

Digital Theatre



A Casebook

DIGITAL THEATRE

A Casebook

CONTENT

4	29	50	75
Foreword	Virtual meets real: the synchronisation of AR and live acting	The re-invention of surtitling. A new technical approach to the international market	Making art through technology
European Theatre Lab: Drama goes digital	by Michel Didym	by Jonathan Thonon	by Amund Ulvestad
by Heidi Wiley & Serge Rangoni			
10	31	56	79
Why every theatre needs a digital strategy	Get out of the box: New business models and international co-operation	Do you speak Tech? Report from an interdisciplinary and cross-cultural partnership	The Croatian National Theatre stages Henrik Ibsen's Peer Gynt in Zagreb
by Simon Mellor	by Nutsa Burjanadze	by George-Albert Costea	by Ivica Buljan
16	33	62	84
What theatres expect from digitality and what digitality expects from theatres	Media artists working with cultural institutions: opportunities and challenges	How to breathe soul into a machine! A plea for more digital tenderness	Where do we go from here?
by Dick van Dijk	by Chris Ziegler	by Christian Römer	by Marie Le Sourd
22	38	66	90
Stage Your City	Decide how to decide. Managing processes in international interdisciplinary projects	Kinetics of Sound: Kraljevo and Peer Gynt	ETL Teams
	by Pam de Sterke		
26	46	70	92
Can digital communication be an aesthetic empowerment of the audience?	IDIOMATIC / Dub it: One voice, many languages	Kinetics of Sound	About the ETC
by Jan Linders		by Anders Hasmo	
		73	94
		Move the sound! Directing with new technology	Partners & Contact
		by Erik Ulfsby	

FOREWORD

European Theatre Lab: Drama goes digital

BY
HEIDI WILEY & SERGE RANGONI

The two-year applied research project *European Theatre Lab: Drama goes digital* set out to research a digital strategy for the major state-funded theatrical institutions of continental Europe with the goal of expanding access to the arts via new technology. Under the leadership of the European Theatre Convention (ETC), the cross-sectoral project united artists and public theatres from seven countries with research institutions and researchers from the fields of technology, science, media and the performing arts. *Digital Theatre. A Casebook* is about sharing knowledge with the creative community; it is an invitation for artists, scientists, theatre professionals, and cultural and societal decision makers to learn from our experiences.

What does theatre need to remain relevant in society in the twenty-first century? Both as an art form and a public cultural institution? What conditions for digital innovation in theatre must be met? What skills and partnerships are needed? How far can we stretch existing infrastructures and working mechanisms to embrace cross-sectoral collaborations? How can we tackle urgent social issues and use the live character of theatre, aided by digital tools, to create opportunities for intercultural dialogue while creating a more inclusive notion of theatre and community throughout the EU? How can digital technology add something to the magic of a theatrical moment?

Guided by an interdisciplinary advisory board of experts, we formed three creative teams of our theatre partners, who in an OpenLab process tested new methods for using technology in creative work and outreach. The *European Theatre Lab: Drama goes digital* resulted in seven OpenLabs, three new creative collaborations, two conferences, one showcase, and new performances that tested and applied new technology at theatres in eight countries.



The enclosed white paper *Drama goes digital vs Theatre invades digital* presents suggestions and recommendations we identified for publicly funded theatres, policymakers and funders on the local, national and European level to tackle challenges for theatres while addressing digital transformation.

This work would not have been possible without the incredible commitment of all our partners willing to take risks as well as the European Commission, who believed in our idea and provided the necessary support for us to engage in this unique international cross-sectoral artistic and technical research project. Thank you!

Heidi Wiley
ETC Executive Director

Serge Rangoni
ETC President

EUROPEAN THEATRE LAB:
DRAMA GOES DIGITAL –
THE PROJECTS

Stage Your City



Idiomatic / Dub it

Kinetics of Sound: Kraljevo and Peer Gynt



Top: *Stage Your City* premiere, CDN Nancy Lorraine La Manufacture, France, 2018. Image © Serge Martinez.

Middle: Technical device, *Idiomatic/Dub It*. Image © Transquiquennal.

Bottom: *Kraljevo / The King's Fair [Den siste kongsfesten]* premiere, Det Norske Teatret, Oslo, Norway, 2018. Image © Siren Høyland.

Why every theatre needs a digital strategy

BY
SIMON MELLOR

Arts Council England is the investment, development and advocacy agency for the arts, museums and libraries in England. We now require all organisations seeking regular, annual funding of £250,000 (€285,000) or more to have a digital strategy. Without that written strategy (and a plan for implementing it), nobody can get funding from the Arts Council.

Why have we decided to do this?

We have, over a number of years, tracked how arts and cultural organisations have developed their use of data and new technologies. Our Digital Culture survey has thrown up worrying results in some areas. For example, since 2013 there has been a decline in the proportion of organisations that see digital technology as important to their work in areas such as creation, distribution and exhibition. The 2017 survey also shows that the majority of arts and cultural organisations still do not use data for important purposes such as understanding their audiences better through data analysis and profiling.

Many organisations in our sector think they are in competition for audiences with other publicly funded arts and cultural organisations. In reality, they are competing with a commercial entertainment industry that understands a lot more about who their audiences are and what they think about the content they are experiencing. In a time of shrinking public funding, we want to help the organisations we invest in to take advantage of the opportunities provided by new technologies – and the data associated with those technologies – to understand more about their audiences, make more innovative and relevant work, and build more resilient business models.

In a world in which the public experience more and more of their culture online, our fear is that many of our publicly

funded theatres will lose their relevance, stuck in an analogue world, reaching fewer and fewer people. That is why we have decided to act and make it a condition of our funding that our larger theatres need digital strategies and delivery plans.

We hope that this will accelerate the use of new technologies in our theatres. Over the next few years, we expect to see significant progress in the following:

- the use of new technologies to innovate in artistic practice, both online and offline;
- the use of new technologies to create, distribute and share experiences with audiences online;
- the gathering, sharing and analysing of data to help improve decision-making, enabling organisations to tailor offers to audiences and increase revenues.

We recognise that the theatres we invest in are at different stages of their digital journey. A good digital strategy needs to start with where the organisation is today. It needs to be rooted in its creative mission. It must consider how new technologies can help achieve wider objectives and how the unique qualities of each theatre can best be supported by digital technology. Critically, it needs to be endorsed and led from the top of the organisation. Too often in our experience, 'digital' is consigned to the marketing department. It is seen as a communications activity rather than a part of the DNA of a modern user-focused cultural organisation.

A good digital strategy sets out how new technologies can help better deliver a theatre's core artistic mission whilst also supporting all areas of its business – more innovative creative output, better experiences for audiences and access to new income streams. And it identifies what resources – people,

money and specialist expertise – will be needed to deliver the strategy and reap the benefits.

A good digital strategy should also be appropriate to a theatre's type and size, its available resources and where it is starting from digitally. If it is a small theatre, or digital is not yet a major part of what it does, it might identify modest, achievable steps to start with and aim to become more ambitious over time. It will not set digital objectives that are too numerous or wide-ranging. It should focus instead on a few key areas to achieve measurable results with whatever resources are available and always an ambition for excellence. It will also identify what partners the theatre will work with to deliver the strategy.

Accompanying the strategy should be a digital plan: a document that defines in detail specific objectives, activities, targets, responsibilities and deadlines for delivery. It should make clear who tracks progress against targets and when the plan will be reviewed. A regular reviewing process is important as digital aims evolve, driven both by change in artistic and business aims and changes in the wider digital landscape. Review and evaluation should be guided by what audience and other data is telling the theatre. This will ensure that activities and targets are realistic, sustainable and can generate good returns on investment. Digital can be a great medium for low-cost experimentation. Ideas can be tried out quickly and data gathered on what is effective.

In summary, effective digital strategies:

- are embedded in the organisation and endorsed by, and led from, the very top;
- put users and audiences in the centre, with decision-making assisted by audience and performance data;

- involve the people responsible for actions and for delivering strategy objectives in planning, objective setting and monitoring progress;
- recognise the skills development, resource requirements and partnership approaches necessary to make the strategy viable.

Working with specialist digital development agency *The Space*, we have developed guidelines to help theatres create a digital strategy that is suitable for them – whether they are small, experimental ensembles or large repertory theatres. These guidelines offer a structured way for an organisation to think about where they are on their digital journey and where they want to get to.

To support our digital development ambitions, we also invest in a group of ‘sector support organisations’ that give advice to arts and cultural organisations on adopting and implementing their digital strategies. *The Space*, for example, provides training and one-to-one mentoring support, as well as opportunities for digital commissions. Later this year we plan to set up an Arts Council digital network, a group of specialist staff working from our offices across England to provide advice on best practices and broker introductions between the organisations we support and the tech sector. We will also develop a ‘digital maturity index’ to help organisations benchmark where they are now digitally and then track their progress.

Last but not least, we recognise that the Arts Council itself needs to change too. We have established a new Enterprise and Innovation department to lead our work in this area, staffed by people with a background in the commercial and tech sector. We need to lead by example and take theatres with us towards

a future that will be fuelled by ever-more pervasive, and as yet unanticipated developments in digital technology.



Simon Mellor – Deputy Chief Executive Arts & Culture, Arts Council England As Executive Board member of the Arts Council England he is responsible for national arts and cultural strategy. Mellor was previously General Director of the Manchester International Festival and the Chief Executive at Lyric Hammersmith. He has also been the producer founder of Gloria Theatre Company, Youth Arts Projects Coordinator for the Southbank Centre, Head of Education at Battersea Arts Centre and Co-Director of Pegasus Theatre in Oxford.

What theatres expect from digitality and what digitality expects from theatres

BY
DICK VAN DIJK

Technology is pervasive in today's society. Code = culture. Algorithms define our way of life. In his book *Being Digital*, Nicholas Negroponte coined the term 'digitality' – in line with terms such as modernity and post-modernity – to describe the condition of living in a digital culture. We all see the ways in which digital culture is transforming a number of sectors for better or worse – Uber and Airbnb are two examples of that. Digital culture gives us high hopes for smart cities and even smarter citizens. There are many good examples of how new technology is influencing the performance context. But at the same time, the theatre domain is still at the start of its transformation, still looking to get a grip on digital strategies and practices. So are other domains such as education and heritage too.

We can already see digital culture's impact on several aspects of the theatre business, e.g., through the enhanced use of social media and the optimised outreach of theatres. And there is definitely an interest in seeing where technology can affect the core of the theatre, as is apparent in the European Theatre Lab project. The spark is there, and theatre-makers dream of more active and engaging roles for (younger) audiences, and some may already fantasise about improvising with real-time data.

A non-representative sample of participants in the *Digital Innovation in Theatre* ETC conference on 7 April 2017 at the ZKM Center for Arts and Media in Karlsruhe, theatre directors, dramaturges, media artists and other experts from various cultural fields from 17 countries were asked to reflect on their expectations of digitality. The participants talked about how they were already experimenting with live video and live montage onstage; 3D video mapping; the interaction of

real and virtual spaces; digital backgrounds and set designs; and performances connected to the internet. And, of course, digital culture itself is a topic in storytelling and dramaturgy: several theatres are working on screenplays about the merging of reality and virtual reality, the effects of technology on our lifestyle and communication, and incorporating new narrative forms borrowed from game structures and interactive stories.

