GUNTER LÖSEL
RESEARCH VIDEO:
Annotated Videos as a Tool for the Publication of Artistic Research

In this chapter I will present an overview of our ongoing project, "Research Video", its background, history, present state and future plans. Research Video is a proposal to find a solution for some problems arising within the publication of artistic research in the temporal arts, such as theatre, dance and performance. One could, of course, include music, but within the project we focus on the performing arts. This is the main focus of the Institute for the Performing Arts and Film, which is the organisational frame for this project.

BACKGROUND

When I started to work in the Zürich University of the Arts in 2014, I faced the challenge of setting up artistic research in the performing arts. I reread the canonical texts, and soon realised that, although there is a lot of material, there seems to be an overall imbalance between theory and practice. There has been a lot of conceptual thinking about the epistemology of artistic insights: what kind of knowledge can we generate? Should we include tacit knowledge? Should we include embodied knowledge? Should we include subjective knowledge? What is the role of experience? There is profound literature on a high academic level, mainly arising from philosophical approaches[1]or political debates.[2] Much of the literature refers to art and artistic research in general, leaving open the application of methods to specific forms of art. There seems to be a gap between theoretical considerations and practical usage. When you are struggling to set up a research design for a specific project, these debates don't really help. I think everybody who enters the landscape of artistic research is bound to fall into this gap between theory and practice. Even the recently published *Künstlerische Forschung: Ein Handbuch* (Artistic Research: A Handbook) doesn't bridge this gap.[3] However, there *have* been pragmatic approaches within the last decade, such as Florian Dombois's attempt "to draft some instructions for myself",[4] Linda Candy's framework for practice-based PhDs,[5] Candy and Edmonds' considerations

1. In German, for example, see: Elke Bippus(ed.), *Kunst des Forschens: Praxis Eines* Ästhetischen *Denkens* (Zürich: Diaphanes, 2009); Corina Caduff, "Kunst und Künstlerische Forschung = Art and Artistic Research," *Zürcher Jahrbuch Der Künste, Band 6* (Zürich: Scheidegger & Spiess, 2010), 224 ff; Dieter Mersch and Michaela Ott (eds.), *Kunst und Wissenschaft* (München: Wilhelm Fink, 2007); Julian Klein, "Was ist Künstlerische Forschung?," *Kunsttexte.de* 2, 1978 (2011): 1–5. In English, for example, see: Michael Biggs and Henrik Karlsson (eds.), *The Routledge Companion to Research in the Arts* (London: Routledge, 2010).
2. Henk Borgdorff, "Die Debatte über Forschung in der Kunst," in *Künstlerische Forschung*, ed. Anton Rey and Stefan Schöbi (Zürich: Zürcher Hochschule der Künste, 2009), 23–51.
3. Jens Badura, *Künstlerische Forschung: Ein Handbuch* (Zürich: Diaphanes, 2015).
4. Florian Dombois, "Kunst als Forschung: Ein Versuch, sich selbst eine Anleitung zu entwerfen," in *What's next? Kunst nach der Krise*, eds. Johannes M. Hedinger and Torsten Meyer (Berlin: Kadmos, 2013), 139–143.
5. Linda Candy, "Practice Based Research: A Guide," CCS Report, 2006-V1.0 November (Sydney: University of Technology Sydney, 2006).

of the role of the artefact in practice-based research[6] and Hannula's claim to ground artistic methodology in narrative interviews.[7]

Many of these texts have the underlying goal of gaining acceptance for the claims of artistic research among other forms of well-established research, so they are part of a pioneering phase. But what do we do when the pioneering phase is over? For what do we dig in our new claims? And how will we do it? I think we now face the challenge of getting the theoretical concepts "down to earth" and making them work. I saw the Prague conference, "Artistic Research: Is There Some Method" (7–9 April 2016), in this context: there is a certain necessity to build up conventions. They don't have to be the same conventions as in more traditional sciences, but they *have to create a clear difference between art and artistic research*.

