

UNBORN0X9



UNBORNOX9

by Future Baby Production

AN INITIATIVE BY SHU LEA CHEANG AND EWEN CHARDRONNET

AN ANTRE-PEAUX/URSULAB PRODUCTION IN ASSOCIATION WITH MAKERY, LABOMEDIA, ECHOPEN

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UNBORNOX9 is an art installation and performance questioning the development of fetuses in artificial wombs outside of the body (ectogenesis) and the cyborg future of parenting. It explores the role of obstetric science in the increasingly technological experience of human reproduction, speculating on new types of bonding that may emerge with artificial wombs. Here, pregnancy is integrated into a high-tech vision of the body as a biological component of a cybernetic communication system.

In collaboration with EchOpen living lab, which is developing an open-source ultrasound echo-stethoscope for smartphone, Future Baby Production have created a multi-interface performance. This centres around three artificial wombs, and hacks inaudible ultrasonic waves from the portable ultrasound device to produce an audiovisual and ultrasonic score that is interpreted by performers and musicians.

<http://unborn0x9.labomedia.org>

Future Baby Production

> Future Baby Production is an initiative by Shu Lea Cheang and Ewen Chardronnet. EchOpen at Hotel-Dieu hospital in Paris is an open and collaborative living lab that aims to design a functional low-cost, open source, portable echo-stethoscope ultrasound device. In 2016, echOpen invited Cheang and Chardronnet to collaborate and contribute to the community project through their practices as artist/authors. This opportunity led to the UNBORNOX9 project. Soon a large team of interested artists and cultural facilitators joined the initiative and started working on the various dimensions of the hacking performance project. The Future Baby Production collective name represents the common group effort to raise issues such as the possible impact of low cost echo-stethoscopy on *global health* issues, questions of access to healthcare and motherhood, ectogenesis and the technicization of reproduction, and the exchange between science-fiction imaginary and science in the making at large.

Shu Lea Cheang

> An artist and filmmaker working with various art mediums and film formats, including installation, performance, net art, public art, video installation, feature length film and mobile web serial. Her artistic pursuits demonstrates an imagination and desire to cross the boundaries of society, geography, politics, and economic structure, thus redefining genders, roles, mechanisms, etc. As a net art pioneer, her artwork BRANDON (1998-1999) was the first web art commissioned and collected by the Solomon R. Guggenheim Museum in New York. From homesteading cyberspace in the 90s to her current retreat to post-netcrash BioNet zone, Cheang takes on viral love and bio hacking in her current cycle of works. Her brand new work 3x3x6, a mixed media installation representing Taiwan, was exhibited at Venice Biennale 2019. <http://mauvaiscontact.info/>

Ewen Chardronnet

> An artist, author, journalist, project manager and curator from France. Chardronnet is editor in chief of the web magazine Makers.info and writes about citizen science, hacker/maker culture and art & science collaborations. Since the early 1990s, he has participated in many artistic endeavours and contributed essays to numerous publications. Chardronnet has worked as a consultant and served on boards and committees in the field of art and technology. He has been a guest curator and art director for festivals and art & technology events. In 2016 he released a book on the history of the foundation of the American space program between 1935 and 1955 (Mojave Epiphany, Inculte, march 2016). Chardronnet is co-founder of the Laboratory Planet collective & journal (laboratoryplanet.org) and of the current Aliens in Green project together with Bureau d'études and Špela Petric. <https://www.ewenchardronnet.com/>

SUMMARY OF THE PROJECT

UNBORNOX9 is a hacking performance questioning ectogenesis and the cyborg future of parenting. As an art installation and performance, it brings together an aesthetic and a science-fiction imaginary around obstetrics science in the making and technicization of reproduction and the new types of bonding and increased interactions raised by the emergence of artificial wombs. In collaboration with the echOpen living lab, UNBORNOX9 'forks' the prototype echo-stethoscope into a creative tool, converting inaudible ultrasonic waves into an audiovisual and ultrasonic emotional score that can be further interpreted by performers and musicians. The performance is a culmination of workshops, interviews and participatory reading groups exploring modern typologies of parenthood. Future Baby Production are currently in the process of sourcing hardware and software for haptic tools (sensors, controllers and signal processors), designing and fabricating three sets of artificial wombs and developing pure data patch software to expand the soundscape for its performance orchestration.

BACKGROUND

Ectogenesis, the gestation of a test tube baby out of the body in an artificial womb, poses different ethical challenges: end of pregnancy but also the possible end of the privileged relationship between mother and child; complete equality of life between women and men; the nature of the emotional bonds changed by the process of gestation in a mechanic device; evolution of social roles in a society where sexuality and reproduction are separated; transformation of the notions of maternity and paternity, of the couple and the family; development of same-sex parenting; risk of a new form of commodification of the human body.

The first evocation of a possible ectogenesis is attributed to British biologist and geneticist John Haldane who developed the idea of a device that could enable extracorporeal pregnancy for mammals: the growth of an embryo and then fetus outside the body of a female organism.

In Brave New World published in 1932, Aldous Huxley takes up Haldane's idea. In his novel, Huxley announces a world where babies are made in test tubes, where the word «parent» has become obscene and banned since the appearance of ectogenesis has put an end to «viviparous reproduction». In October 2014 for the first time, a healthy baby was born to a uterine transplant recipient in Sweden, following an operation led by Dr. Brännström, Professor of Obstetrics and Gynaecology at the University of Gothenburg. In April 2017 at the Children's Hospital of Philadelphia, an extremely premature lamb was kept alive in a fluid filled artificial uterus for four weeks. In 2018-2019, the Eindhoven University of Technology in the Netherlands started developing artificial womb "biobags" for human premature babies with the support of the European Union Horizon 2020 programme. They hope to have the first prototype within five years.