But digital innovation is not only limited to inside the theatre. The advent of digital culture has created more and more stages where the work and expertise of theatre-makers are very welcome or even necessary. Think of the growing impact of the Internet of Things where inanimate objects become smart and start to populate our houses: Why should these agents not be dramatic or comedic? Or the commercially driven advances in virtual and mixed reality: How can these experiences become truly engaging and material rather than just visually overpowering or mere shoot-'em-ups. And what would be the dramaturgy for true social connectedness instead of just technical connectedness? Theatre-makers have been thinking about this type of interaction for centuries and would be very welcome in these technology-dominated discussions. Just as design and design thinking is entering business disciplines to deal with so-called 'wicked' social challenges, dramaturgy and embodiment can be a new way of pushing the design and technology domain forward, helping us to define and design our quality of life and how we want to live together.

Whatever type of stage you anticipate, be it onstage or in real life, innovation means change. And change usually does not happen without challenging existing structures. Even

for the most willing of people, it is difficult to go from doing something that is easy, comfortable and familiar to doing something new, awkward and uncertain – regardless of whether the change is an improvement. Change is hard. So, in the end a large part of the innovation question is not 'just' technological – it also involves opening up working processes, trying out new things and taking on new mindsets. For people who are eager to explore new things, these new mindsets come more easily. But it already helps to be aware of your own mindset when you consider change and what any other mindsets might allow you to do. In *Big Picnic* – another European innovation project comparable to the European Theatre Lab that focuses on innovation in botanic gardens – Waag has published a set of seven mindsets that we think would allow people to play with issues such as innovation, co-creation and artistic research a bit better. Taking on any of these mindsets allows you to explore options that you have not encountered before, to better understand what and who you are dealing with, and to create agency and ownership to sustain an intervention. We are talking about mindsets that are sensitive, fearless, hands-on, flexible, experimental, optimistic and critical.

So, when you are asked how you want to incorporate digital technology into your play, what would you do if you had a fearless mindset? You would dive in head first, right? What if you were asked to explore the future of theatre with the hands-on mindset? You would probably just start changing everything and anything, and see what happens from there, defining new strategies through experimentation. And what about the future of communication? It could allow for the most beautifully dramatic innovations. That is what the performance domain could bring to the table.

In my presentation at the Karlsruhe conference, I challenged the audience to be the R&D department of society, where cultural and social values are made explicit. And I do believe that. It is a response to the growing impact that big corporate structures have on our lives and you will definitely challenge their current approaches. Looking forward to see where you will take us.



Dick van Dijk - Creative Director of Waag Technology & Society Amsterdam, Netherlands Head of programme at Waag, he is creating interactive concepts, strategizing design research and user involvement, and monitoring the development of the actual 'thing'. He is mostly interested in the crossover between virtual and physical interactions, in creating a narrative space, a place for imagination. He has worked on many cultural heritage projects and is co-author of several publications on social connectedness or age-driven design.



Image © Chris Ziegler.

Stage Your City



Stage Your City is merging the trends of digitisation and participatory theatre. It plays with augmented reality, 360° video, gaming elements and an app-guided city walk. The participatory approach brings theatre directly into the community. In a dystopian fairy tale about a future city ruled by artificial intelligence, the audience is asked to explore their city interactively and make decisions about the question in which world they want to live in 2052.

Directed by Michel Didym

Written by Lasha Bugadze, Marie Dilasser, Konstantin Küsspert, Frédéric Sonntag

Co-produced by CDN Nancy Lorraine La Manufacture (France), Kote Marjanishvili State Drama Theatre Tbilisi (Georgia) and Badisches Staatstheater Karlsruhe (Germany)

www.zigmagora.eu

Stage Your City premiere, Badisches Staatstheater Karlsruhe, Germany, 2018.

Image ©Tom Kohler.



Top & right: *Stage Your City*
premiere, CDN Nancy Lor-
raine La Manufacture,
France, 2018.

Image © Eric Didym.

Left: Augmented reality
video shooting for
Stage Your City, 2018.

Image © Nutsa Burjanadze



Can digital communication be an aesthetic empowerment of the audience?

by Jan Linders – Head Dramaturge and Deputy General Manager, Badisches Staatstheater Karlsruhe (DE)

Peter Weibel, director of the Center for Art and Media in Karlsruhe (ZKM), makes the following prediction: “Today we applaud the robots. In thirty years, the robots will applaud us.” The trinational *Stage Your City* project was designed to overcome this binary contrast. It is not ‘man versus machine’, but analogue performance combined with creatively implemented digital technology, which allows for instant interaction, that is being tested as a variant of the theatre of the future.

There is no doubt that we are already digitising all areas of life: television is only digital; self-learning algorithms suggest news stories, films, songs and friends to us on social media; artificial intelligence will soon control self-driving cars. Many people touch their smartphone more often than their partner. Your device knows you better than a friend, an authority: every preference, every movement, every fingerprint is registered and evaluated. Until now the order in auditoriums and theatres has been, “Please switch off your smartphones!” But isn’t theatre – as the pure and final oasis of analogue – closed to a technical development that has long since become a social development? Where would the theatre be today if the Romans had said, “No machines on the stage!” or the people of the Baroque had said, “No backdrops!”; if the visitors of 1880 had said, “No electric lighting!” or the spectators of the 1990s had said, “No video please!” Up to now, theatre has virtuously added every technique to its range of means of

expression, without neglecting the essential: the people on stage. So we must ask ourselves: How can digital processes be used artistically? How can the role of the audience be expanded digitally?

These questions were the starting point of *Stage Your City* – a European Theatre Lab project headed by the European Theatre Convention. ETC had submitted several funding applications to the EU to develop forms of a theatre of the future. Only applications that listed ‘digital’ as a keyword were successful. Theatre people from Nancy, Tbilisi and Karlsruhe developed the dramaturgy for a digital/analogue, multi-perspective tour of the city of the future in several OpenLabs at the Médiathèque Manufacture Nancy, the Ars Electronica Center in Linz and the ZKM Center for Art and Media in Karlsruhe. The texts were written by the Lasha Bugadze, Marie Dilasser, Frédéric Sonntag and Konstantin Küspert.

The audience meets in a black box and encounters four experts from 2052, each of whom represents a moral challenge for the next thirty years: love in times of total simulation, immortality through medical technology, identity without historical memory, security through total surveillance.

Guided by an app and divided into four groups of twelve people each, the audience comes to four stations in succession. On the way, the experts use audio commentary to delve even deeper into their problem; this soundtrack transforms the city and its inhabitants into a future dystopian backdrop.

At four stations (a gate, a café, a library and a doctor’s surgery) at each venue, the audience gets together with virtual and/or real actors and is encouraged to interact. They send a photo, a selfie, a personal love song and a short text via the app to the net.

Back in the black box of the theatre the audience gets to meet themselves. The pictures they sent appear in a 360-degree film accompanied by a mix of the love songs. In the end, there is a real person – a little girl – as the embodiment of the master gives the people of the future love, immortality, identity and security.

When selecting the digital techniques that the trinational team wanted to acquire artistically, it followed the advice of Gerfried Stocker, the artistic director of the Ars Electronica Center: to offer all visitors a valid experience, not just rely on one technology, take technical problems into account, and not become dependent on a solution. Many projects rely on a single technique and use it to its full potential. We preferred to experiment with many new technologies and test possible artistic applications. The focus is not on technology, but on the history of the common migration into the future of the cities.

A 360-degree film on the project page www.zimagora.eu introduces the audience to the topic and invites them to download the app. The technical rooms of the Karlsruhe State Theatre serve as a futuristic backdrop. Many viewers experience the amazing possibilities of their smartphone for the first time: the picture follows the movement of the smartphone up, down and in all directions.

The four experts from the future introduce themselves in an installation by media artist Chris Ziegler: eight iPads on stands are arranged in a circle and use overlay technology to suggest to the standing or moving viewer inside that someone is talking to them.

The virtual actors in the city only become visible to those who hold their smartphones on a poster with a hidden code.

Using this augmented reality technique, the actors can play with themselves or colleagues who were filmed previously.

For the final picture, a programme developed by Bernd Lintermann of the ZKM puts together the pictures produced by the audience into a three-dimensional sphere inside, which can be experienced with the help of a simple cardboard attachment for the smartphone.

The audience thus experience their own city in a new way, discuss problems of technical progress and have experiences with the theatrical use of digital technologies that most of us have never experienced or used before – they can thus get involved in two senses. This too is ‘Volkstheater’ in Karlsruhe: the digital empowerment of the audience to participate.

Virtual meets real: the synchronisation of AR and live acting

by Michel Didym – Artistic Director, CDN Nancy Lorraine La Manufacture (FR)

We deal with machines constantly in our daily life. Algorithms record and answer our questions.

Where does the space of contemporary theatre fit in here? The coexistence of virtual and real actors onstage is a very strange and very interesting thing. From it emerges a very singular force that questions the idea of artificial intelligence. We have the feeling that the machine ‘reasons’ or ‘improvises’, or that the virtual changes its opinion. But all this is actually just a function: the intelligence only exists in the programming. It is thus a dramaturgy of the real augmented by a machine’s interactions... which has in fact no ability

to improve but an adaptability whose speed depends on its encoding.

What about the true and the false? In the theatre, everything is false, but people often seem more real than in real life. We should not see analogue and digital actors as opposites: they are of different nature but able to work and progress together; to push a dramaturgy towards its climax.

There are, however, technical points of view that are evolving considerably. There is a relationship to the image that must be understood differently. The exciting part is that a situation evolves, takes shape, materialises.

We are at the dawn of a new journey – the beginning of a new era. Something will happen in this mix of real and virtual that will allow us to come up with new forms of dramaturgy. This opens a very wide field that has not ceased to surprise us.

To achieve this show, we proceeded in different steps. First in Linz, Austria, where we evaluated and compared different potentials in previous digital theatre productions. We then did a lot of work to bring our teams together around a story with strong political content.

The second step was the *Stage Your City* premiere at the RING Festival in Nancy, where we had to confront all the technological challenges generated by our project.

The third step was in Oslo, where the technology had already improved. We interrogated our history based on this collective movement and the interaction with the spectators it proposes – in order to evolve our dramaturgical concept that involves the public more.

Then, the fourth stage took place in Karlsruhe, where the technology was fully developed but where our story took a different path. And, finally, this path was the most interesting

one. The road we have taken, this new dramaturgy. All of this is captivating, exciting, inspiring.

The next step will take place in Tbilisi, the home city of the entire team who developed our application. This is the city that we will rediscover thanks to digital technology. So we will ask our audience to think with us about how to prevent our future from turning into a disaster due to the digital.

More Europe, more thoughts, more theatre.

Get out of the box: New business models and international co-operation

by Nutsa Burjanadze – International Projects Coordinator,
Kote Marjanishvili State Drama Theatre Tbilisi (GE)

European Theatre Lab is an international co-operation that brings together several European theatres with the aim of overcoming geographical borders, and uniting artists and creative technologies. *Stage Your City* becomes an experimentation platform and ongoing dialogue between researchers, policymakers, digital experts and artistic teams. We are investigating the theatre of the future, its artists and possibilities, guided by the idea that the future belongs to co-operation; co-operation of different theatres and companies; countries and professions.

Placing international co-operation at the heart of artistic development is essential if we want to develop sustainably. International collaboration is a development tool and it opens up new possibilities for theatre-makers. It makes new discoveries and explores new methods of self-expression. The collaboration makes the theatre process more vital on the

search for innovation. And it is not only beneficial to professionals – it is a new discovery for audiences as well, sparking discussion beyond established frameworks.