As Michael Schwab and Henk Borgdorff point out, one of the conventions we have to establish must concern publishing our results in an academic context.[8] This is a long discussion and, at this point, every group of researchers will come up with different approaches. Taking a pragmatic stance, we looked for a *minimal consensus* and came up with two basic concepts that Linda Candy spelled out in 2006 and 2010. She refers only to PhDs, but as they are a central pillar of academic publication, these claims can legitimately be transferred to other forms of academic publication:

> For research to be considered worthy of a doctoral thesis or publication in a learned journal, for example, it must contain knowledge that is new, in the world, that can be shared with others and that can be challenged, tested or evaluated in some way. Accepting that much of what we know is known tentatively rather than absolutely, the properties of shared knowledge that can be challenged are more important in research than the absolute certain truth of the new knowledge.[9]

The criteria of *shareability* and *challengeability* can be used as the smallest common ground we have, a minimal consensus, excluding other claims such as causality and objectivity that don't seem to fit *artistic* research purposes. So, at the least, the publication (1) should be transferable through space and time, thus being accessible to the community of researchers worldwide, and (2) should make the procedure or method used so explicit that it can be questioned and criticised by the wider community of researchers.

SHOW, DON'T TELL

Another starting point for us was the claim by Florian Dombois – one of the pioneers of artistic research in Switzerland – that the publication of artistic research should not be a piece of art – otherwise it would be a duplication of the same– but that the content should match the form

6. Linda Candy and Ernest Edmonds, "The Role of the Artefact and Frameworks for Practice-Based Research," in *The Routledge Companion to Research in the Arts*, eds. Michael Biggs and Henrik Karlsson (London: Routledge, 2010).
7. Mika Hannula, Juha Suoranta and Tere Vadén, *Artistic Research Methodology: Narrative, Power and the Public* (Bern: Peter Lang, 2012)
8. Michael Schwab and Henk Borgdorff (eds.), *The Exposition of Artistic Research: Publishing Art in Academia* (Leiden: Leiden University Press, 2014).
9. Candy and Edmonds, "The Role of the Artefact and Frameworks for Practice-Based Research," 124.

of the researched object or process.[10] Artistic research is an artefact *between* art and research, something I call a "scholarly twin of the artwork". This is different from the predominant model of publication in artistic research – the two-component-model – that conceptualises both artistic output and scientific output as two different things that can stand by themselves.[11] One can conclude that every art form should, in its publication of artistic research, be as close as possible to its own forms of expression: design research to design, film research to film, theatre research to theatre, and so on. This has strong implications because it challenges the predominance of text and language in our scientific conventions. This reclaims the importance of *experience* in science, which of course is nothing new, since empirical research means exactly that: the important role of experience in generating knowledge. But this goes a little further; experience has to be somehow enclosed in the publication and can then somehow be "unzipped" by the reader. I will try to visualise this difference. In traditional science there is something like a balance between theory and experience. Theory (prior knowledge) leads to

10. Dombois, "Kunst als Forschung," 23–31.
11. Candy and Edmonds, "The Role of the Artefact and Frameworks for Practice-Based Research."

Figure 1: Relationship between theory and experience in traditional research

new models and hypotheses through deduction. These new models and hypotheses are then challenged by empirical studies (experience) and through induction the results can be integrated into theory – or lead to a reorganisation of theory. A visualisation of this "cycle of learning" might look like Figure 1.

Of course, one might as well start the cycle at the bottom (experience), avoiding preconceptions and theory, which is the approach most qualitative studies take. Artistic research will look a little different. While there are many different concepts of artistic research, there is one thing they do have in common: a strong emphasis on the central role of *aesthetic experience* as not being reducible. So the visualisation would look something like this (Figure 2.):

Not only are knowledge and experience much closer together in this model, but there is also an overlap, indicating that there are certain kinds of knowledge *that cannot be separated from experience*. Experience is visualised as much bigger, indicating its major role in the process. Further, the logic of inference is not as specific as it is in traditional research, which is why I am not using the terms "deduction" and "induction", but the more general terms "top-down process" and "bottom-up process". This implies that there might be innumerable, emergent and even irrational ways of using knowledge and of organising experience.