The common vision of pregnancy has been increasingly challenged by the evolution of techno-medicine in these recent experiments. Responding to this context, the collective Future Baby Production began to investigate and conceptualise the project UNBORNOX9 (encompassing stillbirth at 0 months, to the complete birth cycle of 9 months). Pregnancy is integrated into a high-tech vision of the body as a biotic component or cybernetic communication system. Treating a fetus as if it were outside a woman's body, to make it visible, is a political act.

THE BIRTH OF FUTURE BABY PRODUCTION

Ultrasound technology, originally developed for sonar detectors used in submarine warfare, was introduced to obstetric practice in the early 1960s. Making the intimate interior of a women's body visible, it has an embedded biopolitical dimension. Situated in a near-future context of artificial or transplanted uterus pregnancies, UNBORNOX9 speculates on the possibility of new types of bonds with the unborn child.

Following research into ectogenesis, pregnancy typologies and the topics of the «Cyborg Baby» advanced in the 1980s by philosopher Donna Haraway in the wake of her Cyborg Manifesto, artists contributing to this project formalised their collective work under the name 'Future Baby Production'.

In 2017-2018, workshops and coding sessions held at Labomedia (Orleans, France) resulted in the following scenarios exploring different pregnancy typologies:

- (01) pro-life motherhood (religious, anti-abortion, anti-contraception...)
- (02) pro-choice motherhood (abortion, pill, artificial insemination...)
- (03) law-enforced motherhood (when abortion is made illegal)
- (04) subversive motherhood (pro-sex feminism and gender queer parenting)
- (05) transsex parenthood (trans men, women and non-binary individuals)
- (06) denied pregnancy (refuse to believe)
- (07) reject pregnancy (political reasoning not to increase population)
- (08) unaware pregnancy (imposed by social conditions - sex workers, drug users)
- (09) false pregnancy, pseudocyesis
- (10) surrogate motherhood (hired motherhood, social work force)
- (11) pregnancy after uterine transplantation (cis/trans)
- (12) ectogenesis, the artificial wombs.

In 2017, Blade Runner 2049 was released and raised concerns around the possibility of reproduction between replicants and humans. In working towards the speculative future of reproduction, UNBORN0X9 aims for revisions and reconstruction between science and fiction.

DESIGNING FETAL PHANTOMS

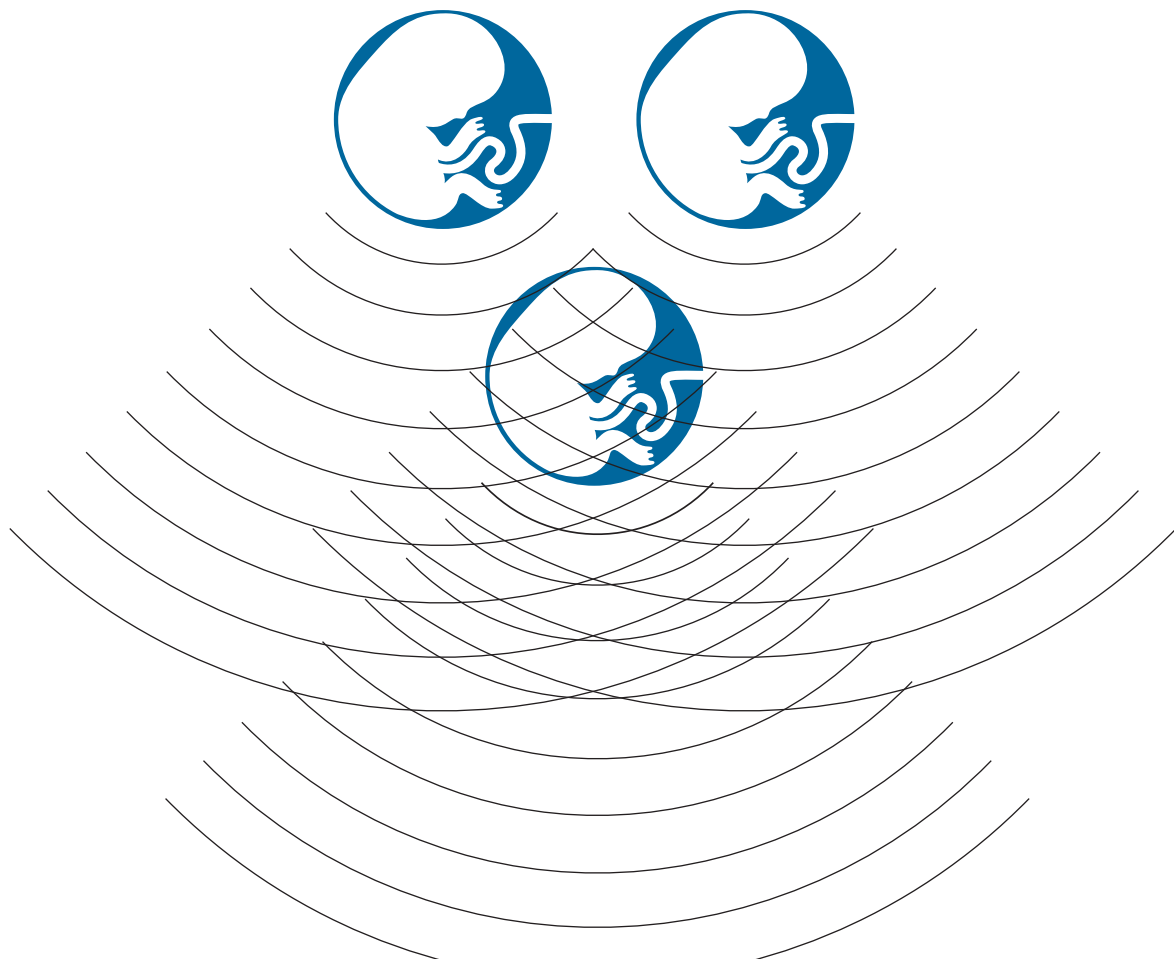
In 2016 Future Baby Production started working with a copy of the echOpen source code to develop an echOpen 'fork' enabling them to transform ultrasound data into sound data. They came across «fetal phantoms», training devices for obstetricians and sonographers. Providing a complete fetal model suspended in a non-echogenic amniotic fluid environment, the devices enable high-quality, realistic imaging for 2D and 3D ultrasound applications. The aesthetic of these devices, involving models of ultra-realistic newborns, elicits a vision between an artificial sci-fi uterus and a stillborn, or 'unborn', baby. Floating in formalin as if it were in a museum of medical history, the fetal phantom reinforces the cyborg dimension of UNBORN0x9 production.