This is why the ETL is challenging in many ways: bringing new technologies into theatre causes us to think about new ways of co-operating. We started with only an idea. And over time that idea was shaped into performances in different countries and different companies. We were trying to find a common language; common issues and forms. The process was difficult and at the same time truly wonderful. This challenging experience resulted in a very interesting exploration of different cities in Europe. ‘Visiting’ the places we’d never imagined, going to theatres where we’d never been and enjoying communication we would otherwise probably not have had.

The ETL is a challenge and an opportunity for theatres and scientists in a joint pursuit to use new technology in order to break with traditional theatrical forms and expand the knowledge of theatre-making in the digital era.

Stage Your City is participatory theatre: it involves the audience in the process and makes theatre a place for communication. The digital era changes how we create, share and engage in theatrical works with the audience. The ETL has developed a new theatre concept that integrates the audience into the process of artistic creation by digital means.

New technologies dictate innovations, so the ETL is building new models of theatre and rising to new challenges: digital dramaturges, actors with specific performing skills and creative technicians. In the end it is not only about the co-operation of different theatres, styles and professionals, but also the communication and co-operation of tradition and innovation.

European theatres are adapting to the new digital landscape and turning cooperation into one multifunctional model. The ETL reached out to relevant business communities on the basis of new technology. The innovative capacity of the project shows their capability to create and deliver.

Co-operation and dialogue are based on reciprocity, mutual learning and sharing of best practices – and the ETL is an example of that. The benefits will extend beyond the partnership itself.

Media artists working with cultural institutions: opportunities and challenges

by Chris Ziegler – Digital Artist, Scenographer, Director, Performer (DE)

***Stage Your City* is a participative and site-specific theatre research project using digital media. With our partner theatres in Nancy, Oslo, Karlsruhe and Tbilisi, we developed a play using installation, augmented reality (AR) on mobile phones, virtual reality (VR) and other technologies to tell a story, customised for each city.**

The story unfolds on three stages: in Part 1, a hologram installation on eight displays gives a glimpse into the story, presenting a video message of four messengers. In Part 2, the audience separates into groups that walk through the city, listening to audio messages, searching for the messengers – some of whom appear in person – and helping them with several tasks. In Part 3, the audience comes together again onstage where Part 1 started, exploring the virtual world they created with the messengers.

Since 2000 I have collaborated with choreographers and composers at the ZKM | Center for Art and Media in Karlsruhe on several theatre productions. In 1993 I worked at the ZKM Institute of Visual Media as designer and programmer supporting invited guest artists. Institutions like ZKM Karlsruhe gave me access to resources and also offered technical support. Early media art productions were almost organised like theatre productions where artists work hand-in-hand with a team of technical staff on the text, images, sound, lighting and technology of a production, both installations and live performance alike. Media artists like Bill Seaman, with whom I have worked since 1995 on several productions, had a background as a live musician and in video art and music composition, but only very few digital skills. It took a rather long time to transition into a new art form. Institutions like ZKM Karlsruhe, the Ars Electronica in Linz, Austria, and a few other places paved the ground for the new digital field. The early digital art revolution between 1990 and 2000 was made possible with support of publicly funded (European) organisations, institutions and art festivals.

Frankfurt-based choreographer Bill Forsythe approached ZKM Karlsruhe 1995 with an urgent request to digitise the Frankfurt Ballet's video archive. In the process of working with the them, we explored ways to develop a digital training assistant for dancers. With *Improvisation Technologies*, dancers created motion material in a specific way to be used in rehearsal. The dancers of the company were part of the creation process and used our digital tool for several years within the company. In 1999, Bill Forsythe decided to share *Improvisation Technologies* with a CD-ROM publication as a 'tool for the digital dance eye'. Digital tools not only enhance

the understanding of contemporary theatre and change the aesthetics of production onstage: they also open up new ways for organising and distributing artistic creation processes.

Since 2000 I have been working on my own stage productions in a number of theatres and festivals. One would think that contemporary post dramatic theatres had embraced new media and exploring new ways of storytelling by then. But I was confronted with expectations of new digital tools that were either too high (naïve) or too low (rejected). Obviously the old but strong theatre machine also demanded redundancy – something fail safe – from a prototyping new media culture, which could not (yet) deliver.

Disappointingly, only video seeped slowly into theatres, establishing a sixth department next to opera, theatre, dance, light and sound. Over the past 30 years the not-so-new digital tools now have evolved. The risk of crashing a show can now be reduced to a minimum. Research projects like the European Theatre Lab can push the envelope and make technology fail safe – similar to media institutions in the 90s paving ground for the emerging digital arts in museums. Finally, it is about time that 'Drama goes digital'.

I would like to see digital producers or digital dramaturges in theatres, syncing theatre production with external experts. Theatres should be prepared to keep up with fast-growing developments. I do not think that each theatre needs to have a special digital task force department. It is necessary to find a way to co-ordinate external pre- or parallel production with rehearsals and the creation process in house, which can change a lot. A digital producer or digital dramaturge works on overlapping the fields of theatre and media production. Theatre can learn a lot from video game productions where storytelling is

based on technical prototyping – also relying on ‘old’ film or video production techniques and new game technologies like VR and AR. Theatres need redundant technologies for a safe show, where many complex technologies interact onstage in real-time during live performances. It takes time to make the digital fail safe, i.e., to make it an unquestioned part the theatre machine.

In the *Stage Your City* research project of the ETC’s European Theatre Lab, one could say that we put a multitude of technologies on our plate to test new tools for redundancy. Where do technologies demand change from the traditional artistic creation process? We should embrace the process and invite digital tools into it, not work against it. With these tools we can now invite the audience into the process and have technically supported interaction in the plays. I hope this takes away the concern about redundancy. The audience sees the digital as a medium for storytelling in social media already. So, yes: we CAN catch up with the audience!



OpenLab 2 at Ars Electronica, Linz, Austria, 2017.
Image © Magdalena Sick-Leitner .

Decide how to decide. Managing processes in international interdisciplinary projects

BY
PAM DE STERKE

From observing the creation process of pilot projects and Waag's expertise in (social) innovation, I would like to contribute some practical lessons for managing processes in international interdisciplinary artistic projects: to explain the 'how' of carrying out a project like this.

The way I see it, innovative interdisciplinary artistic research projects should

1. question the ways of working that participants bring to the table (implicitly and sometimes unknowingly) and make them create a new way of working together;
2. focus on the innovation process instead of a final product. The pressure of having to create a product – whether a play or a working digital device – can kill innovation because failure is not an option; whereas good innovation comes from taking risks and accepting potential failures;
3. thrive on the tangible: artists (or any creators) working in interdisciplinary teams can only work together on something that is actually there. You do not want to be the next one to build a concept on top of an idea on top of a metaphor.

1. Reinventing a way of working is essential and at the heart of what is being researched

One of the most interesting aspects of digital innovation in theatre is that two completely different disciplines come together to create something new. There are those who understand the theatrical universe and the interaction between the



Screenshot: Weekly online meeting
between *Stage Your City* project partners.
Image © Jan Linders.

performer and the audience. And there are those who understand how to create a digital universe and user interfaces.

Needless to say, in this context, it is crucial that these two disciplines find methods to understand each other and start working together. First of all, the participants will need to co-create their way of working together so everyone can contribute their best efforts.

As professionals from very different backgrounds, everyone involved should become aware of the bubble they are operating in. Terminology, roles, hierarchies, ways of working, and the timing of activities are largely implicit if you work within your own discipline. The older the tradition, the more is implied. The discipline of theatre is an age-old tale. It has become an archetype for a discipline full of implied traditions. Theatre artists the world over, whether they do opera in Budapest or immersive theatre shows in New York, have more in common than not.

Innovation is only possible if co-collaborators are aware of this history and find a way to make this explicit. Very often this can simply be done by explaining how you work and what you need (from others) in collaboration to be able to do your work. Then, obviously, it is important that all involved are willing to sacrifice structures, ways of working and – above all – hierarchies if they want to create a new dynamic.

Because if you do not, the oldest tradition will dominate the working process. Even though this collaboration will lead to new work – say, a new performance – one can question if this is innovation. I argue that, in interdisciplinary artistic research projects, innovation lies in the process itself. Theatre has been multimedial and interdisciplinary throughout its history. Many artists have collaborated to create ‘Gesamtkunstwerke’

(or “total art works”) in theatre, each in their own era. It seems that the digital age is once again challenging theatre-makers to reconsider which disciplines take part in today’s ‘Gesamtkunstwerk’ and how collaborations might look.

One of the objectives of any interdisciplinary artistic research project should, in my opinion, be to develop knowledge about working interdisciplinarily. How has this unique project tried to find a way to create awareness around structures and ways of working in different disciplines? And how has it tried to create a new way of working that allows all to contribute their maximum? This is the knowledge that interdisciplinary research should produce, which the field and academies where the artists of tomorrow are trained need. So, do continue researching, documenting and sharing.

2. Focus on the process

If the process of working together is at the heart of innovative interdisciplinary artistic research, this has (at least) two implications:

First: The role of process guide/technical dramaturge to lead/guide the process.

All artists in the project have to be prepared to not only make their way of working explicit, but also to step away from what they are used to doing and into a new interdisciplinary process together. This is stepping on the sensitive grounds of the unknown: the chaos in a group that is still shaping its dynamic. It can be very productive to have a guide in this territory. This person can be a technical dramaturge, for example: somebody who understands process of the various disciplines and who has leadership skills. This person should not have his/

her own artistic ambition. In that sense, s/he is not creating but leading the process of creation.

Second: Creating a production and innovating are not necessarily compatible.

There is an apparent tension between the unknown outcomes of an innovation process and the need to create a stage production, which we mentioned before. This obstructs both processes. If the objective of a research project is innovation, then the participants should be relieved of the pressure a production brings. Just think about large corporations that have a separate department for innovation: relieved from the pressure of making profit and therefore allowed to fail, innovation has a chance. In the European Theatre Lab, the OpenLabs were aimed to function in this way, but were nonetheless pressured to come up with presentable results. Keeping the experiment and the critical production line separate. I plea for funders to look critically at the tangible outcomes they demand. Do these contribute to the objectives of the project?

3. Redefine what you are researching

At the start of the execution period, the team should take time to define the research in the proposal very specifically, mapping out the various themes and working on very exact questions on topics such as (but not restricted to) the following:

- the interaction between performers;
- theatrical space through interfaces;
- audience through interfaces;
- other performers in other physical/virtual locations (screened performance);

- dramaturgy of mixed reality, adding a virtual layer to the theatrical space to bring in an extra imaginable space;
- transmedial storytelling, in which the theatrical reality stretches out before and/or after the show through (various) other media.

The research questions formulated should be revisited in a constant iterative process. Starting from what you know, incorporating new insights and discarding assumptions along the way.

4. Work towards tangible steps and use (only) this to build on each other's work

Iterative processes require working towards and from something tangible. One can only iterate something that is manifested. Ideas, better ideas and even better ideas easily topple over one another: brainstorming is not iterating.

A great example of iteration was a short demo by Chris Ziegler in the *Stage Your City* process, in which he set up a number of iPads in a circle in a studio space of the Marjanishvilli Theatre. The iPads only recorded in video mode when a button was pressed and then started playing back the recorded people in a loop. Until someone pressed the record button again. Ziegler invited the other artists to try out what the recording and playback did. What followed was serious experimentation: finding out what the possibilities of the set up were in interaction with each other and the iPads. Followed by discussion and decisions about which elements should be kept and explored further, etc.