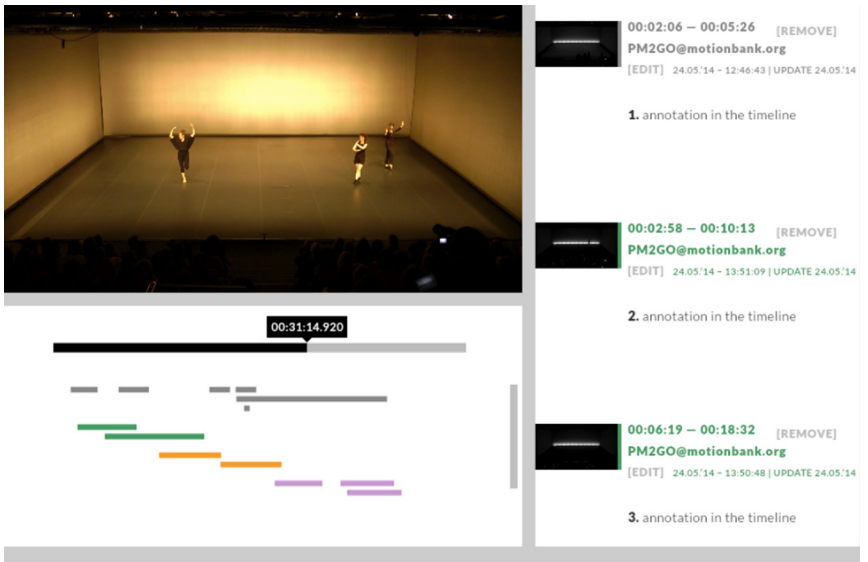

Figure 2: Relationship between theory and experience in artistic research

Using this model raises the question: what form of publication might be adequate to represent the whole process of research? How can we expose this special relationship between knowledge and experience and make it shareable and challengeable? For the temporal arts, the role of the artefact seems particularly crucial, since the performance is ephemeral. Indeed, there has been some profound questioning of how we can conduct research in this specific field.[12] Our thesis is that for the performing arts, as theatre, dance and performance, *annotated video* can perhaps fulfil the claims of shareability and challengeability. This, then, is the background of our project.

TOOLS FOR ANNOTATED VIDEOS

Annotated videos make the insertion annotations at a specific point of the video possible, just as you might insert footnotes into a text. This enables the transfer of certain aspects of a text to a video, especially *citability*, a fundamental quality in academic research and a foundation of shareability and challengeability.

There are a couple of digital tools that include annotated videos. They are principally devoted to the qualitative analysis of video data, often in the context of videoethnographic methods. Table 1 contains an overview of the most common tools:

Table 1: Tools that contain annotated video functions

TOOL	DEVELOPED BY	OPTIMIZED FOR
Advene	University Claude Bernard Lyon	Analytical tool
Atlas ti	Atlas ti Development GmbH	Analytical tool
Anvil	Michael Kipp	Analytical tool
Vdata and Vcode	University of Illinois at Urbana Champaign	Analytical tool
Elan	Max Planck Institute for Psycholinguistics	Analytical tool
Piecemaker	Motion Bank	Artistic tool
Piecemaker2Go	Motion Bank	Artistic tool
Creation Tool	Transmedia knowledge base for Performing Arts	Artistic tool
Switch Cast Annotate	Switch	Educational tool
Openvideo	Harvard University	Educational tool
Memo Rekall	Clarise Bardiot	Analytical tool
Scaler	Allience for networking Visual Cultures	Publication tool

Each of these tools is specialised and optimised for a specific use. Each of them has technical restrictions; some are very basic, such as not accepting certain video formats. Unfortunately, there is not yet a tool that integrates the functions of data analysis *and* publication of results. In an ideal world, both will be integrated, but at this point they are regarded as different things. For our purposes, we decided on an approach that emphasizes *simplicity* and *usability*. Interestingly, all tools have a similar underlying structure and a similar interface (Figure 3.):

There are different expressions for more or less identical functions.

12. Ludivine Allegue, Simon Jones, Baz Kershaw and Angela Piccini, *Practice-as-Research: In Performance and Screen* (New York: Palgrave Macmillan, 2009).