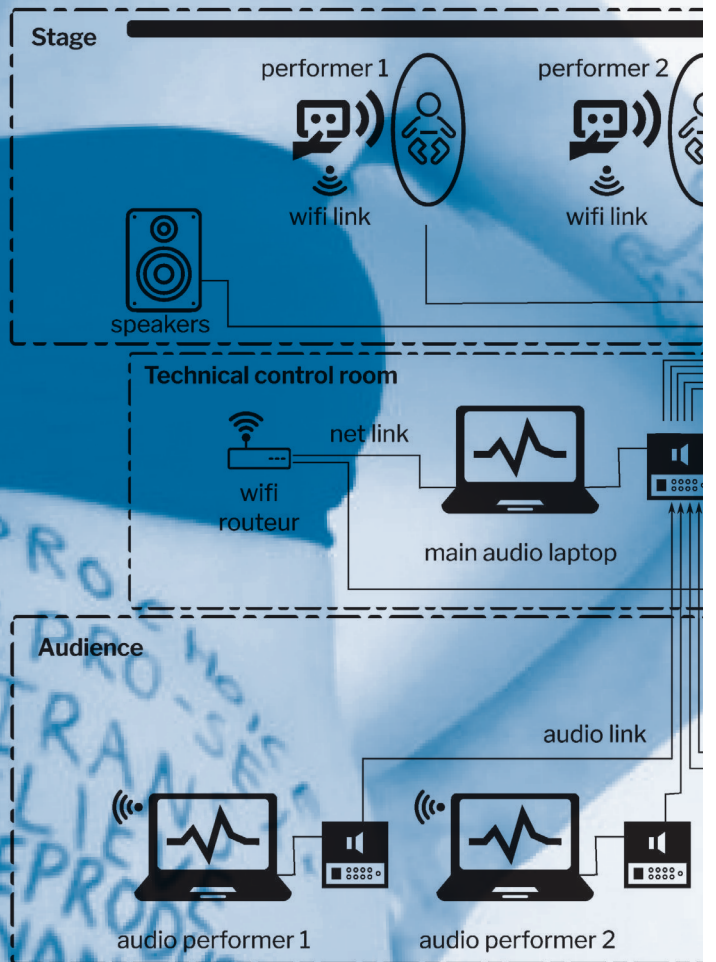
THE PERFORMANCE AND INSTALLATION

Three incubators housing «artificial uteruses» that incorporate fetal phantoms will be the visual focal point for the performance. Umbilical-cord like tubes emanating from the incubators will connect to speakers projecting the converted ultra-sonicscape. «Mothered» by three performers, the fetal phantoms will be scanned using open hardware echo-stethoscopes that are connected with programmed patch software, enabling the conversion and interpretation of ultrasound into audible signals and glitched scanned images. An additional soundtrack composed from

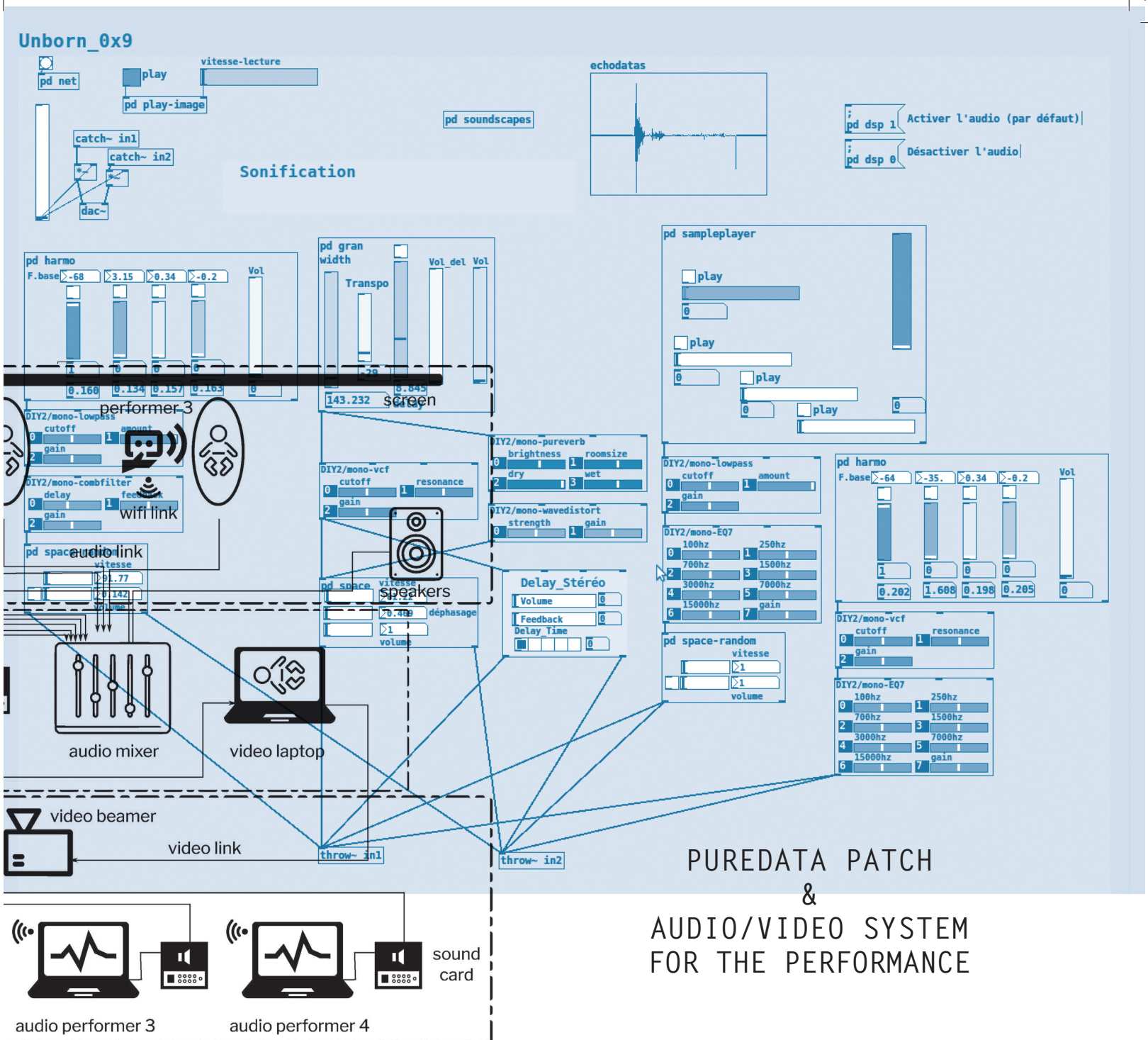
recordings of interviews with volunteers about pregnancy typologies will be mixed into the sound performance.