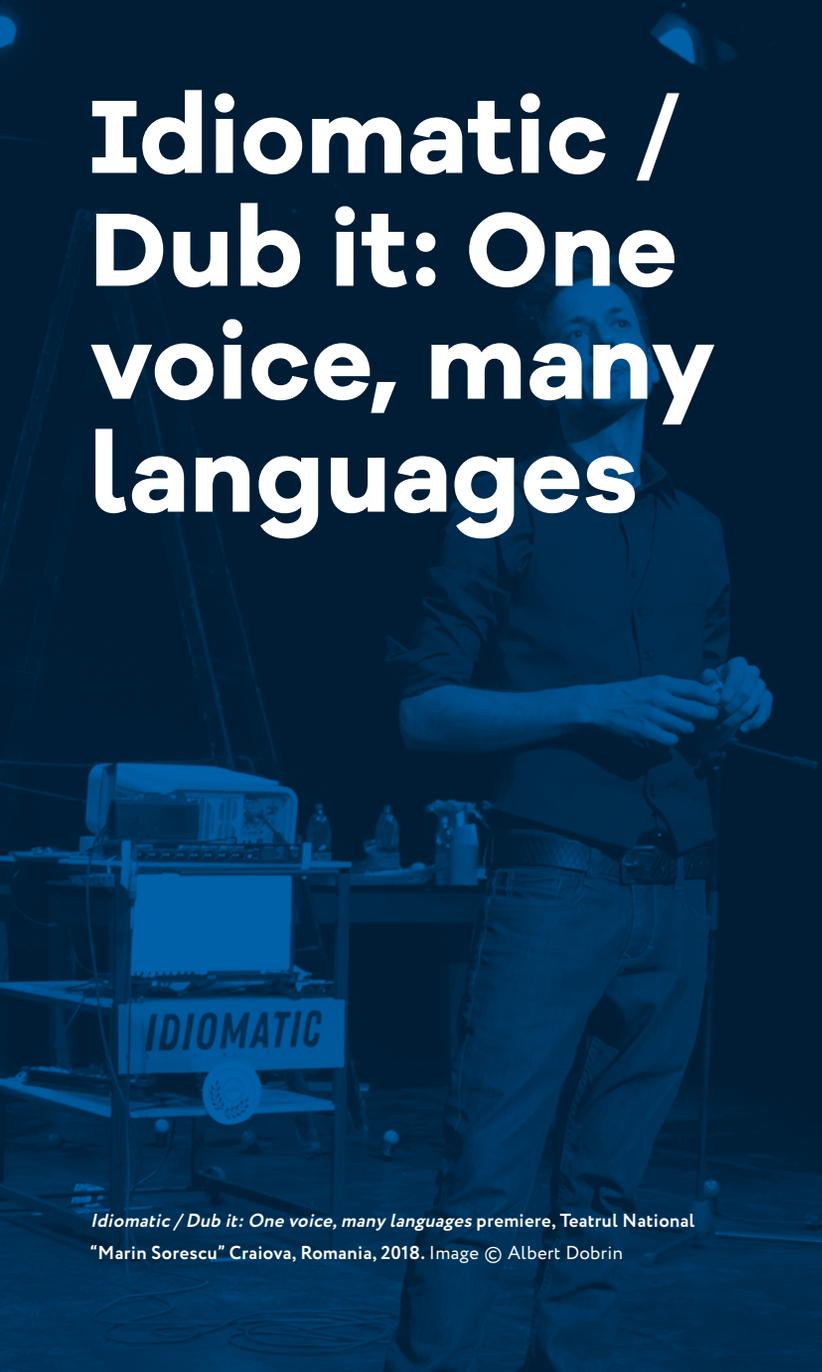
Pam de Sterke – Project Manager of research projects of the **Future Heritage Lab at Waag Technology & Society Amsterdam, Netherlands** She graduated from the MA Dramaturgy at University of Amsterdam and co-ordinated artistic research and performing arts education projects at the Media and Performance Lab of Utrecht University of the Arts. She has a broad experience in managing group intervention events, co-creation sessions and hosting communities.

To some extent, I think you can do something similar with an audience. Test little things out with them, just like developers test what they created. People appreciate works in progress, the making of, the process of things. Here too it may be possible to let go of the terror of the final show, the end product.

In short: it is important to create spaces to take risks, have the process at the heart, and prototype, prototype, prototype.

Better be sorry than safe!

Idiomatic / Dub it: One voice, many languages

A man in a dark shirt and jeans stands on a stage, looking upwards. To his left is a table with a sign that reads 'IDIOMATIC'. The background is dark with some stage equipment visible.

A tongue-twisting entertainment on the tip of one's tongue, turning on mother tongues and other tongues in a post-Babel performance that got lost in Google Translate: Innovation in captioning for performing arts. This multilingual, transnational project identifies translation via new technology as key to expand audiences and increase intercultural dialogue. It uses the research phase to find new ways to develop translation aids with digital technology.

A show by Transquinnennal & Marie Henry
Co-produced by Théâtre de Liège (Belgium) and
Teatrul National "Marin Sorescu" Craiova (Romania)

Idiomatic / Dub it: One voice, many languages premiere, Teatrul National
"Marin Sorescu" Craiova, Romania, 2018. Image © Albert Dobrin



Top & right: *Idiomatic / Dub it: One voice, many languages* actors. Image © Albert Dobrin.
Bottom: *Idiomatic / Dub it: One voice, many languages* rehearsals, Bruxelles, Belgium. Image © Transquinnal.

The re-invention of surtitling. A new technical approach to the international market

by Jonathan Thonon – International Projects Coordinator of Théâtre de Liège (BE)

“Pour bien faire, il faudrait un film qui tournerait la traduction intégrale (de la pièce) à la vitesse du débit des acteurs. Ce qui demanderait une installation compliquée. Tel qu’il est, le sous-titrage est nettement insuffisant.”

– Elsa Triolet, Chroniques Théâtrale (1948-1951), Paris, Gallimard, 1981

Theatre surtitling is often considered independent of the performance, providing non-native speaking spectators minimal assistance in understanding performance dialogue.

For a long time, captioning in theatres was considered as an accessory. Twenty-five years ago translations of shows in foreign languages were reduced to a summary of the performance in the program, or an oral translation transmitted in a dull voice to the viewer using an earpiece or headphones. Times are changing and the ‘titlist’, as they are called, have become essential to the international dissemination of theatre. Surtitling is part of the overall economy of the performing arts. It is an economic sector based on a chain of tasks that range from translation and theatrical adaptation to staging, scenography and technical management.

In June 2016, we flew to Craiova with Serge Rangoni (General Manager – Théâtre de Liège) to meet with Alexandru Boureanu (General Manager, Teatrul Marin Sorescu - Craiova) and Adi Manescu (General Manager, INCESA - Craiova) to

discuss potential technological solutions to enhance the theatre experience for non-native speakers. The discussion quickly focused on surtitles and the bad experiences resulting from non-synchronisation between the plays and the captions, black holes in the translation, limitation of available languages, etc. Together we reviewed the whole chain of tasks of the theatre surtitling process to explore and identify the zones for improvement.

Translating, dividing, and topping are the three main steps in surtitling. The translation is done beforehand using the original text. This is the major task of the surtitling process. We are still far from being able to devote theatrical translation to a machine or an algorithm, even though they are improving daily for everyday language. Dividing the text requires human-based experience and a detailed knowledge of the rhythm of the play. Topping is the final step where the ‘topper’ manually synchronises the display of the surtitles on the available screens by endlessly pushing a button.

At this stage, we thought about improving the experience by developing new displays. Many of these solutions (augmented reality glasses, individual seat screens, mobile applications for smartphones) are in the development stage, but the problem is that they are still under control of the manual topping process. We therefore concluded that technology can improve the surtitle experience by managing the whole process of prompt alignment for a more accurate synchronization (both on the main screens above the stage or on a mobile application to be developed). The challenge was to find a solution for an automatic prompt alignment system that can synchronize the surtitles with the live performance. We thought we had only two technical solutions. The first is based on visual recognition

of the play, matching the movement onstage and the scenography with the text displayed. The second is based on a vocal recognition system. The global idea was to develop a system able to understand the state of the play, to hear what the actors are saying onstage and transform it into automatic instructions for a software that displays the right prompt at the right time. It is not as simple as it seems!

With INCESA on board, we had the best partner for the software development. Back in Belgium, we contacted MULTITEL, a Belgian research centre based in Mons, specialising in, among other things, voice recognition in noisy environments. The first meeting with Jean-Yves Parfait (Research Engineer/Team Leader – MULTITEL) and Alexandre Sokolow (Research Engineer – MULTITEL) was quite optimistic. First, they indicated that as we are in a niche market very dependent on a specific environment (theatre), and, we are miles away from the GAFAM competition in natural language processing for everyday life. The performing arts sector is specific and based on a cultural and human experience (translation is one of the most important), so it is possible to develop something truly innovative. As voice becomes a hot topic in the technology sector, we could probably benefit from research in this area and from the existing database to strengthen our solution. In this context, an effective fast alignment device can be developed under specific conditions. The main challenge was to create a robust voice acquisition process capable of solving the problems related to the noisy environment of the theatre.

In the meantime, we have developed a co-production process with Transquinguennal, a Belgian theatre company, formed by Miguel Declaire, Stephane Olivier and Bernard

Breuse. The theatre company has a project, *Idiomatic*, a poly-idiomatic (multi-linguistic) show for five actors coming from five different countries. Each actor speaks two languages – their mother tongue and a foreign language that is native for one of the other actors. The cast includes a German (Georg Peetz), a Slovenian (Andrej Zalesjak), a Belgian (Anna Galy), a Norwegian (Elisabeth Sand) and a Romanian (George-Albert Costea). The ‘machine’ developed for the surtitle project, can be the missing link between the actors and a super artificial intelligence that can help people to communicate without speaking the same language.

Every partner (artists, engineers, theatre producers, writers, and computer science researchers) participated in the first research meeting in December 2016. This meeting resulted in a research architecture based on a five-step development:

Block 1: Acquisition Audio and Audio processing

(filtering) Acquiring a clean sound for processing in the recognition engine

Research protocols:

- Acquisition and direct filtering with close-talk microphones
- Acquisition with far-talk microphones
- Network of microphones - Beam Forming

Block 2: Prompt Recognition

Speech recognition after signal processing

Block 3: Prompt Alignment

Selection and display of the right prompt

Block 4: Global Programming

Interfacing of the different blocks

Block 5: Test and Validation

The first challenge was to develop a clear acquisition set up that can function in the theater venue environment. A first protocol was developed by the engineers based on four realistic set ups and four “noisy situations”.

Setups

- a.i.1. Close talk microphone
- a.i.2. Far-talk Omni-directional microphone
- a.i.3. Far-talk Shotgun microphone
- a.i.4. Far-talk Microphone array
(Spherical array with 16 microphones from CEDIA research Center /University of Liège)

Situation:

- a.i.1. Audience noise
- a.i.2. Loudspeakers diffusing ambient sound
(music, effect, etc.)
- a.i.3. Close interferences (other actors speaking; music, etc.)

We developed eight acquisition scenarios that have been independently tested with different speech recognition engines and noise suppression algorithms. After wide-ranging test sessions, engineers concluded that close-talk (Madonna) microphones showed a very high word recognition rate (WRR >95%) and adaptive filtering showed final performances close to noise-free conditions (WRR = ~98%). Furthermore, the microphone array, even if it is a good option for the future, was not efficient enough in this protocol due to a lack of adaptation to our specific theatrical environment.