There is always a horizontal *timeline*, for example, in every video player, sometimes called an *annotation line*. It consists of several *layers* to allow for different information to be assigned to different parts of the video. In these layers, there can be a second video stream or a parallel visualisation of phonetic information, thus creating two or more streams of synchronised information. These layers are also referred to as *tiers* or *tracks*. While layers usually organise temporal information in relation to a timeline, single annotations serve as reference to a specific point on the *timeline*. These are sometimes called *marker*, *interval*, *element* or *label*. To allow for intuitive use, layers and annotations can usually be visualised in different colours.

Usually, the annotations are organised and displayed in a list that can be sorted according to the user's needs. This is referred to as the *annotation file*. The act of annotating is sometimes called *coding*, *labelling* or *segmentation*. If the system is working with a given structure, one speaks of the *coding scheme*, the *annotation scheme* or *controlled vocabulary*. This is useful for the process of coding in qualitative methods. In order to refer to a simple and understandable vocabulary, we decided to use this nomenclature:

① Timeline
② Tracks/Layer
③ Annotation
④ Annotation file /annotation board
⑤ Annotation scheme

The simple design of Piecemaker-2GO (PM2GO) gives a good impression of how these features can be arranged as an interface:

Figure 4: *The interface of Piecemaker*[13]

A design and structure like this can provide space for both aesthetic

13. Motion Bank [website], accessed on 31 May 2016, http://motionbank.org/de/event/pm2go-video-annotation-leicht-gemacht.

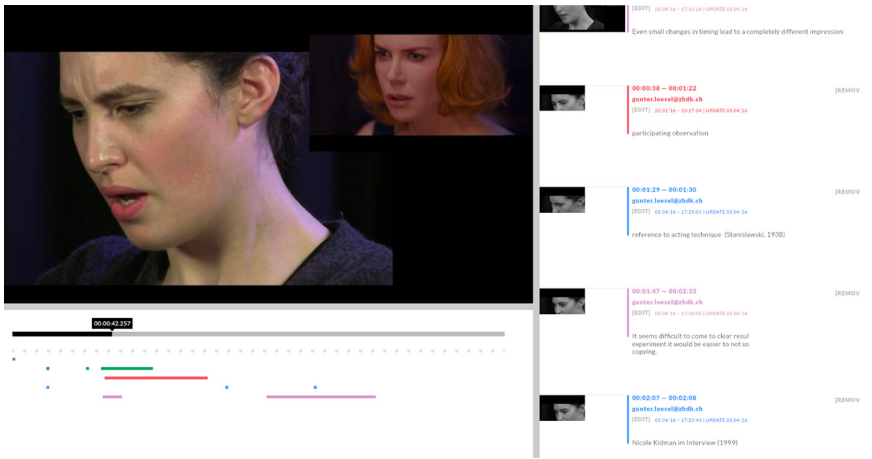

Figure 3:
Example of an interface for annotated videos

experience (though obviously very reduced) and analytical thinking, either with given categories or with emergent features. The process of publication might be very close to this, but it must follow more specific scientific conventions.

RESEARCH VIDEO

We decided to build a tool that is optimised for publication and roughly follows the structure of a *research paper* as a well-established convention in the publication of research. The annotations will be assigned to categories that are derived from scientific conventions. We are planning, as a first attempt, to follow the AIMRD model. This is an accepted structure for research papers and will provide a simple structure for the *annotation scheme*. The model is linear, since it is derived from text, and contains the following points:

(1.) Front page (author, contact address, date of publication, host institution)
2. A = Abstract (short summary)
3. I = Introduction (research question, hypothesis, scientific contexts)
4. M = Methods (research design, method for gathering/generating data, method for analysing/interpreting data)
5. R = Results (reduced data [not raw data], descriptive statistics, analytical statistics, content analysis, baseline data, adverse events)
6. D = Discussion (interpretation and implication of the results as to the research question and the scientific contexts)
(7.) References (sources, bibliography)
As each annotation will be assigned to one of these categories, the reader can read the work in the structure of a conventional research paper, but yet also stay close to the experience by viewing the video without annotations or with only specific annotations. Using the vocabulary I introduce above, there will be an *annotation scheme* that allows for the annotations to be viewed according to the conventions of scientific publication.