As the visualization and sonification of ultrasound data prompts augmented interaction, the UNBORNOX9 performance envisions the orchestration of ultrasound frequencies to open new cyborg perspectives and new channels of communication.





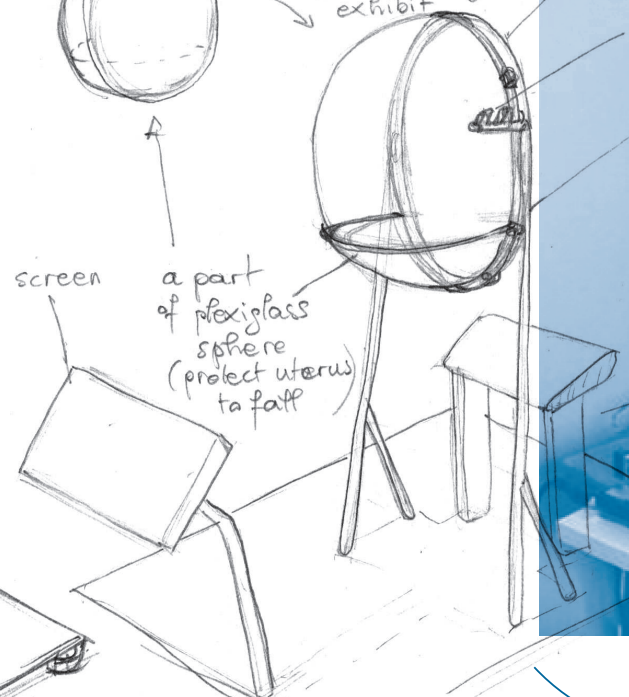
1. FORCED BY LAW
2. PROHIBITION
3. REFUSAL TO BELIEVE
4. TRANSMISSION
5. PREJUDICE
6. PREGNANT
7. UNCONSCIOUS
8. PSEUDOCYCLIC
9. SURROGACY
10. UTERINE
11. TRANSPLANTATION
12. ECTOGENESIS



- SCENARIO WIKI : <https://ressources.labomedia.org/unborn>
- TECHNIC WIKI : https://ressources.labomedia.org/echopen_technique/
- OPEN SOURCE BODY : <http://www.opensourcebody.eu/>
- MAKERY REPORT : <http://www.makery.info/en/2017/04/11/shu-lea-cheang-et-echopen.../>
- ECHOPEN : <http://www.echopen.org/>
- LABOMEDIA : <https://labomedia.org>
- BANDITS-MAGES : <http://www.bandits-mages.com>
- ANTRE-PEAUX : <http://emmetrop.fr/>



