

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, who 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. In 2016 the echOpen fablab of Hôtel-Dieu hospital in Paris, an open and collaborative project and community fablab with the aim of designing a functional low-cost and open source echo-stethoscope (portable ultrasound device), invited the two artists/authors to collaborate and contribute to the community project through artistic practice and skills. 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 back-and-forth 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 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, bio hack 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. He's editor in chief of the web magazine Makery.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. He has worked as a consultant and served on boards and committees in the field of art and technology. He has been a guest curator or 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 Epiphanie, Inculte, march 2016). Ewen 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 fablab who engages in the development of open source and low cost echo-stethoscope with smartphone application, UNBORNOX9 forks the prototype of a creative tool and hacks the inaudible ultrasonic waves in a sonic conversion that allows the interpretation of an audiovisual and ultrasonic emotional score by performers and musicians. The performance prepares itself with workshops, interviews and participatory reading groups on modern typologies of parenthood. As a project in development, we seek production support for the hardware and software consolidation of 3 haptic tools (encapsulation of sensors, controllers and signal processing), the design and fabrication of 3 “artificial wombs” and the further elaboration using pure data software for multimedia performance orchestration.

BACKGROUND

Ectogenesis, considered as a test tube baby fully developed in an out-of-the-body gestation, 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 for a child whose gestation took place in a machinic device; evolution of mores in a society where sexuality and reproduction are separated; transformation of the notions of maternity and paternity, of couple and of 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 the British biologist and geneticist John Haldane who elaborated the project of a device allowing, in mammals, extracorporeal pregnancy, the growth of an embryo and then a fetus outside the body of a female organism.

In *The Brave New World* published in 1932, Aldous Huxley takes up the idea of Haldane. In his novel, Aldous 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 that puts an end to "viviparous reproduction". In October 2014, it was announced that, for the first time, a healthy baby had been born to a uterine transplant recipient in Sweden, in 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 have been kept alive in a fluid filled artificial uterus for four weeks. In 2018-2019, the Eindhoven University of Technology in Netherlands started developing artificial womb “biobags” for human premature babies with the support of EU Horizon 2020 program, hoping 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. In this context, our artists collective, Future Baby Production, started to investigate and conceptualize the UNBORNOX9 (from still born of 0 month to 9 month complete cycle). Pregnancy is integrated into a high-tech vision of the body as a biotic component or cybernetic communication system. In 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 is a technology that originated in sonar detectors for submarine warfare and which was introduced in obstetric practice in the early 1960s. Showing to the outside something that was previously in the realm of the intimacy of women's body ultrasound has embedded a biopolitical dimension. In the near-future context of artificial or transplanted uterus pregnancies, UNBORNOX9 aims to speculate on the possibility to create new types of bond with the child-to-be-born.

The various pieces of information the collective collected on ectogenesis, together with a lot of research on pregnancy typologies and the "Cyborg Baby" issue advanced in the 1980s by philosopher Donna Haraway in the wake of her *Cyborg Manifesto*, led the artists to formalize a new collective name, the “Future Baby Production” collective.

Between year 2017-2018, workshops and software coding sessions were held at Labomedia (Orléans, France) which led to the following scenario on 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 - sexworkers, 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.

While the collective started working on this project, the sequel Blade Runner 2049 was released in which the possible reproduction between replicants and humans caused alarming concerns. In working towards the speculative future of reproduction, the development of UNBORN0X9 revises a construct between science and fiction.