On this basis, the second challenge was to synchronise the speech recognition results to a prompt alignment system.

The method used was ‘term frequency–inverse document frequency’ (TF-IDF), in which each output of the speech recogniser is a query text that needs to be classified among several documents (the handcrafted prompts). The TF-IDF protocol offers a likelihood of a prompt for each query. In real time, the protocol analyzes small pieces of speech and scans the prompt database to identify the right subtitle to display.

The likelihood itself is not sufficient to properly align a query to its relevant document. We have to take into account the temporal succession of each prompt through its transition probabilities. In other words, we defined a frame of possibilities (for example, 10 prompts before, 10 prompts after) to minimise the number of prompts to scan and the possible error between two prompts. With this method, the prompt alignment algorithm proved to be robust even if the Word Recognition Rate is lower.

This is where we are in our exploration of the ‘re-invention of surtitling’ in theatre. We have a path to success with close-talk microphones and the first full-scale test made in May 2018 produced very good results with more than 95% of perfect alignment. Furthermore, the integration of ‘the machine’ in *Idiomatic* (premiered in Craiova, May 2018 and in Oslo, June 2018) gave us highly useful feedback for the development of the final product.

The re-invention of surtitling is on its way and we are still on track to improve the first prototype with a more robust architecture, a frictionless user experience (by implementing beam forming technology) and, above all, a new full-scale experience and use case.

To be continued.

Do you speak Tech?

Report from an interdisciplinary and cross-cultural partnership

by George-Albert Costea – Actor and Project Coordinator of Teatrul National “Marin Sorescu” Craiova (RO)

More recent studies from the social sciences showed that “familiar ground may not be the best place to cultivate creativity”. Social scientist Adam Galinsky has found that people who have close relationships with someone from another country become more creative and score higher on routine creativity tests. Harvard economics professor Richard Freeman has an interesting study on diversity in science. He found that published scientific research receives greater attention if the authors are ethnically diverse. Starting with the premise of a cross-cultural partnership designed to promote creativity, we tried to take things even further and see what kind of results we get when we add cross-disciplinarity.

The answer to the question posed in the title would be: ‘Yes, we do speak Tech... or at least, better than we did at the beginning of the European Theatre Lab (ETL)’. The marriage between theatre and technology seems as complex as any real-life relationship and, in order to make it work, it needs pretty much the same ingredients: time, commitment, mutual trust and a bit of love. It is not about two abstract worlds coming together here, but about people from different countries and cultures who did not know each other previously becoming a team and fighting for a shared goal. In the following text, I aim to point out both the main phases of ETL and the challenges that appeared along the way. Some brief conclusions and new perspectives of this collaborative way of working are also worthy of attention.

The task of Théâtre de Liège and Teatrul National “Marin Sorescu” Craiova (TNC) was to search for an innovative application of sound captioning for the performing arts based on a speech-to-text method. First, a microphone ‘hears’ what the actor is saying live onstage, then a software transforms the sound into text after it recognises the spoken language, and matches it with the translated version using a pre-existing database. Then the translation is displayed for the audience on the classic surtitle screens we all know.

The reasons for doing such a project may have been different in Craiova and Liège, but it is nevertheless the diversity of motives that proves the potential of this research. In Craiova it is only on special occasions – during festivals or when on tour – that the shows are subtitled, so the usual costs for this feature are quite reduced. Since the city is not multicultural, the audience is mostly people who understand the language spoken onstage. At least at a first glance. But that is about to change! Craiova – the most important city in south-west Romania – is going through a process of a full economic development as it has started to attract foreign investors, international students and NATO armed forces: all potential new audiences. More than 150 years old, TNC is the only theatre in the city, so it has to satisfy the demanding cultural tastes of its audience. As an important cultural pole in the region, TNC has to push its limits constantly in the artistic field. A good relationship with media innovations can be one of the reliable paths to follow. To cater to that, it is mandatory for the institution to improve its technical facilities as the theatre has not undergone any major renovations since its inauguration in the building in 1973. Projects like ETL can help it in two directions: first, to know better what kind of equipment it

as an institution needs to acquire so that it can offer modern working conditions for the artists; and, second, to use them as advocacy tools in cooperation with the Romanian Ministry of Culture, which hands out subsidies by proving the interest in this direction.

The goal was to make the innovative captioning device good enough to replace traditional surtitling methods – such as Glypheo or the old Powerpoint slides and, most importantly, the human operator. MULTITEL and INCESA were invited to bring their know-how to the table and try to come up with technical solutions. The intermediate meetings between the partners – two OpenLabs and two partner meetings – along with different forms of online communication – email groups, Skype sessions – were meant to clarify the roles of the two research teams and the implementation phases of the app. The Belgian colleagues from MULTITEL – the sound specialists of the team – explained how they were planning first of all to ‘catch’ the voice of the actors in real time and the results they were expecting.

Artist input and the questions we asked were very useful at this phase: What is going to happen if for artistic reasons we cannot use a headset microphone, which proved to be the most efficient and simplest method? How can noises – like ambient music and audience – be filtered? How fast will the whole process be in order to avoid delays between the spoken line and the surtitle? And how will the app deal with human error given the fact that actors might forget one or more lines or say it/them in an incomprehensible way?

Unexpected delays in the research phase and different errors when simulating real conditions without pre-recorded samples of sound put the project on a different course and the

team had to adapt. Romanian IT specialists who were supposed to integrate their partners’ results into software demanded a stricter schedule of activities with smaller and clearer milestones up through the bigger architecture of the project. Such a plan would have, in their view, made the process more transparent, less confusing and easier to evaluate in terms of costs, for example. In other words: How many people can we engage with the money we have within the specific time frame for solving the briefing?

A rather interesting idea proposed by INCESA had to be left out: the development of a mobile app (for either Android or iOS operating systems) that could send the prompts as tweets to the theatre-goer in a friendly and discreet way during the show, with multiple languages options. By the end of the project we realised that such an engine could have been developed using AI at different costs and on a larger horizon of time. For the moment, the live captioning can be done at a satisfactory level under specific conditions.

Transquinguennal, a Belgian theatre company comprising Miguel Declaire, Stephane Olivier and Bernard Breuse, was commissioned by Théâtre de Liège to create a performance that integrated the results of the scientific research. Together with French playwright Marie Henry, they imagined *Idiomatic*, a show for five actors from five different countries, each speaking two languages: their mother tongue and a foreign language that is the native language of one of the other actors. The actors were Georg Peetz (a German), Andrej Zalesjak (a Slovenian), Anna Galy (a Belgian), a Elisabeth Sand (a Norwegian) and me (Romanian). This proved to be a ‘recipe’ for an extremely interesting production, as it had to sum up the confrontation between two very different theatrical systems and also include technology.

There were two stages of rehearsals: two weeks in Brussels and two more in Craiova where the premiere was held, with a gap of two months in between. This approach allowed the directors to test and re-evaluate their ideas and gave the actors time to become a team and co-create the show. *Idiomatic* was partially financed by the ETL, as the company used additional subsidies and called for theatre programmers to make sure that the show has its own life, even after the end of the ETL project period. This is why *Idiomatic* will be performed not only in the partner countries, but also in France and Luxembourg – and the list is still open. So, the collaboration of a state repertoire theatre like the one in Craiova – with its own house, specialised staff, technical infrastructure – and an independent extremely versatile and dynamic company can bring enormous benefits by reconsidering its mission as a provider of cultural goods and services. By also adding the technical part to the project, it all flourished.

The principles of international and interdisciplinary projects like the ETL seem to have positive answers in practice. Institutions and companies that share financial resources can be proof of adaptability given the more frequent cuts in state subsidies, increased mobility of artists and productions, and the ‘mirroring’ effect: by observing and getting to know the others better, you can understand yourself as an individual and an organisation.

On the other hand, one of the most difficult aspects of multicultural and multidisciplinary projects is that uniting such different perspectives under the same umbrella gives birth to a high degree of unpredictability that should be managed with more attention paid to time frames, and each person’s needs and possibilities. This could be done by deciding on the roles

and responsibilities of each participant at the beginning of the project and sticking to those goals.

Some questions still have to be asked if we want to find answers about the sustainability of such projects in the future: How are the grants invested and in which economies do they return? How much time can we as an organisation spend on this kind of project? Knowing the strengths and weaknesses of each partner, should we work with or against them? In fact, the whole philosophy of the project could be reduced to the slogan: Get out of your comfort zone! Because it is only in the ‘risk zone’ where both artists and scientists can pass through the most unexpected experiences and find new ways of thinking about conflict and cooperation.

How to breathe soul into a machine! A plea for more digital tenderness

BY
CHRISTIAN RÖMER

The digital age! (...) Can we turn it off? Real people want to see real people! The voices from Mount Olympus sounded so sceptical at the beginning of the millennium. Meanwhile, cultural marketing is blowing myriads of virtual cotton candy clouds into the electronic ether. Online ticket sales? It's happening...

Digital topics have long since arrived on Germany's performing arts scene, the heroes and heroines of the internet go onstage as dramatic characters. Whether it's cyberbullying in Berlin's schoolyards, 'Assassinate Assange' onstage, or Hamlet's Denmark in a modern surveillance ambience, German-speaking cultural institutions tend to reproduce digital phenomena in analogue formats and, preferably, in dystopian fashion. But is that all? What sort of virtual spaces could theatre take place in? Where are the stages that broadcast online? And how do artistic projects develop their own aura there?

Sceptics of the movement will probably agree with Walter Benjamin, who once stated that electronic reproduction potentially endangers 'the aura of authenticity and uniqueness' of an artwork. This decay is based both on the concern 'of the masses in today's life' to bring things closer to each other spatially, and to overcome the idea of the unique 'through the recording of its reproduction'. Collective aesthetics lead to social emancipation and democratisation but also bring about the danger of political appropriation, 'as is evident in the rise of fascism'.

In view of the aestheticisation of politics in the digital age and the suggestive use of social media in political spaces, Benjamin seems confirmed in his cultural-theoretical assumptions by the avant-garde of 'copytainment' performing on the digital stages of the new right wing.

But are the opportunities of theatre and internet even about electronic reproduction? Isn't it rather about how artists can breathe soul into machines and platforms? How could we develop a more tender relationship to the medium itself?

Possibly by a more reflective approach to future projects that play with the elimination of continuity of time and space, and the dissolution of audience and actors. The challenge – and this not only holds true for the performing arts – is in the combination of new technology with the demands and qualities of art as a social experience and unique immersive event. We need technical and aesthetic research to expand the performing arts through the new perspectives of the digital revolution.

But who will take responsibility for this pioneering work? How much space is there for free art if the funds for research into virtual reality are mainly provided by social networking companies? Of course, artists can participate in these developments, but for the time being they remain in the hands of convergent corporate headquarters in technological terms. The internet industry wishes for the virtual 'Cirque de Soleil' – the perfect reproduction of artists, animals and sensations for online entertainment's sake. It is not about the uniqueness of art production, but about its mass suitability – the maximum reproduction paired with Auto-Play and a paywall. Let us not leave research into virtual space exclusively to corporations and the porn industry!

