

SYNTHESIS :

A*MIDEX MEETING « INTERDISCIPLINARITY IN THE TEST OF COLLABORATIONS BETWEEN ARTISTS AND SCIENTISTS »

2019 EDITION « DOING AND SAYING SCIENCE DIFFERENTLY »

Editor : Constance Moréteau, January 2020

The A*Midex Foundation organized, on Friday 13 December 2019, the fifth edition of the A*Midex Meetings "Doing and Saying Science Differently", dedicated to collaborations between artists and scientists. **This day was the result of a proposal from the CNRS Institute of Human and Social Sciences (INSHS) to the Foundation, due to the echo between the growing interest of the CNRS in this cross-fertilization and the projects of this type that already exist in number within the Aix-Marseille university site**, whose interdisciplinary identity is now recognized. The broad range of disciplines that practice it represents an important potential for cross-practice between art and science.

This meeting is also a continuation of the two previous editions devoted to interdisciplinarity as a scientific approach and, like the latter, **allows us to think about future calls for "interdisciplinary" projects** that could include action common to the fields of arts and sciences. Within the last call for projects "Interdisciplinarité" launched in 2016, there is a precedent with the winning project "Biomorphism" led by Julien Bernard (CGGG): the latter has brought together a very large number of disciplines, enabling a constant dialogue between arts and sciences, which has been the subject of many partnerships. This project stemmed from the "Sciences and Humanities" degree presented during the day - winner of the "Académie d'Excellence" -, another call for projects led by A*Midex.

The framework of this meeting was the subject of sustained collaboration with the heads of the Intersectoral and Interdisciplinary Research Clusters (PR2I), Sylvia Girel, Marie-Thérèse Giudici, and Mossadek Talby as Director of the Doctoral College, Pascale Hurtado, as Director of IMÉRA's "Art, Science, Society" programme, and Nathalie Abou-Isaac, Head of Programmes and Audiences at the Regional Contemporary Art Fund of the PACA region (Frac Paca). Relocated to the Frac Paca and invented in dialogue with this local institution, this event reinforces **a partnership formalised by a master agreement between AMU and the Frac Paca**, signed two years earlier. Interdisciplinarity is indeed at the heart of the FRAC's programming, as the exhibition "La Fabrique des possibles" (The Factory of Possibilities) has demonstrated very early on, as soon as the new building opened in 2013. Its genesis owes much to the collaboration between artists and researchers in the university site's laboratories. This exhibition aimed at a strong integration of societal and environmental stakes, which thus proved to be common concerns for scientists and artists. The Frac defines itself as a "laboratory" place open to researchers and students alike. However, interdisciplinary research and education are treated almost equally by this meeting in order to affirm the importance of education to familiarize people with the arts and sciences (Maryline Crivello).

The event brought together 95 people, demonstrating the keen interest in this topic within the site's scientific community. This also attests to the **great diversity of the participants' profiles**, both in terms of disciplines (around 22 laboratories with a relative balance between human and social sciences on the one hand and hard and life sciences on the other), services and other components of the university (3 central directorates, 2 institutional institutes, 1 platform, IMÉRA and CISAM) as well as generations (including 6 PhD students and 2 Bachelor/Master students) and institutional structures outside the university site (including 5 representatives of collectives, the Ecole supérieure d'art et de design de Marseille-Méditerranée, SATT-SE, Idex de Bordeaux and two residences). This was in line with the ambition of the meeting's programme, **as it was not a symposium for specialists but a one-day workshop providing an overview of the diversity of possible collaborations in the so-called "art and science" field**. Moreover, to our knowledge, no exhaustive study of this field exists to date.

The context of the strikes in last December carried out at the national level did not allow us to benefit from feedback from the ANR, which was invited to speak about the Research and Creation Meetings in Avignon. Prospects for collaborations are underway.

I. WHY THESE COLLABORATIONS AND ACCORDING TO WHICH PARADIGMS?

REFLEXIVITE REQUIREMENTS

"Pas de côté" (Florence Boulc'h, Simona Bodea), "écart" (Cédric Parizot), "entre-deux deux acrobatique" (Lila Neutre) and, in both philosophical and medical terms, "la différence entre le soi et le non-soi" (Nicolas Thouveny) are approaches and paradigms used to characterize the projects presented during the day. The fourth, from researchers in immunology, mirrored the credo "What I am/What I am not » by the artist Regina Hübner. Close to this approach, "Out of oneself through imagination". is also a spring that students of the "Sciences and Humanities" bachelor's degree brought out in a text, which accompanied the creation of a plastic work on what the butterfly sees, nourished by scientific research, in the context of work on " Animal's Gaze". **Imagination is thus presented as an intellectual operator coupled with a rigour** that the licence displays as a fundamental criterion or, similarly, as "a motor of knowledge" (Sandrine Ruitton).