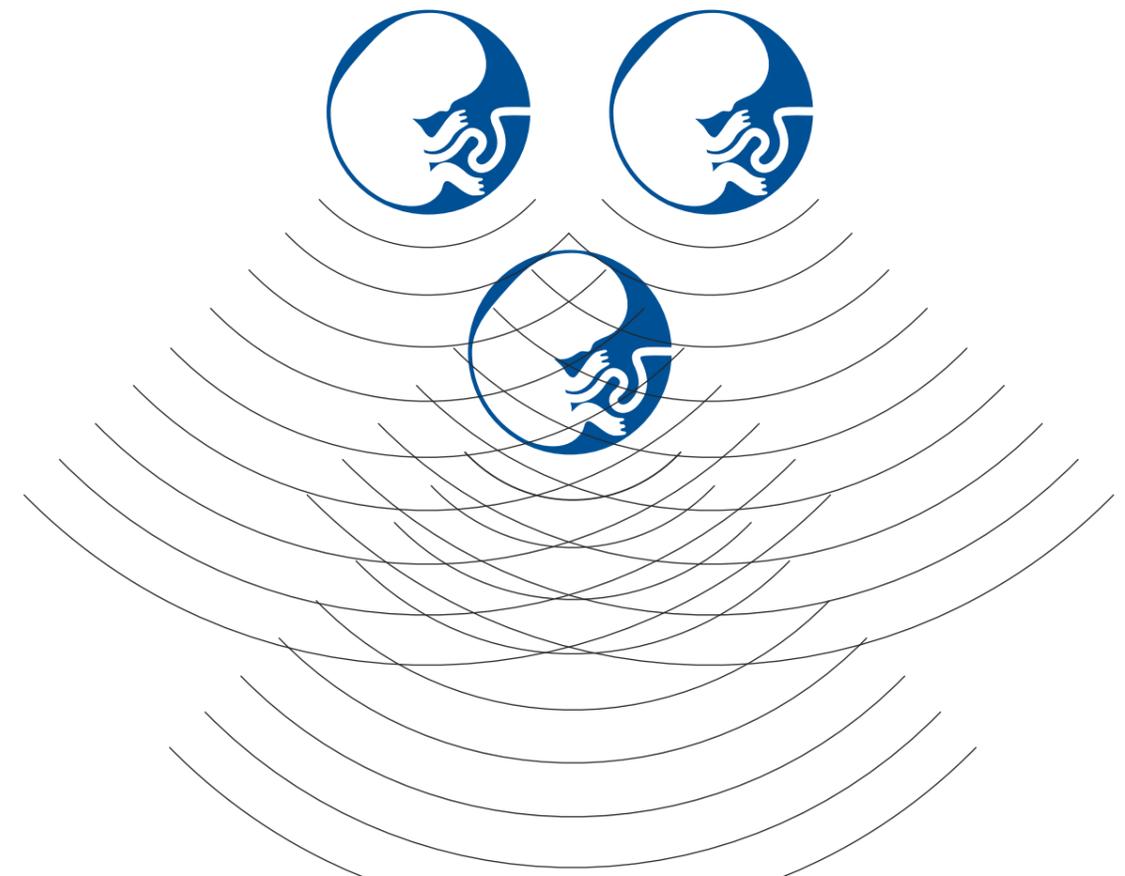
DESIGNING FETAL PHANTOMS

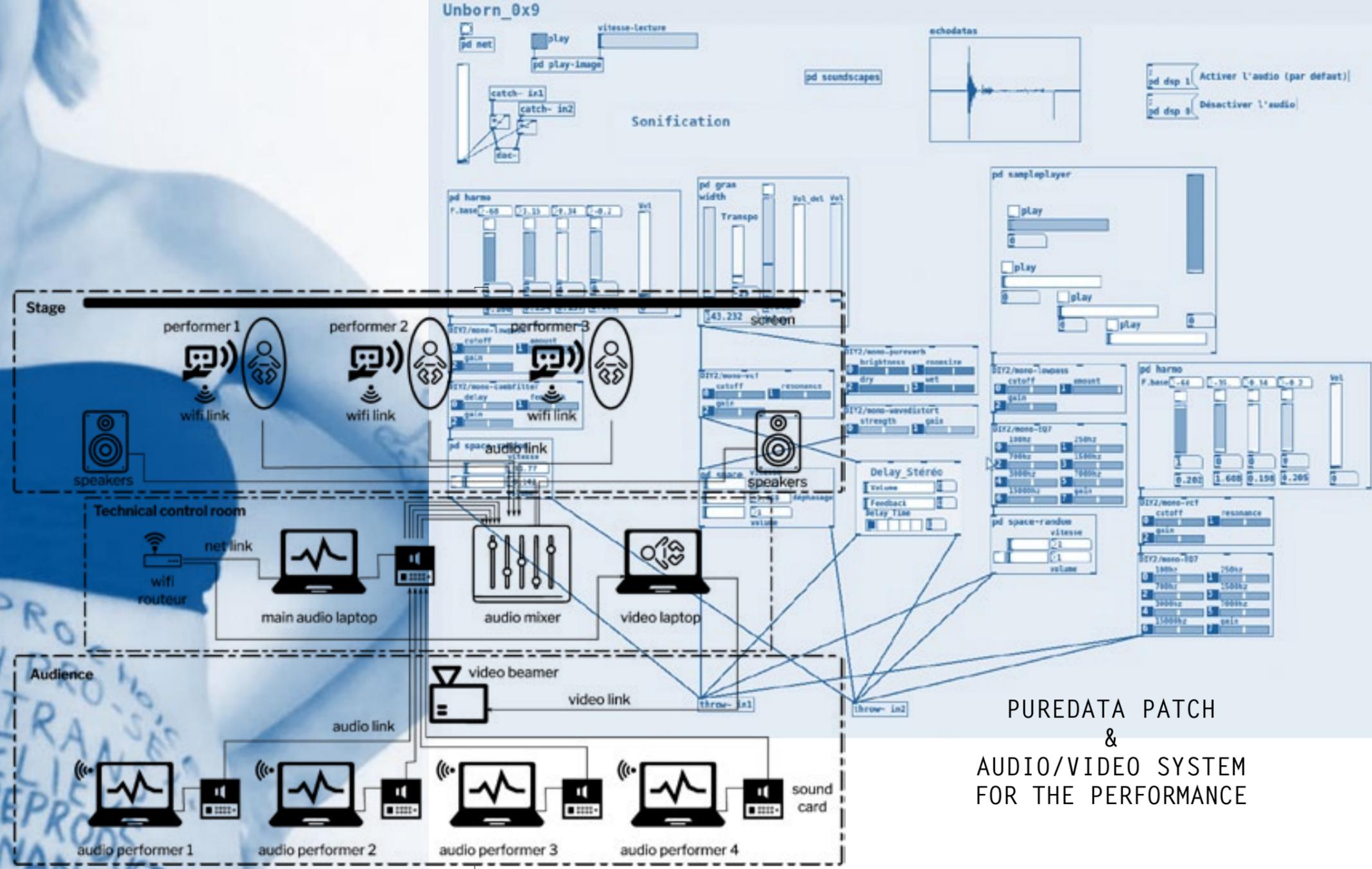
When the collective started in 2016 working on the ultrasound-to-sound echOpen fork we were confronted with the world of "fetal phantoms" devices that allow schools of obstetricians and sonographers to practice. The devices provide a complete fetal model suspended in a non-echogenic amniotic fluid environment for high quality, realistic imaging for 2D and 3D ultrasound applications. The general aesthetics of these devices, involving models of ultra-realistic newborns, elicit a strange vision, between the artificial uterus of sci-fi and the stillborn baby, "unborn", placed in formalin such as we see it in museums of medical history. These devices reinforce the cyborg dimension of this technology.

THE PERFORMANCE AND INSTALLATION

The UNBORN 0X9 performance envisions orchestrating ultrasound frequencies made audible and visible to artificial uterus devices as an augmented interaction opening new cyborg perspectives. These devices will be designed to be worn closer to the body of the performers and "scanned" by means of portable ultrasound according to a creative score generated by them. This virtual dialogue opens communication channels. We learn to see and listen to the potential baby as the ultrasound data is sonified and visualized. The performative dimension and the composition suggests thus the possibility of creating an increased interaction.