The following example is not the prototype, but an application of Piecemaker2Go. I provide the illustration simply to give an impression of what Research Video might look like:

Figure 5: *Simulation of a use case as a Research Video*

This video was made as a documentation of an experiment in acting training and is used here simply as illustrative material. All the elements I have been describing can be seen. Before entering this view, the "reader" (or viewer?) would see a front page containing general information, such as the author's name, contact address, date of publication and hosting institution. The reader can then choose to begin with the uncommented video, being as close to the original experience as possible, or with a scholarly view roughly following the AIMRD structure. The first layer, in grey, shows all annotations that together form the abstract. This information doesn't have to stand at the beginning, but can be scattered all over the project, thus breaking up the linear structure. It is possible to actualise it again at any point if the reader so desires. The second layer, in green, contains annotations that together form the introduction. The third, in orange, is dedicated to method, and so on. The fourth layer, in blue, shows references to important associated sources, so it is analogous to the bibliography of a traditional research paper. In order to insert references easily, an interface to literature reference managing software (Mendeley, Citavi, EndNote and Zotero) should be embedded in the software; this is an important feature.

Another function will be some proof of authenticity: proof total – the integrity of the data can be tested, thus ensuring that it is the complete and unchanged published version. In an extended version, it might be possible for the author to add a digital signature. At this point we are not sure if this feature will be necessary or not; it is certainly technically challenging. I should mention storage at this point. In the first phase, the ZHdK (Medienarchiv der Künste) will host Research Video. Initially, we hope to make it compatible with the Research Catalogue, but the hope for the later versions is compatibility with public video platforms such as YouTube and Vimeo.

We have also been brainstorming and creating visions for possible further functionality. Here are some of our ideas:

- links between annotations;
- embedding annotations into the video (such as subtitles, symbols or graphics),
- multimedial annotations (pictures or links);
- different views: parallelised videos to show synchronicities and serialities (for example, one could show the performance in one screen and the audience reactions in another);
- drawing inside the video: to visualise relationships, connections, synchronicities, etc. (As an illustration to this last point, please view the wonderful project "Synchronous Objects" done by the Forsythe Company.)[14]

These are the fundamental facets of our current work. The prototype will be developed as an open platform, allowing the addition of modular extensions. The design and interface will be close to that of Piecemaker, because it seems to encourage an intuitive working process. Piecemaker is a multi-user application (app) initiated as a research project by David Kern to support the organisation and recall of materials created in the Forsythe Company rehearsal studio. We would like to thank Florian Jennet and Scott Delahunta from Motion Bank for letting us use and develop it. We are working with software designers who were already involved in the development of Piecemaker (Martin Leopold and Moritz Resl, Vienna). Our aim is to keep it simple and user-friendly, in part because we suspect that artists don't read handbooks!

In 2016 and 2017 we developed a prototype and gained funding by the Swiss National Foundation. This will enable us to optimize the tool in a process of prototyping and user-testing untill 2020. If you are interested in testing the prototype and providing feedback, please don't hesitate to contact the author. Our aim is to facilitate a pragmatic, video-based approach to artistic research in the performing arts. We feel that the 'two-component model' in the publication of artistic research should be replaced by new practices that involve multimedial approaches and make use of current techinacal possibilities.

14. "Synchronous Objects" [website], accessed on 19 May 2016, http://synchronousobjects.osu.edu.

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Figure 1: Relationship between theory and experience in traditional research, Lösel

Figure 2: Relationship between theory and experience in artistic research, Lösel

Figure 3: Example for an interface for annoted videos screensho, ANVIL website[15]

Figure 4: The interface of Piecemake Handbook Piecemaker2GO[16]

Figure 5: Simulation of a use case as a Research Video, Lösel, using PM2GO with material from the Medienarchiv der Künste, Zürich[17]

Table 1: Tools that contain annotated video functions, Lösel

15. Anvil: the Video Annotation Research Tool [website], accessed on 19 May 2016, http://www.anvil-software.org.
16. Motion Bank [website], accessed on 31 May 2016, http://motionbank.org/de/event/pm2go-video-annotation-leicht-gemacht.
17. Zürcher Hochschule der Künste, Medienarchiv der Kunste [website], accessed on 19 May 2016, http://medienarchiv.zhdk.ch.