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This need for reflexivity is therefore at work in all these collaborations, often at their very origin (Regina Hübner, Licence " Sciences et Humanités ", Cédric Parizot, Lila Neutre), with questions such as: **what is the nature of art and knowledge? On what consensus are the interfering fields based (Cédric Parizot)? What is the consensus in relation to which a research or creation is said to be innovative (Nathalie Bonnardel)? What is the nature of the methods that constitute them?**

In the *Dear Cell* project led by the artist Regina Hübner, it is clearly a question of offering a moment of reflexivity to the researchers, at the request of the director of the CIML, Philippe Pierre (about 30 researchers from the CIML and the INMED participated in the project), and of staging it.

COMPLEXITY AND COMPLEMENTARITY OF KNOWLEDGE

When asked what motivates her to work with an artist, teacher-researcher Sandrine Ruitton's first question is **curiosity**: why is an artist interested in the same objects? To make the link with art, the postulate of this complementarity between arts and sciences, in her field (underwater research), is based on **the dependence of the effectiveness of an environment on its form(s) that artistic creation can interpret. In its quest for efficiency, scientific research could rely on the power of art, in that it would be complemented, extended and supported by the promotion of works to a wider public than science.** This approach to valorization is similar to the one outlined by Cédric Parizot, who refuses to reduce art to a pure and simple valorization of science. Indeed, this represents a risk for exchanges between arts and sciences.

If the quest for an **exhaustive knowledge** of an object seems more the horizon of the researcher (Cédric Parizot), certainly very hypothetical, some artists position themselves in the same way, like Nicolas Floc'h. Seeking to show the evolution of the seascape, to put images on its deterioration, especially its acidification, the latter shows that his contribution consists of a sensitive follow-up of a research object and an overall representation. Nicolas Floc'h relies on a photographic and/or sculptural documentary work of very thorough census of forms (underwater reefs), of tonalities (colour of the water mass determined according to the pH value) which could have appeared, outside the realm of art, as weak signals: a matter of looking at it in the literal and figurative sense. However, monitoring the colour of water, as a symptom of its acidification, represents a major environmental issue. The artist completes a scientific methodology that could be characterized as being more fragmented through the use of tools, which are parameterized for initially measurable captures. In return, as shown by the artist's collaboration with the National Museum of Natural History, in the context of work on the shores of Brittany, this targeted research by scientists can in this particular case contextualize his images of landscapes. However, the distinction between the production of the artistic work and the research that helped it to become, and come closer to a scientific truth, must be maintained, while at the same time maintaining a dialogue with art history (monochrome art,

immersive art, landscape making, etc.). **The images produced by the artist may, however, have other purposes, can be used by scientists, what the artist is really open to.** It is therefore necessary to differentiate between them but, at the same time, to understand what collaboration, as an intellectual regime, produces in the mid and long term.

CULTIVATING MISUNDERSTANDINGS AND ACCEPTING DIFFERENT GOALS

The 30,000 images produced by Nicolas Floc'h as part of the *Invisible* project will be donated, free of charge, to the MIO - Mediterranean Institute of Oceanology, with whom the artist is collaborating on this project. A collaboration with NASA on the occasion of the upcoming launch of a satellite will make it possible to complete the polarized and non-polarized images taken by the satellite of the sea with those taken in the body of water by the artist in this double dimension.

For *Genesis, an Introduction* currently being developed during a residency at IMÉRA as part of the "Art, Science, Society" programme, two projects, one artistic, the other scientific, initially carried out independently, have ended up converging because of the identical desired form. For the artist Eric Arnal-Burtschy, creating an immersive liquid vortex, in order to offer a new experience of perception of reality, requires finding technical solutions similar to those that researchers at irphé (Institut de Recherche sur les Phénomènes Hors Equilibre) are experimenting with in order to reproduce the bands of Jupiter on a larger scale. The artist's project invited them to modify the scale of their devices and, consequently, to innovate even further. The partnership with the international high-tech group Safran is making it possible, at a technical level, to amplify the desired tornado effect. As far as Safran's own interests are concerned, research as a process, with no promise of immediate profits, leaves time for innovation through the accumulation of knowledge. **The goals are different, but the design issues and processes are the same.**

There are many similarities between the arts and sciences, especially as research and observation activities. As Eric Arnal-Burtschy's and Nicolas Floc'h's projects show, **art also often acts on the basis of structured logics, in other words, protocols. These protocols can be common to the artist and his scientific interlocutor.** On the other hand, the margin left to interpretation can diverge: representing a reality on the basis of explicit data in the case of scientific research leads the receiver to a precise, more channelled interpretation, while the meaning of an artistic work often remains more open, leaving more room for emotion and sensation.