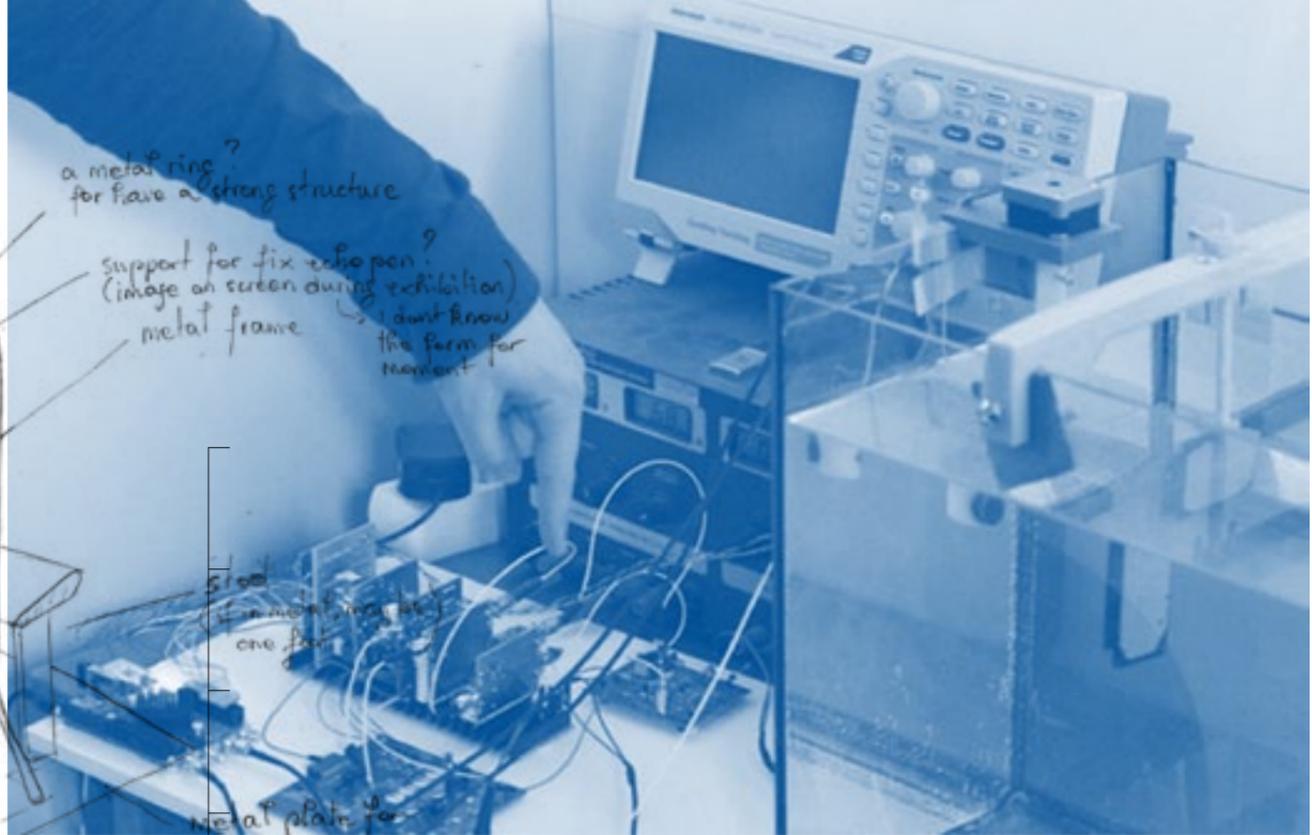
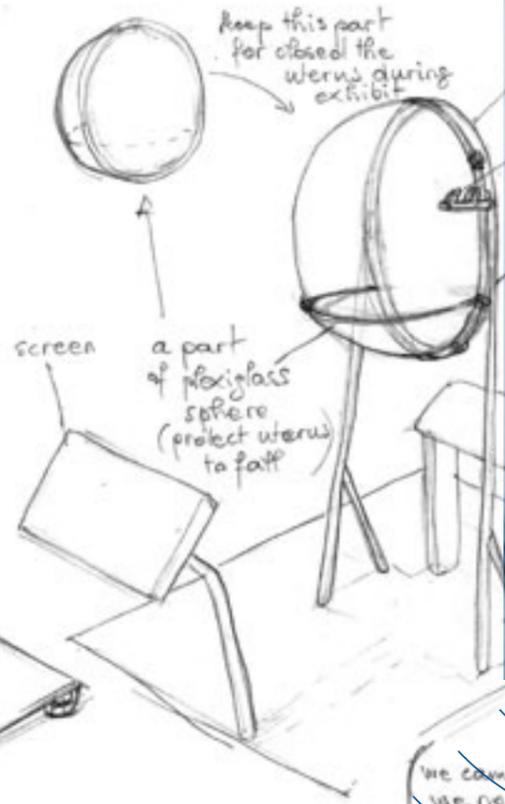
Ascenic device will present 3 incubators "artificial uterus" incorporating 3 fetal phantoms. "Umbilical cords" tubes emanate from these incubators and will be connected to speakers broadcasting sounds of heart rhythms. These incubators will be ergonomic and "mothered" by 3 performers and will scan the fetal phantoms with 3 connected open hardware echo-stethoscopes. Echostethoscopes will be connected to a central hardware/software control system (signal processing + Pure Data patch) for converting and interpreting ultrasound to audible and backscattered ultrasound images above the 3 incubators. An additional soundtrack composed of recordings made with interviews on pregnancy typologies with local volunteers is mixed into the orchestrated sound performance.