But who authorises artists to enter into a protected mode of research that evades hasty critical assessments? Even though Berlin's cultural policy has now given an example by introducing an innovation fund for digital culture and Germany's Federal Cultural Foundation did set up a funding programme, **in the end, we are the ones who are responsible.**

If we perceive the arts as an essential part of a reflective system that offers opportunities for radical criticism, we must empower ourselves to give digital spaces the aura which Benjamin defined as: **'the unique emergence of a distance, as close as it may be'.**



Christian Römer – Head of Cultural Policy and New Media Division, Heinrich Böll Foundation Berlin, Germany

studied stage directing at New York University, Tisch school of the arts. He specializes in the conception and organization of festivals and conferences such as the annual workshop conference Theater und Netz (Theatre and Internet) in Berlin in cooperation with the national onlineplatform for theatre critique www.nachtkritik.de.

With formats like "Die digitale Müllabfuhr" about the censoring activities of facebook or "Schauspiel im Livestream" (Drama Livestream) he seeks to examine the interface between digital and cultural spheres. Recently he directed the opera "Fuck the facts" about the rise and fall of the american internet activist Jacob Appelbaum at the Neuköllner Opera House.



Kinetics of Sound: Kraljevo and Peer Gynt

This project brought together two large scale stage productions of modern classics, *Peer Gynt* by Henrik Ibsen and *Kraljevo (The King's Fair)* by Miroslaw Krleža. They have been staged in the partnering theatres exchanging directors and bringing a part of their cultural heritage to the other country. Erik Ulfbsy has directed the Norwegian play in Zagreb, Ivica Buljan the Croatian text in Oslo. Both productions work with the same composer and experiment with new audio technology, such as sound capturing, 3D sound, auralisation and psycho-acoustic effects.

Kraljevo / The King's Fair [Den siste kongsfesten]

directed by Ivica Buljan

Written by Miroslaw Krleža

Co-produced by Det Norske Teatret Oslo (Norway) and
Croatian National Theatre Zagreb (Croatia)

Peer Gynt directed by Erik Ulfbsy

Written by Henrik Ibsen

Co-produced by Det Norske Teatret Oslo (Norway) and
Croatian National Theatre Zagreb (Croatia)

Introduction of the technology used in *Kinetics of Sound*, ETC International
Theatre Conference, Det Norske Teatret, Norway, 2018.

Image © Joséphine Dusol.



Left: *Kraljevo / The King's Fair [Den siste kongsfesten]* premiere,
Det Norske Teatret, Norway, 2018. Image © Siren Høyland.

Right: *Peer Gynt* premiere, Croatian National Theatre Zagreb, Croatia, 2018.
Image © Siren Høyland.

Kinetics of Sound

by Anders Hasmo – Dramaturge of Det Norske Teatret Oslo (NO)

Kinetics of Sound takes its starting point in an ordinary theatre exchange programme in which two modern classics, *Peer Gynt* by Henrik Ibsen and *Kraljevo* (Danish: *Den Siste Kongsfesten*; English: *The King's Fair*) by Miroslaw Krleža, are staged as ordinary theatrical productions within the respective repertoires of the theatres. Erik Ulfby, artistic director at Det Norske Teatret, produces *Peer Gynt* in Zagreb, while Ivica Buljan, theatre department director at the Croatian National Theatre, stages *Den Siste Kongsfesten* in Oslo. Both texts were chosen because they feature parallel universes, dream worlds and distorted perceptions of reality, and their decisive narrative techniques make them worthy of investigation and readily transferable into a digital context. The project intended to explore theatre's opportunities of working dramaturgically with sound and new audio technology, such as 3D sound, auralisation and psychoacoustic effects. The project partners have looked into the field of live electronic music with music academies in Oslo and Zagreb and have worked together with SINTEF's Acoustic Research Center (ARC) in Trondheim, Norway. With more than thirty students involved, the Department of Sound and Music of the University of Trondheim (NTNU) is an important partner in the research and development of new audio and visual techniques, tools and equipment that serve the artistic purposes of communicating between the stage and audience.

Krleža's play *The King's Fair* is set at a large fair during the celebration of King's Day on the eve of the First World War. It

is full of noise and music. The interweaving sounds of different characters can be heard on stage: the seller, pub owner, circus artists, petty bourgeoisie, prostitutes; Italians, Chinese, Africans. The main character, Janez, has hanged himself because the desperate love for his girlfriend Anka was unrequited. Still walking among the living, he challenges Anka's new boyfriend to a duel. In an ecstatic death dance created around them, Janez dies for the second time at dawn.

The King's Fair is considered the first expressionist drama in Europe. The play, written in 1915, demanded extremely experimental stage procedures. These procedures are described in detail with ample stage directions, including sound and light effects, scenes with masses and highly engaged political discourse. Treated as a musical score, they create a synthesis based on language, sounds, visual elements and dance. The acoustic experience is an individual one for everybody in the audience.

Henrik Ibsen's *Peer Gynt* delves into the parallel world of Nordic mythology, replete with trolls and vast fjord landscapes. In the fifth act, when Peer returns to Norway after thirty years and must fight for his soul, the production uses different audio devices to explore the psychological, mythological and dramatic texture of the play.

From the start of the project, it was crucial for the two theatre directors to allow both the stories themselves and the dictates of theatre to pick which technological instruments to use. The theatres were not interested in pushing technological solutions that, in the worst-case scenario, would appear forced in the final performances.

At Det Norske Teatret, we set up a working group consisting of sound department head Simen Scharning, dramaturgy

department head Carl Morten Amundsen and dramaturge Anders Hasmo. One of the ETC's project stipulations was that each country had to make contact with national research institutions. Det Norske Teatret got in touch with the music technology community at NTNU and talked with professor Sigurd Saue concerning ways to develop technological sound features for the two theatrical concepts.

NTNU thought the project might make for a useful case study in teaching bachelor's students of music technology. Sigurd Saue taught the students about various music and sound technologies and connected sound artist Amund Ulvestad with the student group. The theatres' dramaturges had an initial meeting with the students when the project was presented. Furthermore, the thirty students were divided into two groups and lectured on the texts of the plays. Most students were familiar with *Peer Gynt*, whereas they were unacquainted with *Kraljevo*. In both cases, the students acquired new insight into the plays, heard a dramaturgical analysis and immersed themselves in the texts. Then, over a period of six weeks, the students worked on the cases in small groups under the supervision of Saue and Ulvestad. This was followed by presentations for the theatre's working group, featuring twelve different sound-tech projects. Sensor technology was prevalent, but there were also projects involving directionally controlled sound, 3D sound, laser sound, etc. All the students received feedback and reflected on technology, content and artistic possibilities. Based on the various concepts presented by the students, DNT chose the ones that were deemed most relevant and, in addition, those that seemed technically feasible. Saue was then assigned the task of developing demos that could be tested in an OpenLab in Oslo.

In October 2017, Det Norske Teatret conducted an OpenLab with Erik Ulfby (director of *Peer Gynt*), Ivica Buljan (director of *Kraljevo*), Mitja Smrekar (composer for both projects), Amundsen, Scharning, Hasmo and the actors in *Kraljevo*, who, alongside Saue, tried out the demos. Most of these involved sensors and triggers with various sound materials. It was interesting to observe how the actors reacted to the technology, and how initial scepticism quickly gave way to playfulness and movement. This was also an important meeting for the two directors. After the OpenLab, Erik Ulfby agreed to use sensors in *Peer Gynt*, which also proved to be the best option for Ivica Buljan. The theatre then tasked Amund Ulvestad with developing the sensors for the theatre.

An OpenLab was also held in Zagreb, comprising a lecture on sound technology and an opportunity for the audience to play with sound from various objects.

Move the sound!

Directing with new technology

by Erik Ulfby – Artistic Director of Det Norske Teatret
Oslo (NO)

For me, as a director, it is important that the artistic idea and concept emerge from the story being told. Therefore, I approached this project with scepticism and curiosity: Which technological instruments might bolster the artistic concept? And in what ways? I see theatre as an analogue room in which the members of the audience turn off their mobile phones and sit together concentrating on what is happening onstage. Theatre is and has always been 'old-fashioned' in its form of

communication. And yet, this does not mean that theatre is non-technological or uninterested in technological tools. On the contrary, theatre has always embraced different technological solutions: electricity, light technology, video usage, digital stage machinery and sound technology are all examples of that. When we decided to establish a partnership with Croatia that would result in two fully substantial repertory performances, it became all the more important for us to base the project on the original texts and narratives told.

Although I was personally unable to attend all the different meetings and conferences in Europe, it was important that the theatre be represented there. Gatherings, meetings and brainstorming sessions were held at the theatre with representatives from the different departments. Just as the ETC conferences partnered artists and technological experts, we tried to do the same thing at the theatre. This resulted in close co-operations between the dramaturgy section and the sound department, which in turn led to a number of exciting and innovative ideas. The theatre thus expanded its “toolbox” for future performances. This cross-departmental way of working is one of the things we want to continue.

In *Peer Gynt*, I chose to integrate and use motion sensors, which can very precisely bring sound effects and sound costumes to life. In this respect, it is important that the actors control these themselves. It frees the actor from having to follow the sound technician’s timing, and it gives the actor bodily agency. In *Peer Gynt*, we used five sensors, and these were used, for example, in a situation where an actor chopped down a tree. Dovregubben used sensors to shake a mountain and Bøygen’s sound costume emitted a vital sound effect with each movement.

The focus on sound technology parallel to the development of the artistic concept also brought about several other exciting ideas, among them a hand-controlled projector – a device we were unable to realise or develop any further, though video mapping became an important part of *Peer Gynt*. I have seen this myself several times but have not actively worked with it. The idea was that Peer’s face would be projected onto the stomachs of the other actors who were playing his life. Furthermore, we used video mapping as an artistic effect to project illusions and create the effect of a life passing through a river of memories. We made significant advances in this area, but we want to continue developing it for the *Peer Gynt* performance at Det Norske Teatret in autumn 2018.

For me, it has been exciting to see how actors can have control over some of the sound effects. It has been instrumental in shaping the characters and giving them a higher status. This can be clearly seen in the actors’ posture and movements. Their patterns of movement are assigned a clear function in the composite visual performance. Another important lesson learned in the process is that the theatre has been directed toward an environment with which we normally do not have contact. These were drawn into the artistic process early on. It has been an exciting and very inspiring experience.

Making art through technology

by Amund Ulvestad – Multimedia Artist, Musician and Composer (NO)

“YES! Wow! I think we are finally entering the twenty-first century!” the troll roared, stomping her feet joyfully on the

ground, each stomp producing thunderous, boulderlike sounds. It was her first time trying on the troll sound costume I had prepared for her – and the first time anyone at the Croatian National Theatre had ever acted with motion sensors. It was also my first time using these sensors for theatrical sound design, but the novelty of the technology had already worn off a bit (my neighbours suffered three weeks of me stomping around in my studio like a troll). Still, seeing this anything but troll-sized actress tramp about the room, hearing her test out her new stone arms and boulderlike feet, enthusiastically growing into a completely new creature before my eyes and ears, I had to agree with her: it did seem like we were entering a new era.

Technology is, in itself, nothing new. There is a clear line of technological development from the invention of the wheel to the Mars rover – a long series of ideas gradually given physical shape through human labour. The wheel. Could its inventors have imagined its impact on society? Could they envision all the purposes the wheel would fulfil and what other inventions it would facilitate? Did they ever dream of the Mars rover? Probably not. Human societies' development of the wheel has been a long process. In fact, the wheel is still being developed today. And so, it would be a mistake to think of the creation of the wheel as a singular turning point, a dramatic moment that forever changed human society. Rather, it was the other way around: our constantly changing society – our needs, our wants – created the wheel. And new needs, new wants continue to shape it today, all the way to Mars. Human culture and its relationship to technology is just that – a relationship. In which culture informs technology and vice versa.