However, if these similarities justify collaborations between art and science, they must also be nourished by the discrepancies so as not to lead to an amalgamation and a loss of quality and accuracy in one field as in the other. In this respect, the doctorate "Practice and Theory of Literary and Artistic Creation" of the doctoral school n°354 of Aix-Marseille Université poses real challenges in terms of intellectual and creative positioning since practice and theory are taken care of by the doctoral student without leading to a fusion of artistic practice and methods relating to a discipline of the human and social sciences: This is what the artist Lila Neutre testifies to from the experience of her thesis "Sculpting the Self: the Social Body as a Device of Resistance, Appearance as Poetics of Survival" defended in 2017, in co-direction between Aix-Marseille Université and the Ecole Nationale Supérieure de la Photographie - Arles. She qualifies her photographic practice as **participatory observation**, inspired by sociology, without, however, being visual sociology: no restitution of field data, but an advanced practice of observation that influences her thinking and her photographs. **The very format of his thesis shows this "in-between", made up of two distinct components, one photographic, the other theoretical, both complementary and independent.**

In the "Sciences and Humanities" degree, it is common for two teachers from different disciplines to express their divergent visions in front of the students in a thematic course, which is encouraged for its pedagogical virtues, inviting them to define their positioning. These pedagogical practices also lead some of the teacher-researchers involved in this project to engage in arts and sciences research themselves. Collaborations in the arts and sciences can be based beforehand on the sharing of a **conceptual framework, a real and theoretical space that allows one to understand what the other is doing in order to experience one's own writing modes.** To take a step back from one's own research and development practices in relation to those of another field is to "denaturalize" them, whether it is, for example, the highly

coded practice of the article (Cédric Parizot). **To go further, this allows the artist and the scientist to rethink the relationship to the object and its positioning, particularly in society (see p.6).**

Upsetting the form is equivalent to upsetting the thinking being done and thus bringing new questions. To go even further in the effects of a collaboration between the arts and sciences, these do not simply confront different approaches to the same objects, but they lead to the development of new objects and themes of research and creation, **by "creating another reality that is not unique, but which comes from a multiplicity of qualitative forms"** (Cédric Parizot).

II. WHAT INSTITUTIONAL SUPPORT FOR ARTS AND SCIENCE PROJECTS?

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WHAT PERIMETERS?

Echoing a concern intrinsic to interdisciplinary projects, leaving time is a decisive factor for successful arts and science projects, which will allow to take risks, far from being limited to superficial comparisons (cf. the report of the previous A*Midex Meeting "Interdisciplinarity in the Test of Reality" of November, 28th, 2018). **The time needed to build a stable exchange system is estimated to be at least 3 years.** This time does not take into account the artist's approach, which often pre-exists the meeting with researchers, and conversely, which often has not been designed to respond to an interdisciplinary injunction but out of necessity. Apprehending the other, moving away from the vision of the other as a provider requires time. This is why, strengthened by long-term collaborations, Nicolas Floc'h works more and more with scientists, whether he comes looking for or who request him, whether in projects labelled by the art world or through calls for scientific projects (e.g. FEDER project with IFREMER).

A call, in order to be appropriate for arts and science projects, must address the question of their scope, their **material reality**. For example, a project with a technological component often requires a significant cost as well as a workforce with specific technical skills.

In terms of co-financing, the partners may come from a wide range of sectors, as is shown at a high level by the *Genesis*, *an Introduction*. One point of attention noted in particular by IMéRA and which is also reflected by the projects presented during the meeting: work remains to be done with regard to the human and social sciences, which are rarely candidates for calls for residencies even though those are open to all disciplines. Through its joint residency programme with LabexMed, the Camargo Foundation has made it possible to mobilise the human and social sciences as a priority.

CREATING LINKS

The networking between the actors of arts and science collaborations, particularly in the region, allows the circulation of a project as it is being developed and challenged (Cédric Parizot, Julie Chénot) in the spirit, for example, of the sociological theory of the "actor-network". New practices can also be stimulated by the identity of the host place (geographical, cultural, aesthetic, organisation of space).