PUREDATA PATCH
&
AUDIO/VIDEO SYSTEM
FOR THE PERFORMANCE

- 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/>



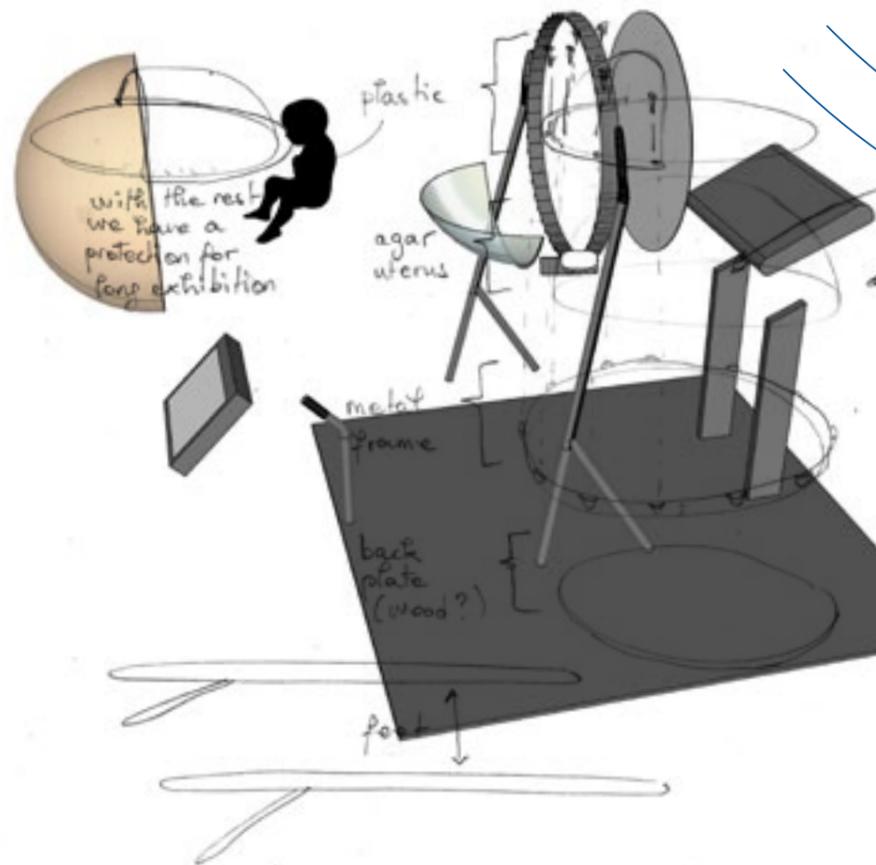
a metal ring for have a strong structure
 support for fix echo pen? (image on screen during exhibition) I don't know the form for moment
 metal frame

steel
 in night, maybe one for

metal plate for guarantor of such stability

we can make less but we need to connect & fix together the steel + uterus for have a better stability during performance