Keep this part for closed the uterus during exhibit



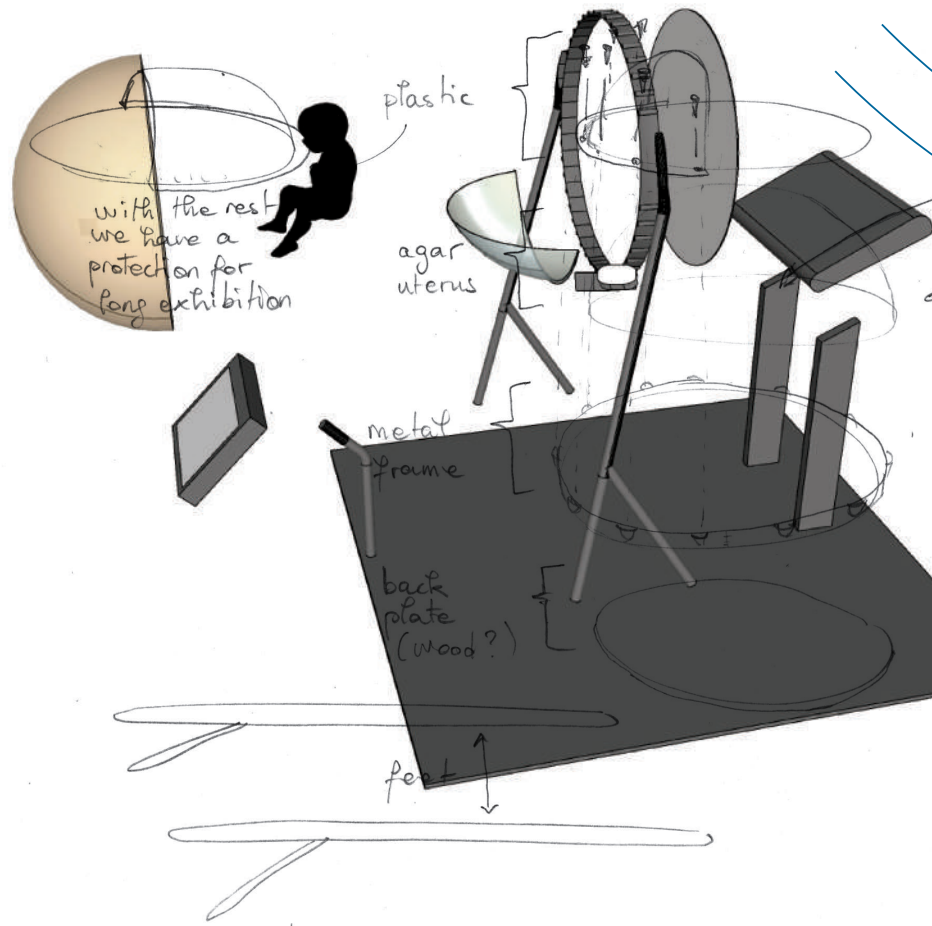
screen

a part of plexiglass sphere (protect uterus) to fall

a metal for pro

sup (in

we can make feet we need to connect together the stool for have a better



with the rest we have a protection for long exhibition

plastic

agar uterus

metal frame

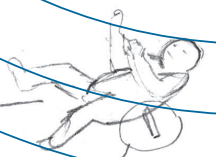
back plate (wood?)