Residencies never last more than a few months (around 6 months on average up to 18 months for laboratory residencies for the University of Bordeaux), being able to support only one phase of an arts and science project, rarely more. **The restitution at the end of the residency rarely consists in the production of a work, and this is not the case for any of the residencies presented here.** The programmes of the Fondation Camargo and IMéRA are moreover defined **as research residencies, rather than creation residencies**, whether parallel to the creation process or upstream. The mapping of residency locations in PACA carried out by the Southern Region, which will soon be available, will allow for the consolidation of networks, at least as far as the format of the residency is concerned. It identifies 23 multidisciplinary

residences out of the approximately 180 residences in the PACA region, most of which are located in the Bouches-du-Rhône (Gilles Bégusseau).

Thus, despite the fundamental human dimension, **a network is not only formed between two people but also between two environments**. Beyond the occasional funding of arts and science projects, there is a need for the institution's role to be more comprehensive, by providing decisive added value and by creating a link via an **almost daily support system as experiments are carried out**. These efforts to bring people into contact are based on an in-depth knowledge of the research and creation landscape surrounding the institution, which can already be found in certain laboratories and research groups (Irphé, OSU Pythéas). This work can be observed first in the case of residencies forged by researchers (IMÉRA) or which have moved away from the classical model usually associated with residencies financed by private patronage (Fondation Camargo), which by tradition offers first of all a context of isolation far from economic and daily worries (Fondation des Treilles). Based on the definition of an arts and science project as a vector of innovation, the Cité de l'Innovation et des Savoirs (CISAM) is another example of a place of exchanges, based on the observation that innovation is fostered by meetings and events. This dynamic is amplified by partnerships between private and public sectors (Michela Mori).

VALUATION : OPENING ON THE CITY

For the Safran company, which provides very important support to *Genesis, an Introduction*, innovating through culture, is part of a regional development axis in Wallonia. Indirectly, **this inclusion of arts and science projects in a cultural context that goes beyond the purely academic context consolidates the importance of research at a time when its legitimacy is frequently questioned**. This is also true of the FACTS Festival organised in Bordeaux. Developed over the past six years, this festival is held every two years to mark the arts and science program for artists in residence in laboratories. **Using the festival proves to be judicious to open science to society**. The interference of science with art makes it easier to appropriate this cultural format intended for a generally large audience, with the support of mediation. **Many researchers who have participated in this programme say they have found again meaning in their scientific missions, have reconnected with society and have regained desire in their commitment thanks to the space for creativity thus developed** (Camille Forgeau). Finally, it accelerates the construction of partnerships between actors in a given territory.

IN CONCLUSION

The levels at which these collaborations operate are varied according to their nature and temporality: they may take place only at a stage considered as "intermediate" in artistic or scientific research, while at the same time being a long-term vehicle for profound changes in the elaboration of knowledge and/or experience. The question of the place of these exchanges at the level of a more individual reflection, or/and at the time of a return to one's own discipline, proves to be fascinating: when are we in the intermediate writing? Does the experience with an artist for a researcher necessarily involve intermediate writing in order to dynamise his research process and report on his scientific conclusions (Cédric Parizot)? Or does it encourage the emergence of new avenues of research?

Finally, the modalities of arts and science collaborations can be very different, in terms of cooperation or co-design. These differentiations can also be measured, in the **field of cognitive psychology, by assessing the level of cognitive synchronization and the existence or not of a common frame of reference** (Nathalie Bonnardel).

These initial feedbacks and recommendations, which are already very rich, outline a basis for future mission statements to be proposed by the A*Midex Foundation. Due to its format, this meeting did not allow for an exhaustive mapping of

all the collaborations and systems already existing on the Aix-Marseille site. In order to make progress in the reflection, a more in-depth study should be carried out, which would also focus on **the scientific and creative critical mass** targeted by an A*Midex action at the site level. Among the corollary questions: **how to integrate the artists teaching and conducting research in the university site's and, more broadly, which artists and creators could be involved?** What expectations are already being expressed at the territorial level? As seen above, this call for proposals would gain in relevance by relying **on a network of both scientific and cultural partners. Would the right scale be local and/or national, or even international? Which sectors would be involved in this network? To clarify this questioning: would it mobilize education actors in addition to research actors? What about the actors of the contemporary art world (Schools of higher arts? Art centres and museums? Residencies? Ministry of Culture?) and specialists in promotion and dissemination?** How should the coordination of such a network be structured? Finally, would the contribution of the A*Midex Foundation be more relevant in the form of **a structuring action or a call for projects?**