ONGOING PROTOTYPE



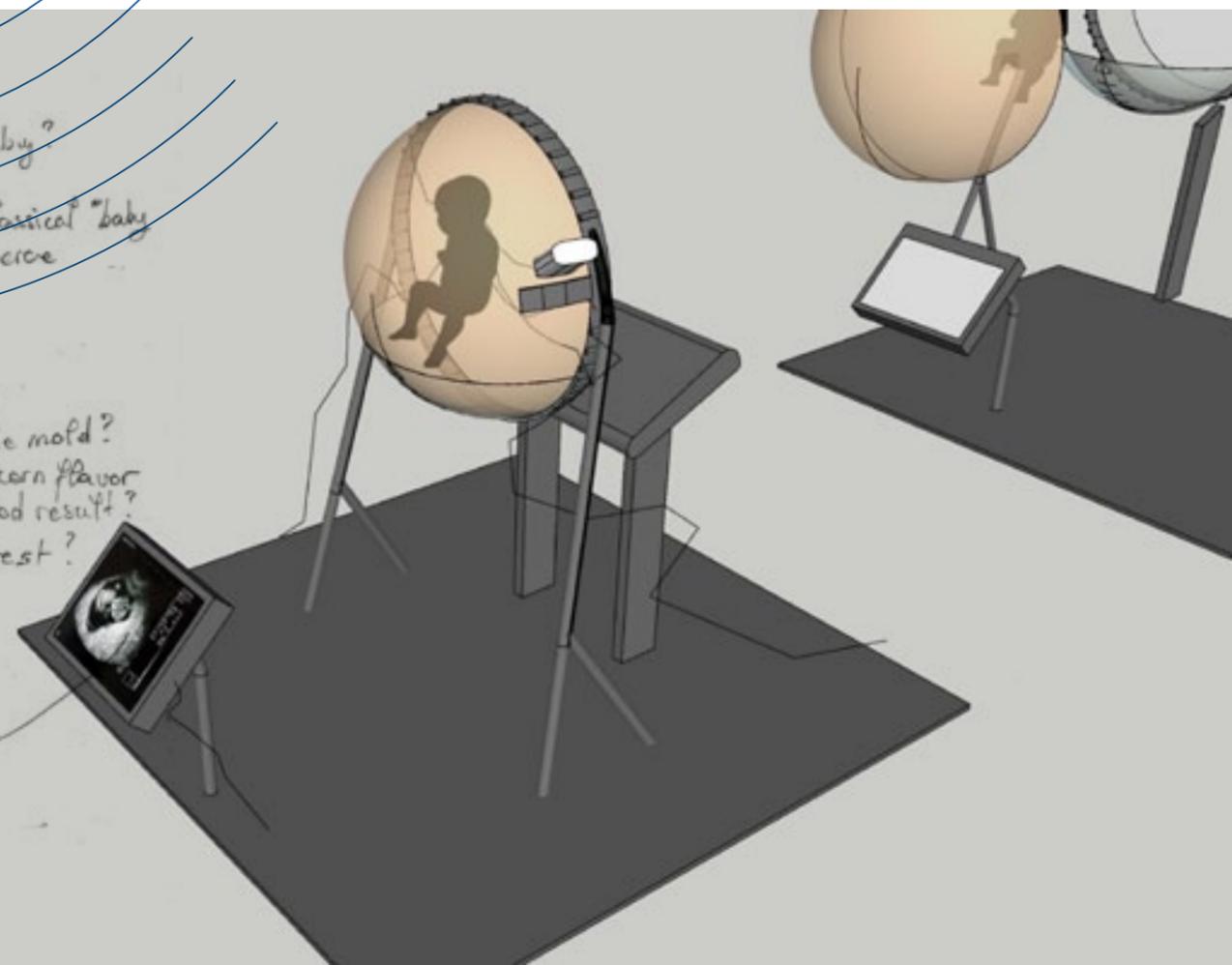
use for fix the baby during agar

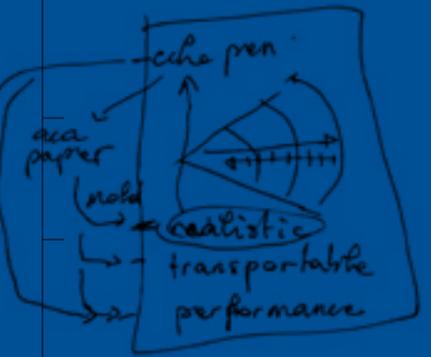
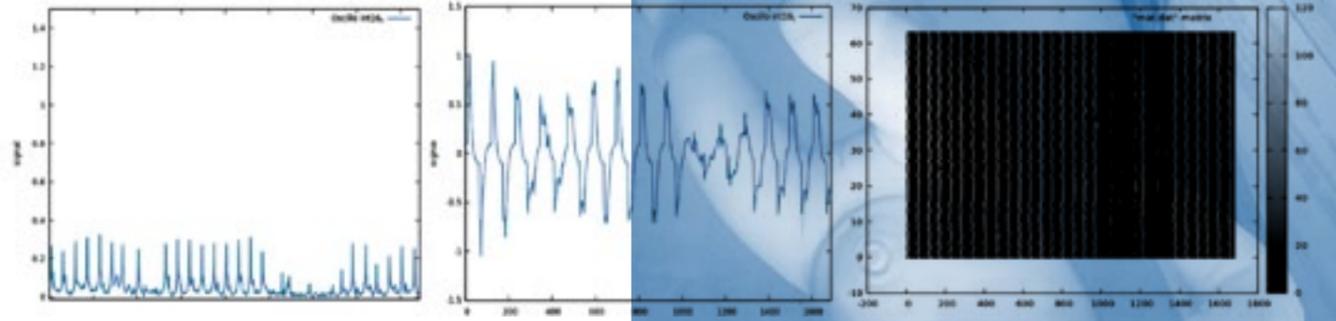