feet

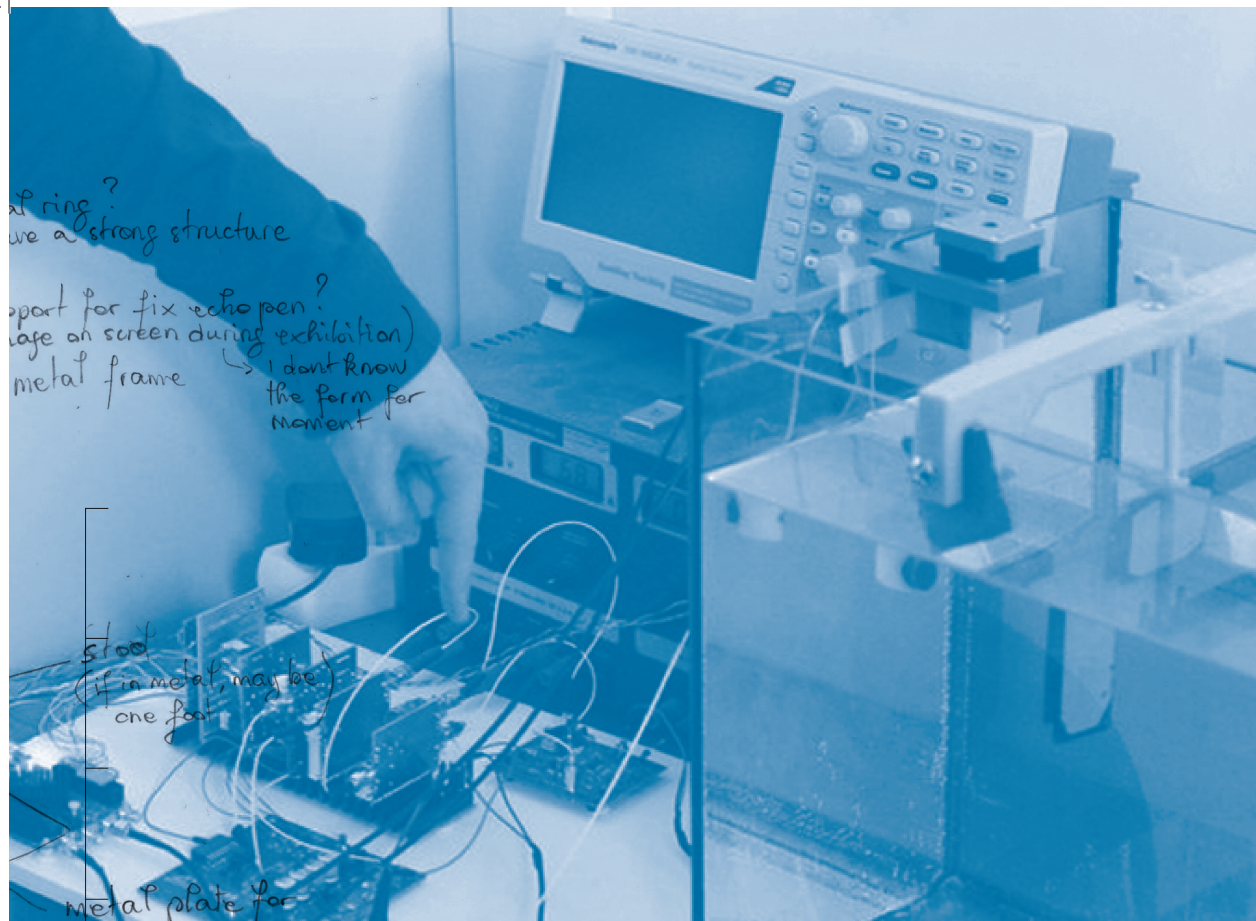
use for fix the baby during agar

WE CANT MOVE THE BABY CAUSE AGAR IS SOLID NOT LIQUID

for move baby we need to make a hermetic sphere



prot



at ring?
we a strong structure

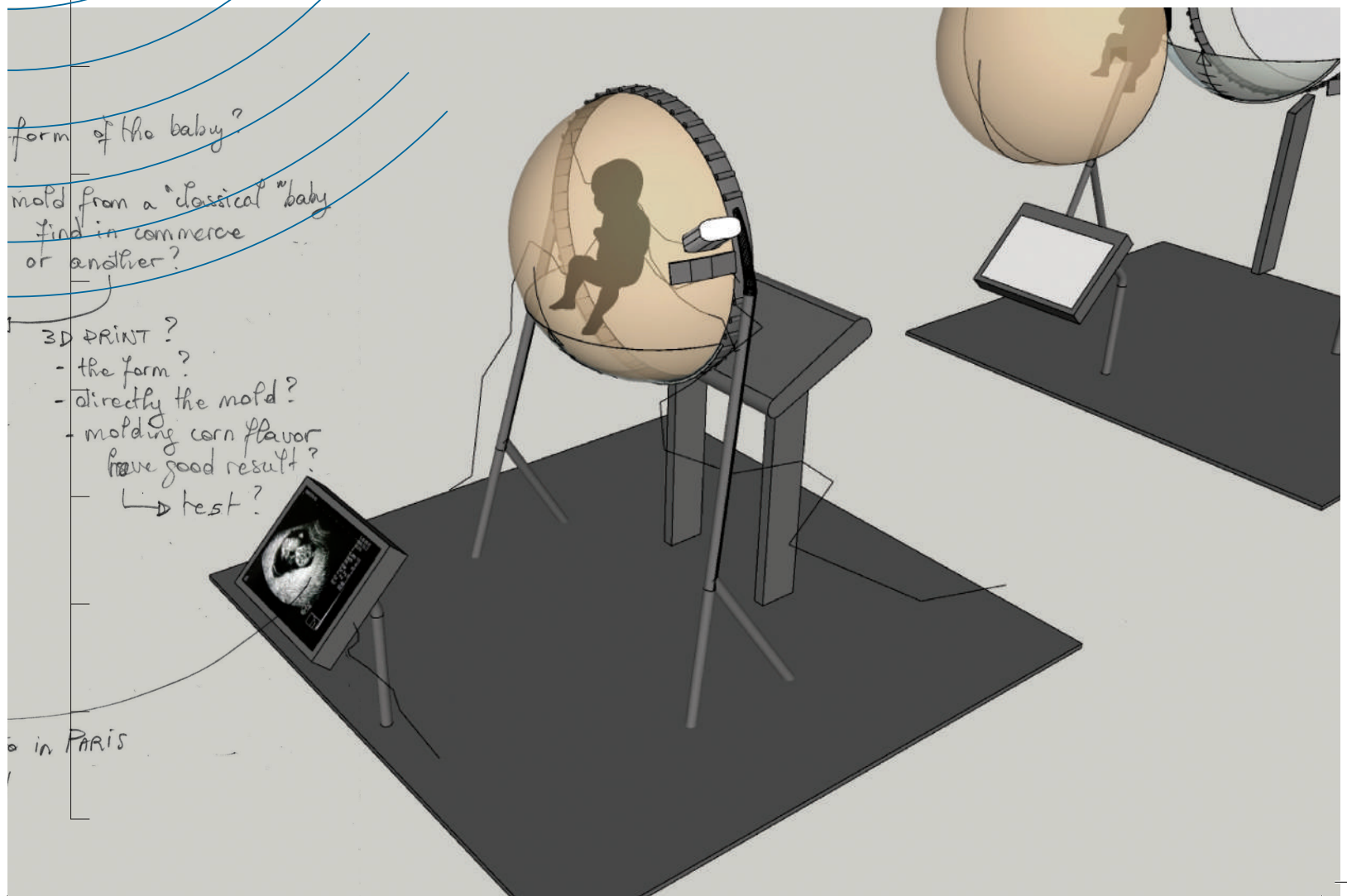
support for fix & choppen?
stage on screen during exhibition)
metal frame → I dont know the form for moment

stool
(if in metal, may be)
one foot

metal plate for
guarantor of such
stability

but
st & fix
st + uterus
stability during performance

ONGOING PROTOTYPE

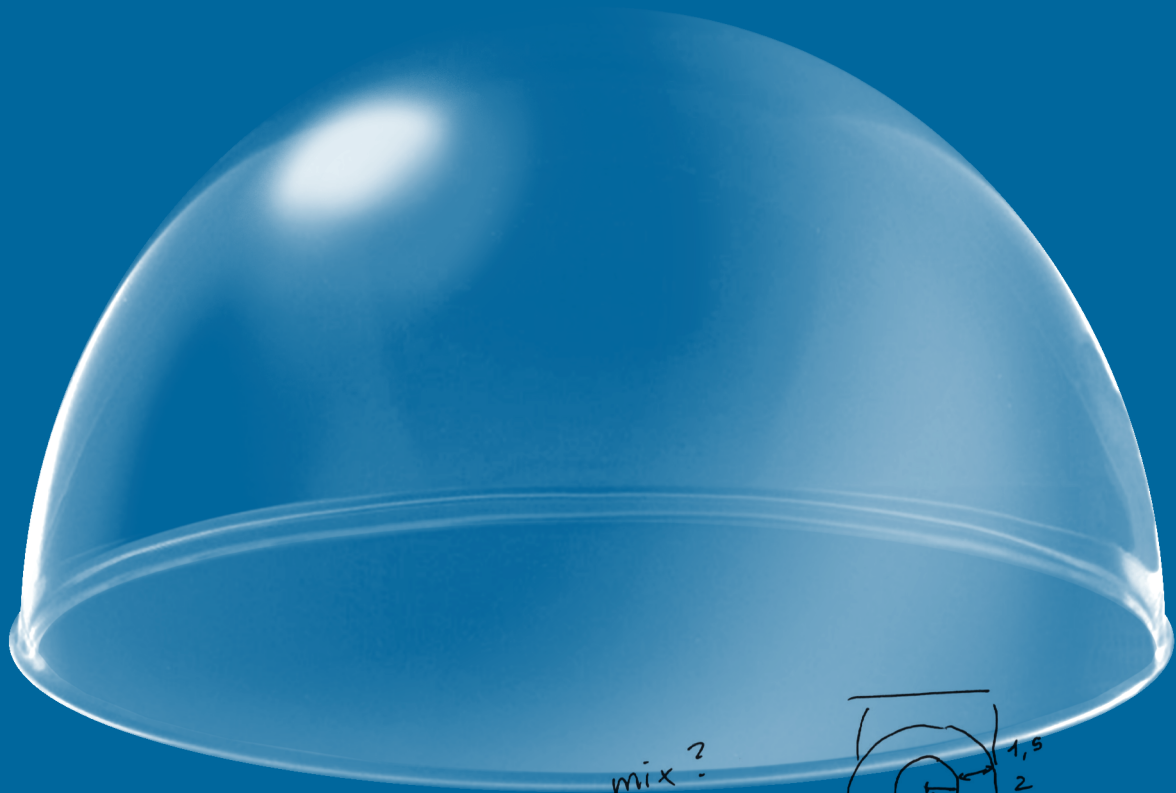


form of the baby?