Today our relationship to digital technology resembles the relationship our Neolithic ancestors had to the wheel.

The digital machine is, at least to most of us, something of a mystery. Like the wheel, it promises to free us from some of our burdens, to make our lives easier and more comfortable; it seeks to inject itself into our very way of living, communicating and working. And still, like the wheel to the people of the Neolithic era, it is a device whose innate properties most of us cannot easily understand and whose future potential we cannot fully grasp. This is precisely why we should interact with it.

The novelty of a new technology – its apparently magical properties – is its least interesting feature. In fact, it is only through deep exploration of a technology – i.e., by demystifying it and thereby negating its novelty – that we can make any sort of tool or machine that would have potential in an artistic context. We, as creative artists, should remember this when working with new technology: only by getting to know the technology, only by getting past its baffling newness, can we produce art with it. But how can we go about doing this?

Consider the sculpture of ancient Greece. We are used to seeing sculptures as white and clean abstractions of, for the most part, the human form. And so, their cold, ethereal whiteness became a symbol of ancient Greek culture, perhaps resonating with our notions of a classical ideal of purity. But now we know that they were all originally painted. Imagine the entire Parthenon in vivid colour: the deep blues, bright reds and shining yellows. To produce a sculpture in ancient Greece was to marry the art of chiselling stone or casting bronze with the art of painting. This begs the question: Was the underlying sculpture seen simply as a three-dimensional canvas, a shape on which the painter could produce art? Or was the sculpture seen as the true art form, the paint merely a final touch, a little

decoration? Or were they perhaps considered equally important contributions to a final sculptural 'Gesamtkunstwerk'?

Modern theatre is a similar marriage of art forms. So when an actors walk across the stage reciting a text, we must ask: Is the text their canvas, the underlying structure upon which they produce art? Or are they just a mediator? Maybe the actors themselves are a canvas, dressed as they are in a costume, surrounded by lights, smoke and scenography, and underscored, perhaps, by dramatic music or the sound of distant crows? Or is the performance of the text itself the true art form, the surrounding technological elements merely forms of decoration?

Anyone who has worked in the theatre knows that every production contains an implicit hierarchical relationship between the different art forms that come together onstage, depending on the project and its participants. While one production might be conceived solely as the traditional acting out of a script, others are explorations of specific architectural spaces, bodies or objects; others are still dramaturgically closer to a concert or a conversation or – any imaginable thing. Each of these focuses requires a different approach and organisational structure in which the most essential artistic disciplines within the given project come to the fore and lead the way.

This is especially true when exploring new and yet untested technology in an artistic context: because we do not know how it will function and what role it can play; because we cannot lean on conventions when incorporating it into our work. In short, if we really want to explore new technology, we must make it a true exploration. We must invent from scratch both a suitable work methodology and a language for communicating

what we are experiencing and where we want to go. We must make theatre through technology. How can technology tell the story? How can technology itself be theatre?

Circling back to the troll at the Croatian National Theatre, I feel optimistic. Through the staging of *Peer Gynt* here and *The King's Fair* at the Norwegian Theatre in Oslo, we have barely scratched the surface of what kinetic sound design and music can be. But the enthusiasm from the actors who are now regularly acting with the technology as well as the reactions from the audience, theatre-makers and artists from other fields bode well for a continued in-depth exploration and development of the technology. We have indeed entered the twenty-first century – and it is still young.

The Croatian National Theatre stages

Henrik Ibsen's *Peer Gynt* in Zagreb

by Ivica Buljan – Drama Director of Croatian National Theatre Zagreb (HR)

The Croatian National Theatre in Zagreb and Det Norske Theatret from Oslo created a co-production project entitled *Kinetics of Sound*. The project involved staging two national classic modernist plays at a theatre in the other nation: Henrik Ibsen's *Peer Gynt* was staged in the Croatian National Theatre (CNT) and Miroslav Krleža's *Kraljevo* (The King's Fair) in the Det Norske Theatret. Innovative audio technology was used in both projects and was developed in co-operation with electronics and computers specialists. The common goal of this project was to promote these two national theatres as

leaders of innovative technologies in the European theatre landscape and to include young audiences in the creative process as well as in the reception of classic theatre.

To enable the project in Zagreb, the Croatian National Theatre organised an OpenLab creative workshop entitled 'Zvuk Trolova' (English: 'sound of trolls') for the *Peer Gynt* production. The workshop was organised in co-operation with Radiona/Zagreb Makerspace and was held in the premises of the CNT in Zagreb on 27 October 2017. The workshop was hosted by the artists Deborah Hustić and Mitja Smrekar. Deborah Hustić is a manager and curator of the Radiona/Zagreb Makerspace association (established in 2013), which aims to connect education and production of new media and promotes innovative science and technological development in the arts. Mitja Smrekar is a Slovenian theatre and film composer who has written the music for more than 70 films and theatre productions. He is also a composer of contemporary music in which he combines real instruments with electronic sound.

During a one-day workshop, the participants learned about the different possibilities for using analogue and digital music instruments in theatrical performances. After this introduction, the participants and artists did an improv-playing session together to create sound/music for Ibsen's trolls based on the themes in Ibsen's play (i.e., on the kingdom of trolls and their mythology). This workshop was attended by University of Zagreb students from various departments, such as the Academy of Dramatic Arts, the Academy of Music, FER (the Faculty of Electrical Engineering and Computing) and the PMF (Department of Mathematics) as well as electronic and experimental music artists.

Since one of the workshop teachers was Mitja Smrekar, a Slovenian composer (who wrote the music for both the productions in Zagreb and Oslo), the participants gained insights into a concrete composing process whose result could be followed in both theatre productions. The specific task in the workshop was closely connected with the scene with trolls where a completely different philosophy of life and morality are applied, enabling the participants to use their imagination without any restraints.

This workshop linked today's geeky, hacker culture with the mythological concept of trolls, and their reflections about life and humans. This highlighted the importance of figuring out ways to keep up with the classics in modern performance, eliminating possible fears of new technologies and exploring new perspectives in theatrical productions. It was targeted individually towards the participants of the workshop, mainly to raise their interest in the new technologies in the theatre.

The workshop was the starting point of later work by Mitja Smrekar (composer) alongside the work by Amund Ulvestad (sound designer and expert on new sound technologies from Norway) who made sound costumes for the actors in the CNT production of *Peer Gynt*.

This project also helped get young audiences interested in theatre. The CNT organised an open dress rehearsal of *Peer Gynt* for the students of the University of Zagreb. Erik Ulfby, who directed the production in Zagreb, talked to the audience, briefly explaining the main motivation of this project. After the dress rehearsal, students were able to comment on the production and the technology used in it.

The CNT in Zagreb also gave a detailed report on the workshop and the process of making *Peer Gynt* on its website,

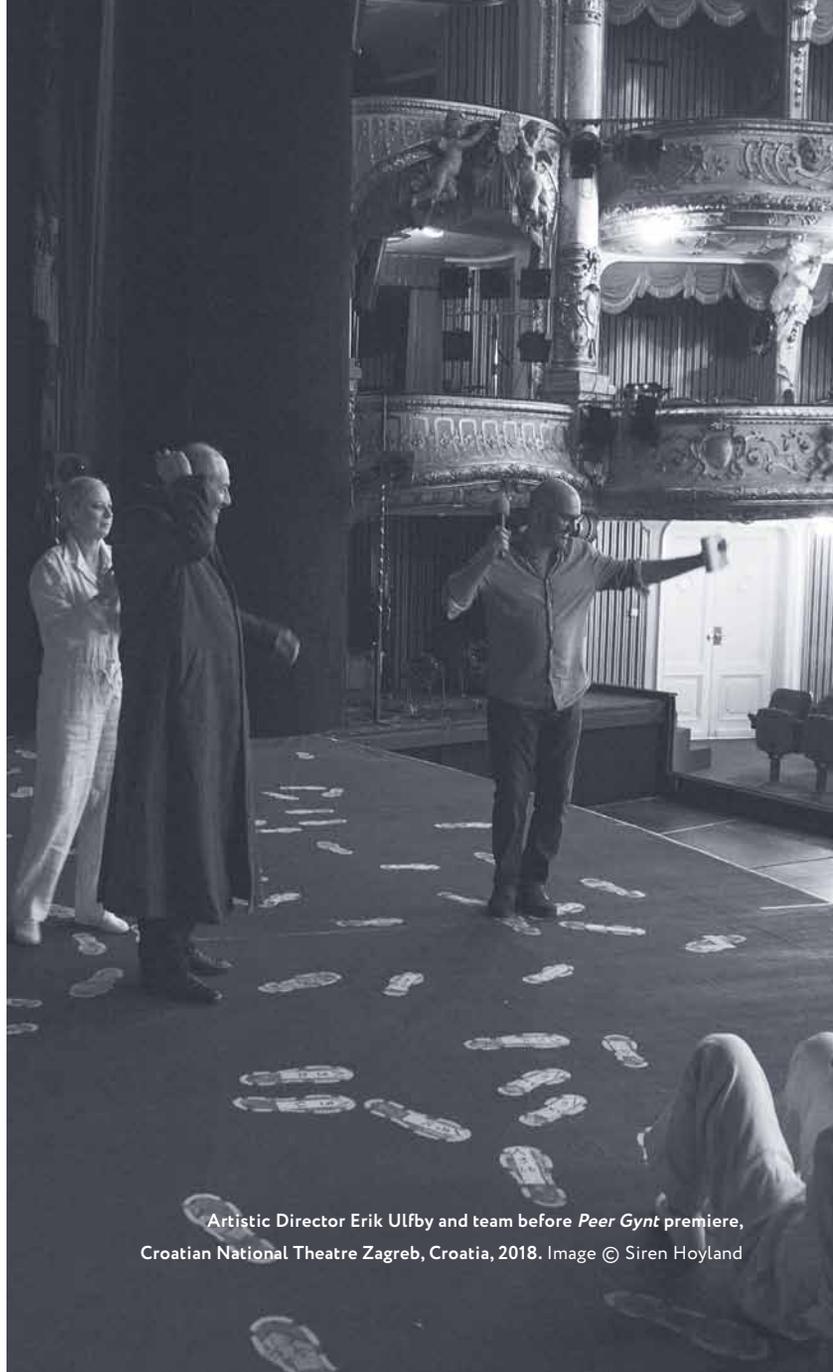
while a lot of information about the project was also published on social networks such as Facebook, Twitter and Instagram. This part of the project was not targeted individually because it included the wide range of theatre audience.

The project attracted a younger audience as well as more traditional theatre-goers who were very accepting of the new technology on the stage.

It is also worth mentioning that the reviews of *Peer Gynt* devoted much space to the new technology used in the production.

The fact that this production incorporated new technology into the play was very important for the CNT in Zagreb because it forged a connection between a more than century-old theatre institution and the technological present and future, successfully promoting the theatre art among new, young generations.

The *Kinetics of Sound* project is an excellent example of using technological innovations to enrich the artistic experience. The CNT in Zagreb will continue to develop similar projects using new technologies and co-operating with theatres in Europe.



Artistic Director Erik Ulfby and team before *Peer Gynt* premiere, Croatian National Theatre Zagreb, Croatia, 2018. Image © Siren Hoyland

Where do we go from here?

BY
MARIE LE SOURD

After the euphoria of getting a project funded by the European Commission, it does not take long for reality to set in and for all partners to be reminded of the objectives and timing of a project's phases. That said, two years was considered a very short period of time to accomplish the many activities and objectives stated by the European Theatre Lab.