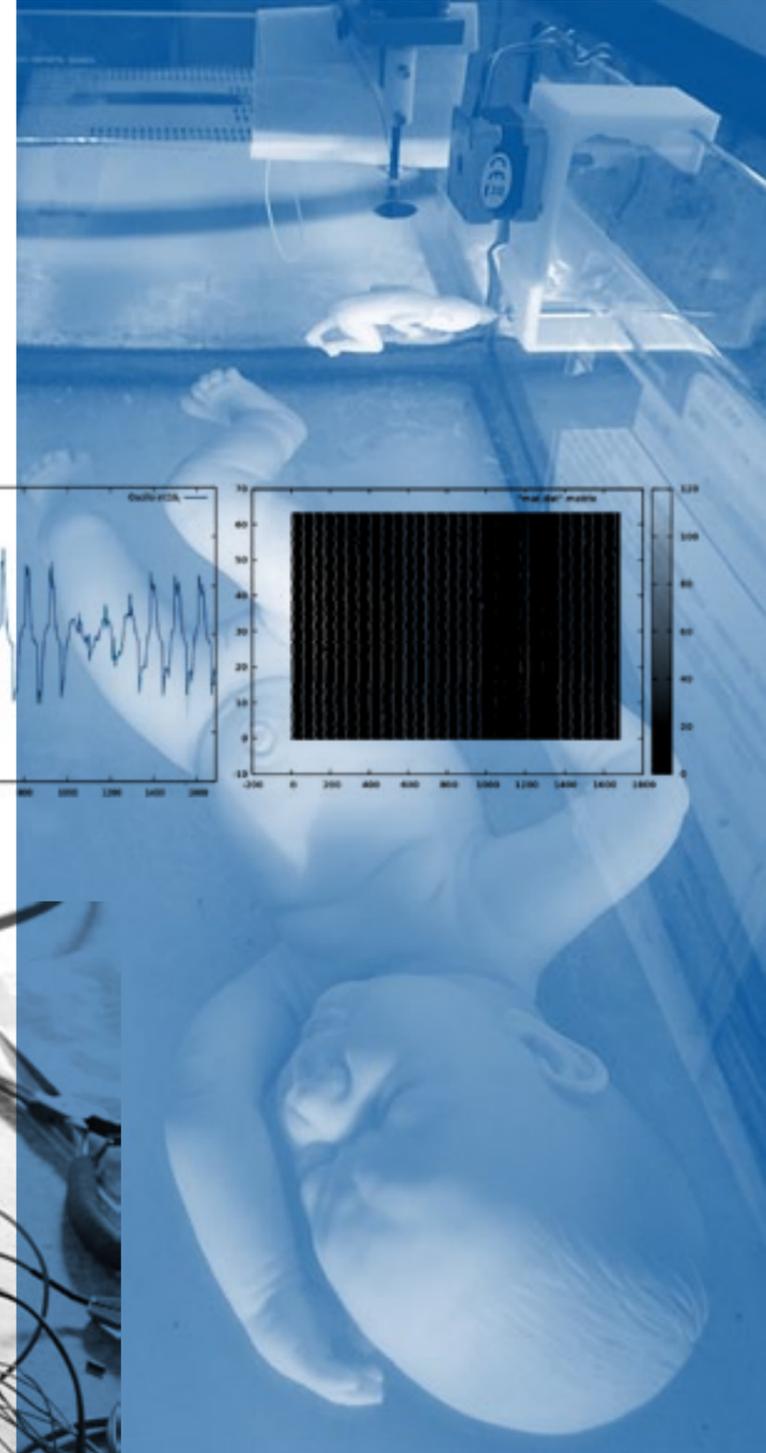
WE CANT MOVE THE BABY CAUSE AGAR IS SOLID NOT LIQUID
 for move baby we need to make a hermetic sphere

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?