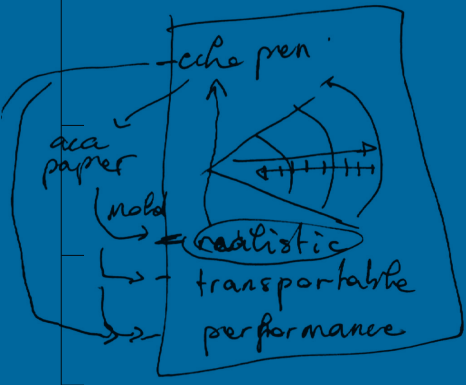
mold from a "classical" baby
find in commerce
or another?

- 3D PRINT ?
- the form ?
 - directly the mold ?
 - molding corn flavor
have good result ?
 - ↳ test ?

o in PARIS



Mix ?

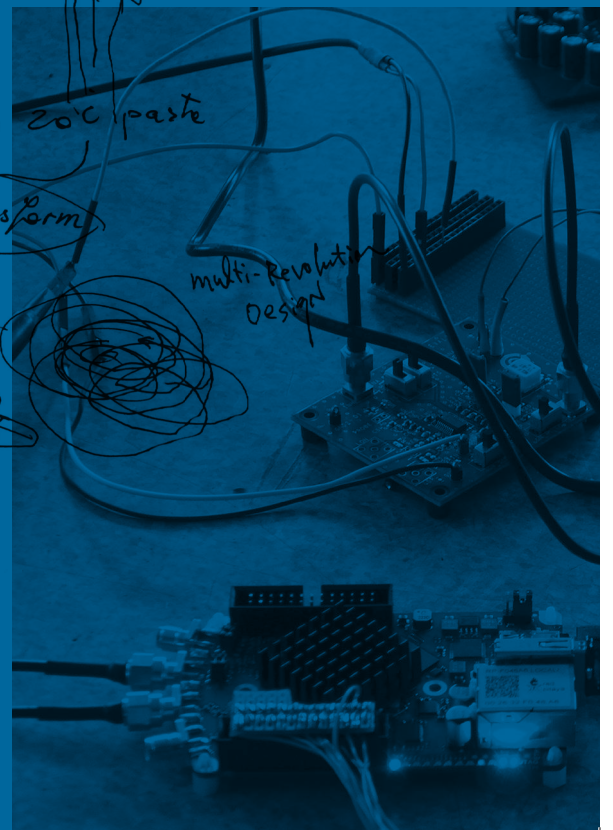
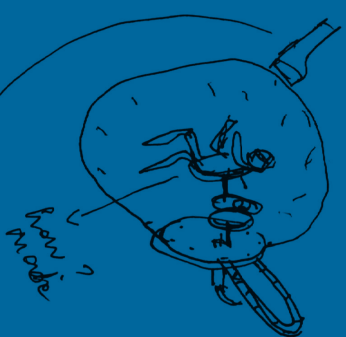


