduced scoring, extracted here from the printed parts, Leipzig: Kistner, circa 1838)

What was new about this project was how it investigated aspects of instrumental sound using empirical methods, in collaboration with a research unit of the Swiss Federal Laboratories for Materials Science and Technology Empa under the direction of Armin Zemp (this was also what prompted the name of the project, namely “The Sound of Brass”, which otherwise might seem at first somewhat unprepossessing). This meant that even hitherto sacred cows were subjected to analysis, such as the shibboleth that the material of a brass instrument allegedly has a negligible influence on its acoustic properties.⁴⁶

There is another new thematic area in our research on brass instruments that has thus far been explored in a preparatory project funded by BFH itself, but which has not

⁴⁴ www.hkb-interpretation.ch/tromboniade.

⁴⁵ “The Sound of Brass. Fifth International Romantic Brass Symposium” (20–22 November 2018), www.hkb-interpretation.ch/romanticbrass5. Proceedings in preparation.

⁴⁶ Armin Zemp/Gwenael Hannema/Bart Van Damme/Adrian von Steiger/Martin Skamletz/Rainer Egger: Determination of Vibro-Acoustic Properties of Brass Instruments, in: *Historic Brass Society Journal* 31 (2019), pp. 77–91.

yet resulted in any large research project funded by an outside body, namely the relationship between the human body and the instrument, player ergonomics and – ultimately – human health. This field was the subject of a study by HKB in collaboration with the BFH School of Health Professions.⁴⁷

This ergonomics project extended our research activities to encompass an instrument that we had not previously studied. A new tuba lecturer at HKB, Rex Martin, brought to bear his decades of experience as a player and made himself available as a test subject for the development of posture exercises.

A dialogue with a broader public In the years 2018–2020, we took the opportunity to present a general audience with the results of the whole project series as described above, using an SNSF AGORA grant (see Table).⁴⁸

2006–2008	DORE Ophicleide
2007–2009	DORE Keyed trumpet
2009–2012	DORE Cor Chaussier
2010–2012	CTI Historically Informed Instrument Production
2010–2012	OPET Burri Instrument Collection
2011–2014	DORE Saxhorn
2013–2017	CORE Corrosion
2015–2018	CTI Trombone
2018–2020	AGORA Fresh Wind
2019	BFH Tuba Ergonomics

TABLE Synopsis of the HKB series of research projects on brass instruments

To this end, we developed a website and an interactive touring exhibition that has already been shown in Bern in the “Klingendes Museum”, on the premises of HKB, in the Music Instrument Museum in Willisau and in the Trumpet Museum Bad Säckingen.⁴⁹ This presentation of the entire development of our research thus far into wind instruments, including the wind dynamic organ, the Savary bassoon and the CLEX double bass clarinet, is closely connected to a project that has been running in parallel for many years: the

⁴⁷ “Tuba Ergonomie”, BFH project 1964PT_HKB (2019), applicant: Adrian von Steiger, research staff: Rex Martin, Lorenz Radlinger and team BFH School of Health Professions, www.hkb-interpretation.ch/projekte/tuba-ergonomie.

⁴⁸ “Fresh Wind – Communicating research on musical instruments”, SNSF AGORA grant 178522 (2018–2020), applicant: Martin Skamletz, project management: Adrian von Steiger, staff: Daniel Allenbach, Jimmy Schmid, <https://data.snf.ch/grants/grant/178522>.

⁴⁹ See www.fresh-wind.ch/en/, www.hkb-interpretation.ch/projekte/fresh-wind.

acquisition of the instrument collection of the Bernese instrument maker and dealer Karl Burri (1921–2003) and its preservation as a whole by setting up a foundation with the participation of HKB.

From the very beginning of our research, instruments from the Burri Collection had been a starting point for individual projects. We also worked together with Karl Burri's son Konrad, an instrument builder, as an implementation partner in DORE projects. We began the systematic cataloguing of the Burri Collection in 2010, financed initially by funds from the then Federal Office for Professional Education and Technology OPET that were intended to foster the development of research at arts departments of the universities of the applied sciences (OPET is today part of the State Secretariat for Education, Research and Innovation SERI). When Burri's heirs decided to part with his Collection, we helped to create the legal and financial structure necessary to set up the aforementioned foundation in 2014. This culminated in 2017 in the opening of the "Klingende Sammlung" (literally the "Sounding Collection") in the heart of the city of Bern. The "Collection" was renamed the "Klingendes Museum" ("Sounding Museum") in 2019. In 2021, the Basel collector Ulrich Halder died unexpectedly; his flute collection was subsequently also deposited in the Klingendes Museum that same year.

The central figure in setting this up successfully was Adrian von Steiger. He was in fact responsible for the conception of all the above-mentioned projects and was the project manager in charge of their implementation. It was largely thanks to him that the Klingendes Museum was created, and he was also appointed its first director. From the scholarly appraisal and cataloguing of the collection in his doctoral thesis⁵⁰ to the smallest practical questions, he gave complete commitment to his appointed task. Expanding our research interests to encompass the conservation of historical instruments in use today, linking up with the International Committee for Museums and Collections of Instruments and Music (CIMCIM), and hosting the CIMCIM congress in 2017 – all this was relevant and topical precisely because a museum was being set up in Bern at that same time, one whose prime concern was to make its holdings accessible for practical use by musicians as far as would be possible and justifiable. These issues have since become a topic of everyday concern and discussion in the Music Division of HKB. The number of interested students and lecturers has been increasing steadily, along with the number of teaching and performance projects using historical instruments.

To close, we shall turn away from these concrete issues of implementing our research results and consider once again the general framework of our research, which remains in a constant state of evolution, as we have elucidated above. For example, it is clear that CTI projects of the kind described here are moving increasingly out of our reach. This is

50 Adrian von Steiger: *Die Instrumentensammlung Burri. Hintergründe und Herausforderungen*, Bern 2013.

because the transition of the erstwhile Commission for Technology and Innovation into the Swiss Innovation Agency Innosuisse has meant it is giving more emphasis to the economic impact of projects than to their artistic or scholarly relevance.

Cultural production has always been subject to a dynamic, unstable environment. By contrast, the world of research and research funding has traditionally appeared to be very stable, as it essentially used to be limited to the traditional universities, excluding the pedagogical universities, conservatories, academies and engineering colleges.

The Swiss Higher Education Act, which was drafted in the 1990s, initiated a fundamental shift. Not only did the newly established tertiary institutions have to embark on structural and staff development and open up entirely new fields of research – one only has to think of ‘artistic research’, which has since become a broad topic of international discussion – but the funding agencies also had to react to the new requirements and have in turn been subject to a constant process of internal change. This has obliged them, for example, to follow international criteria – such as the paradigm shift towards open-access publication, which has now largely been implemented.

This long-term process of negotiation within a complex network of stakeholders is probably a specifically Swiss feature of the research scene – and one to which we hope to continue making a contribution with our own research projects.

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TO PLAY OR NOT TO PLAY

Corrosion of Historic Brass Instruments

Romantic Brass Symposium 4 • Edited

by Adrian von Steiger, Daniel Allenbach

and Martin Skamletz

MUSIKFORSCHUNG DER
HOCHSCHULE DER KÜNSTE BERN

Edited by Martin Skamletz
and Thomas Gartmann

Volume 15



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