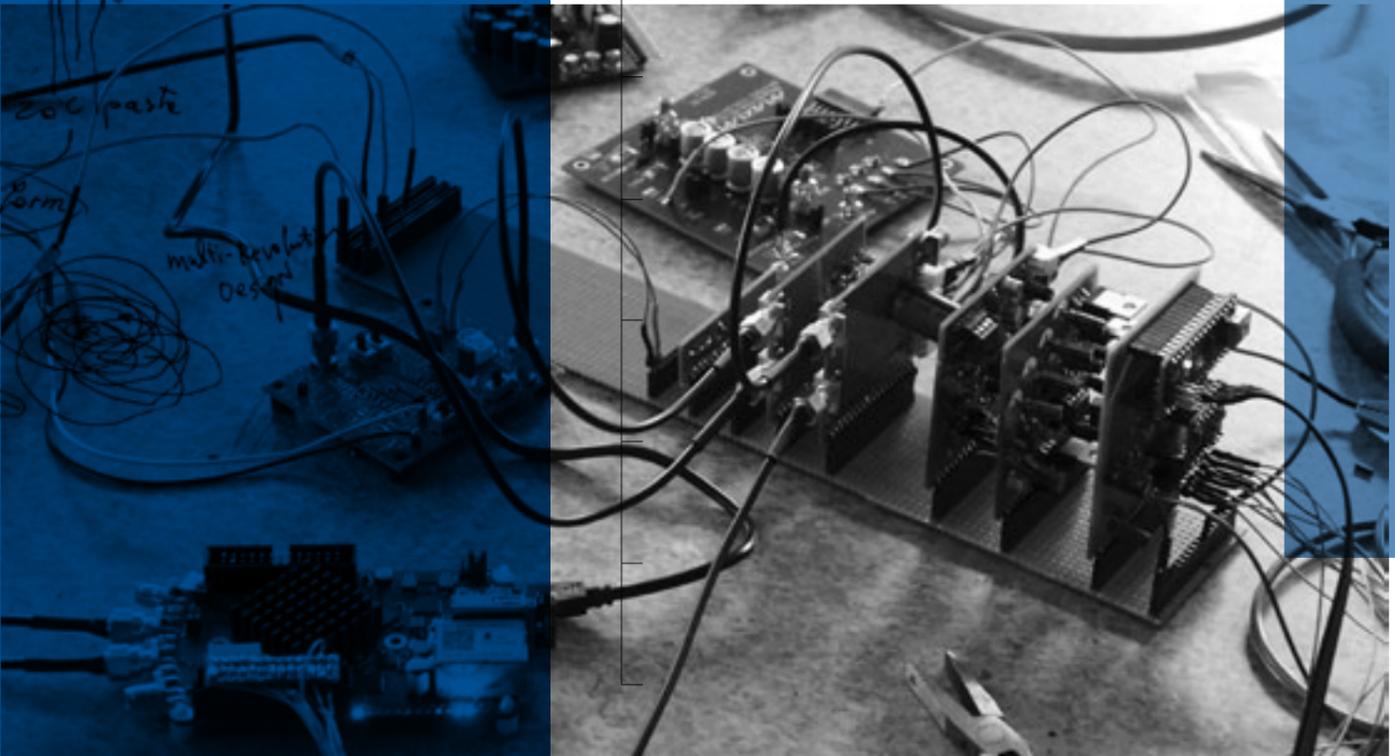
photo in PARIS





FABRICATION
IN PROGRESS

AGAR paste
80C → 40C → 20C paste



↑ ≡ ↑
Patex ?
demander a Jerome
scanner dans les airs



transform
multi-Beam
Design

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