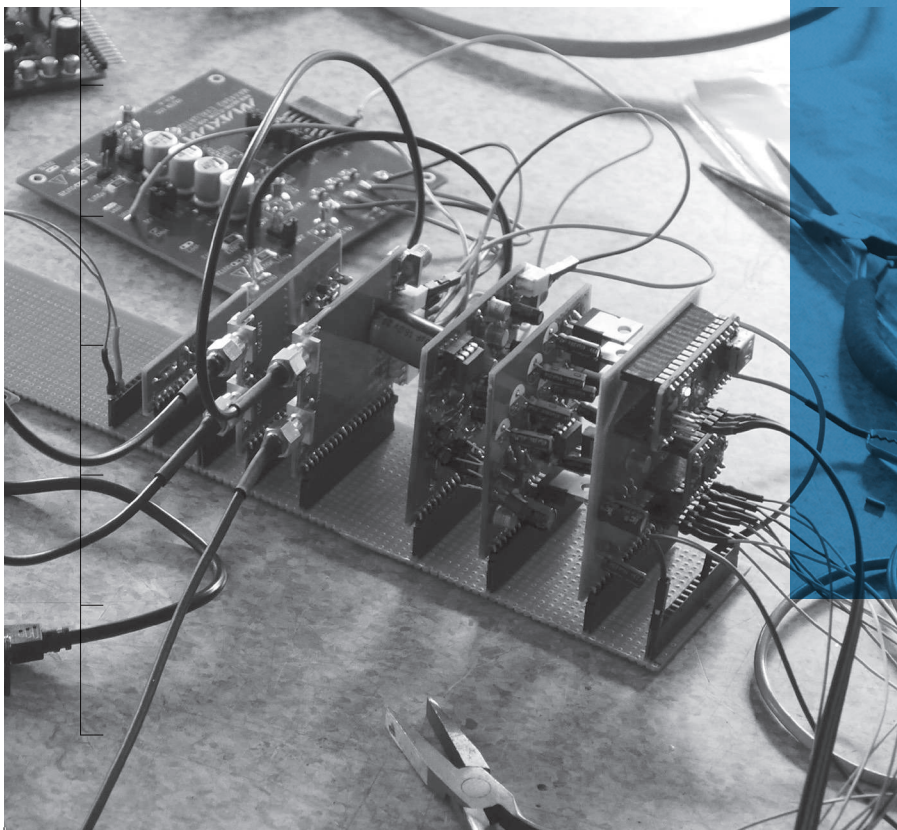
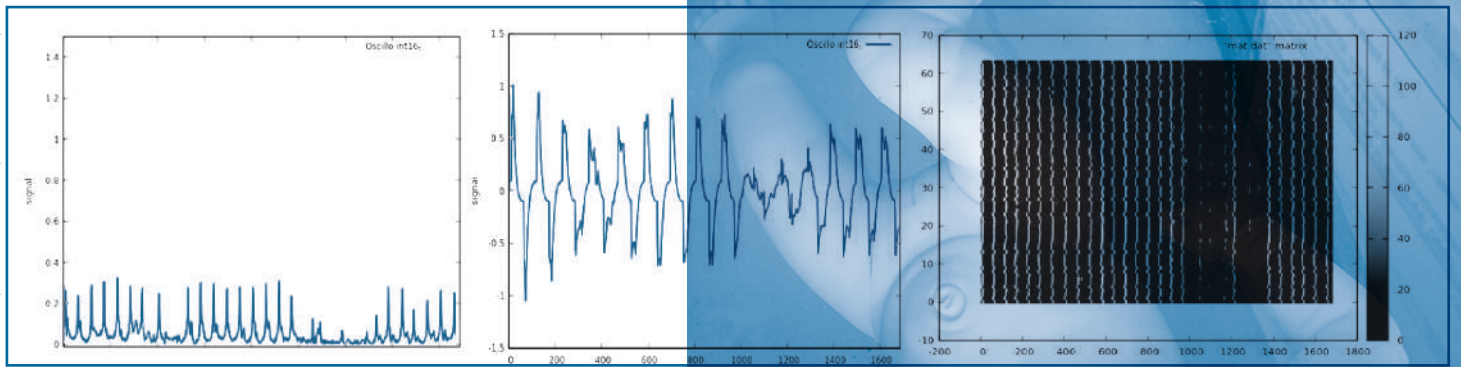
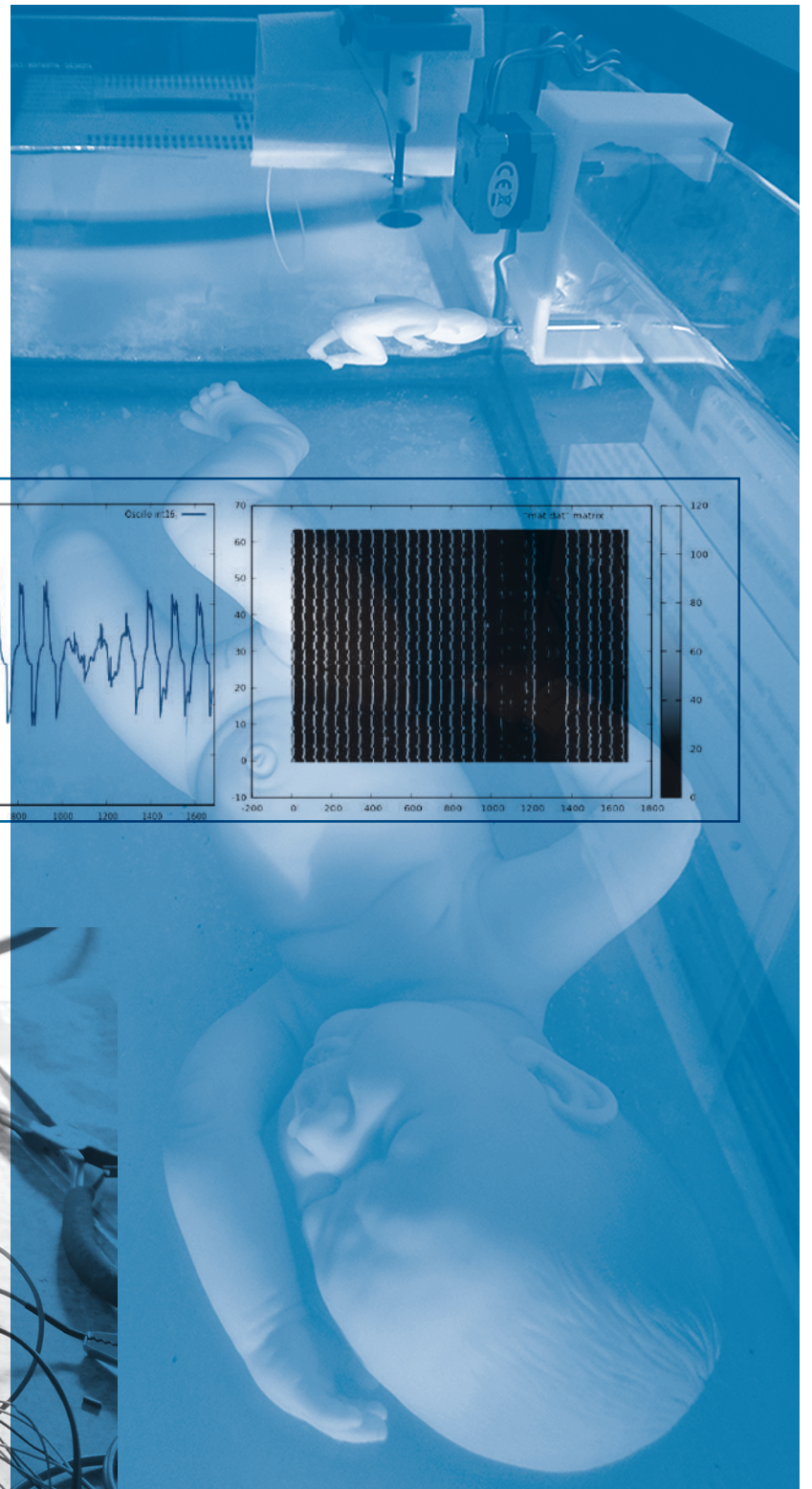
FABRICATION IN PROGRESS

80°C → 40°C → 20°C paste

transform

Patex ?
demander a Jerome
scanner dans les airs





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soundscape

space-random

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sonification