For most of the theatre partners, the first ETL meeting in October 2016 in Sarajevo was characterised by a mix of excitement about touching on the issue of new technologies in their theatres and the fear of the unknown. The tension was particularly felt through the exchange with the advisory board members who put an emphasis on “not reinventing the wheel” and the need to “consider what theatre can bring to new technologies and not the other way around”.

Twenty months later in Oslo, prior to the ETC International Theatre Conference in June 2018, there was an overall appraisal of the ETL project. The general feeling then was more a combination of a sense of accomplishment (all in all the project produced seven OpenLabs, three theatre projects, two conferences in less than one year, and a dozen and a half hangout meetings) and a willingness to continue as though the ETL project were only starting then, when partners had finally got to know each other better and were more aware of the pitfalls of such experimentation formats.

Here we highlight key lessons based on eighteen months of active observation, the introduction of experts to the ETL project¹ and the feedback from the different partners, experts and professionals related to the ETL project:

- **The process:** Mistakes are part of the learning process. In that sense, the OpenLabs were interesting exercises for going outside of the theatres, meeting new media

artists, engineers and developers, and experimenting with mixed media. The basic idea was to get out of one's comfort zone, while keeping in mind the idea of what theatre can bring to the world of new technologies in terms of narratives, inspiration, relation to the audience, etc. If the format of the OpenLabs was flexible, there was increasingly a willingness to articulate them around some key features: to brainstorm, to experiment and to connect.

- **The earlier inclusion of artists, technicians, developers, etc. in the process:** All ETL partners in Oslo agreed on the same point. Namely, the need to include at an earlier stage the stakeholders of the different projects – the artists, technicians, developers, sound engineers, game designers, etc. – to make the work process go more smoothly. Such project planning helps avoid last-minute surprises on what is possible or not possible, e.g., technically and/or financially.
- **The team's involvement:** Here again, most partners in Oslo agreed on the necessity of involving their team members in the project development: the artistic direction, the finance manager, the producer, the communication manager, the technicians, the sound engineers, etc. The different ETL meetings – including the OpenLabs – saw the participation of more teams' members than is usually the case in European cooperation projects when one or two persons can be assigned to represent each partner organisation.
- **The need to create new job positions:** A few advisers of the ETL project saw the need for an intermediary position at theatres, for example, a digital dramaturge or

digital producer. This person could encourage contacts, exchange and coworking sessions from the start of the project and more generally to make digital embedded in the theatre organisations, both as a process and as a creative format.

- **The technology cost:** This fact was highlighted at the Sarajevo kick-off meeting. Costs are too often underestimated for such projects and technical support is not well-defined enough. As previously mentioned, one of the ways to tackle this challenge is to plan the process as much as possible in advance, to include all interested parties at an early stage and, of course, to more systematically involve technical team members (both from the theatres and outsourced).
- **The experience for the audience:** Echoing the importance of the added value of theatre practices to the world of new technologies, the audience's experience shall remain theatre based. As stated by Joris Weijdom: "Audiences should leave talking about the story, not the technology employed in telling it. Make the story interesting enough that they are still thinking about it a week later"².
- **The holistic approach:** If the approach of the European Theatre Lab – which is centred on a) the incorporation of new technologies in artistic creation onstage, b) new forms of relationships/communication with the audience and c) testing new technological devices on stage – looks very ambitious at first glance, it turned out to be a relevant methodological basis for the theatres throughout the ETL project. They were able to explore through their projects one or more of these aspects

while relating it/them to the key success factors of such new media-based projects (process focus and planning, team involvement, financial targeted investment, etc.)

- **The long-term engagement:** The final ETL meeting in Oslo clearly showed a willingness to engage more on the issue of new technologies in the long-term perspective, both at theatre and network level. For the ETC network, the idea is, in particular, to include sessions on new technologies (be it at a technical, artistic and/or communication level) at future conferences and to eventually diffuse such thoughts and discussions in other activities (ETC Artist Residency Programme, Professional Training Programme, etc.).
- **The need for advocacy:** Linked to the question of long-term engagement, the desire for better and targeted support for theatres in the area of new technologies has been strongly felt. Hence the idea from the ETC network, the coordinator of this project, to work on policy recommendations involving not only funders and policymakers, but also theatres and the sector at large³.

As mentioned by Clarisse Bardiot at the ETC conference in Karlsruhe in April 2017, which focused on new technologies, the innovation of the ETL project lies less in the topic that these theatres are taking up but more in the fact that these theatres are embracing the issue as national institutions/repertoire theatres. The innovation can therefore be less in the exploration of new forms of technologies but the adapted use of existing technologies.

At the last ETL partners' meeting in Oslo, there was a general feeling among participants that 'our work has only just

begun'. Well, this could be the case, since dates have already been set for the next ETC conferences as well as the IMPACT Festival⁴, hosted by Théâtre de Liège in November 2018.

- ¹ Dr Clarisse Bardiot: <https://www.linkedin.com/in/clarissebardiot/> and the researcher, Joris Weijdom: <https://www.linkedin.com/in/jorisweijdom>.
- ² Mixed reality and the theatre of the future, Arts and New Technologies: <https://www.ietm.org/en/publications/fresh-perspectives-6-mixed-reality-and-the-theatre-of-the-future> (p. 60), a publication by IETM, written by Joris Weijdom, who was also present at the Oslo Conference in June 2018.
- ³ See enclosed recommendations: *Drama goes digital vs Theatre invades digital*.
- ⁴ International Meeting in Performing Arts & Creative Technologies: <http://theatredeliège.be/impact/>.



Marie Le Sourd - Secretary General of On the Move, Brussels, Belgium On the Move provides information about cultural mobility opportunities and funding for mobile artists and cultural professionals. It also co-publishes reports, online toolkits, evaluations as well as facilitates training and information-session on cultural mobility issues. Prior to her work experience with On the Move, Marie Le Sourd oversaw the cultural programmes of the Asia-Europe Foundation (1999-2006) and then, for five years, directed the French Cultural Centre in Yogyakarta-Indonesia.

ETL CREATIVE AND TECHNICAL EUROPEAN TEAMS

Stage Your City

Artistic concept & digital dramaturgy:

Bruno Cohen, Michel Didym, Jan Linders, Sarah Stührenberg, Nutsa Burjanadze

Stage direction: Michel Didym, Sarah Steinfeld

Text: Marie Dilasser, Lasha Bugadze, Konstantin Küspert, Frédéric Sonntag, Michel Didym, Bruno Cohen

With: Julia Gay, Nadine Ledru, Emeline Tournon, Klaus Cofalka-Adami, Benoît Fourchard, Bruno Ricci, Yves Störper, Christian Ruud Kallum, Espen Reboli Bjerke, Ragnhild Meling Enoksen, Eirun Skår Myrvang, Valeri Korshia, Eka Nizharadze, Nikoloz Tavadze, Zaza Iakashvili, Nato Kakhidze, Jonathan Bruckmeier, Constantin Petry, Simon Salomon

Scenography, media, app design:

Chris Ziegler

Technical direction: Didier Billon

Technical coordination: Data Dvalishvili

Video: Moritz Büchner, Andy Koch

Sound design: Damon Lee

Artistic collaboration: Bernd Lintermann, Jan Gerigk (ZKM Zentrum für Künste und Medien)

App development & programming:

Wandio Development Team

Project management: Sarah McKee, Nutsa Burjanadze, Sarah Stührenberg, Agathe Cordray, Maren Dey, Teresa Pfaud

Partner: ZKM | Zentrum für Kunst und Medien Karlsruhe

Coproduction: CDN Nancy Lorraine La Manufacture (FR), Badisches Staatstheater Karlsruhe (DE), Kote Marjanishvili State Drama Theatre Tbilisi (GE)

Idiomatic

Text & stage direction:

Transquiquennal & Marie Henry

With: George-Albert Costea (RO), Anna Galy (BE), Georg Peetz (DE), Elisabeth Sand (NO), Andrej Zalesjak (SI)

Stage concept: Transquiquennal & Marie Szersnovicz

Production: Transquiquennal

Coproduction: Théâtre de Liège, DC&J Création, Teatrul National "Marin Sorescu" Craiova, Det Norske Teatret Oslo, Slovensko Narodno Gledališče Nova Gorica, Théâtre de Choisy-le-Roi, scène conventionné pour la diversité linguistique

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Researcher INCESA (RO): Florina Besnea

Research fellow INCESA (RO): Razvan Julian

Research direction CINETIC (RO): Alexandru Berceanu

Kraljevo (The King's Fair)

by Miroslav Krleža

Stage direction: Ivica Buljan

Composer: Mitja Vrhovnik Smrekar

Kinetic sound design: Amund Ulvestad

Scenographer: Sven Jonke

Costume design: Ana Savić Gecan

Dramaturgy: Anders Hasmo

Head of the Lab team: Deborah Hustić, Simen Scharning, Anders Hasmo, Carl Morten Amundsen

Partners: Department of Music and Sound, University of Trondheim

With: Oddgeir Thune, Amell Basic, Charlotte Frogner, Hilde Olausson, Geir Kvarme, Pål Christian Eggen, Joachim Rafaelsen, Ellen Birgitte Winther, Frode Winther, Thea Borring Lande

Coproduct.: Det Norske Teatret Oslo (NO), Croatian National Theatre Zagreb (HR)

Peer Gynt by Henrik Ibsen

Stage direction: Erik Ulfsby

Composer: Mitja Vrhovnik Smrekar

Kinetic sound design: Amund Ulvestad

Set design: Arne Nøst

Costume design: Ingrid Nylander, Sanja Ivić

Video designer: Reidar Richardsen

Choreographer: Belinda Braza

Dramaturgy: Carl Morten Amundsen

Head of the Lab team:

Simen Scharning, Anders Hasmo, Carl Morten Amundsen

Partners: Department of Music and Sound, University of Trondheim

With: Siniša Popović, Alma Prica, Silvio Vovk, Slavko Juraga, Ivan Colarić, Luka Dragić, Filip Vidović, Ksenija Marinković, Luca Anić, Nina Viočić, Lana Barić, Ivana Boban, Vanja Matujec

Coproduct.: Det Norske Teatret Oslo (NO), Croatian National Theatre Zagreb (HR)

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Founded in 1988, the European Theatre Convention promotes European theatre as a vital social platform for dialogue, democracy and interaction that responds to, reflects and engages with today's diverse audiences and changing societies. ETC fosters a socially-engaged, inclusive notion of theatre that brings Europe's social, linguistic and cultural heritage to audiences and communities everywhere. As the largest network of public theatres in Europe, it has more than forty European theatre members from over twenty countries, reflecting the diversity of Europe's vibrant cultural sector.

In line with this mission, the ETC spearheaded the European Theatre Lab to drive change in the areas of audience development via digital means by supporting open exchange for European citizens across digital and physical, cultural, economic and linguistic boundaries.

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EUROPEAN THEATRE LAB

DRAMA GOES DIGITAL

The digital shift changes how we create, share and monetise content, including theatrical works. European theatre increases civic engagement by bringing theatre to new audiences and sectors. New developments in digital theatre and technologies can break down barriers, encourage dialogue and help Europe's rich cultural tradition thrive.

Digital theatre. A Casebook is a publication by the European Theatre Convention, Europe's network of public theatres. It presents findings and reflections for the creative community based on the two-year project *European Theatre Lab: Drama goes digital*, an artistic and international cross-sectoral collaboration between major European public theatres and scientific institutions.

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