

# Locating ArtScience

Eric Kluitenberg, Second draft, December 2017

## ArtScience as an emergent field of practice

We should start from the premise that ArtScience at the moment is a field of practice in becoming. There is enormous interest in this renewed convergence of Art and Science around the globe, with new institutions founded, public initiatives functioning increasingly professionally, a plethora of projects, events, and a considerable number of publications. The picture is thus one not of crisis or stagnation, but rather a booming field that if anything might be in danger of overheating.

At the same time there does not as yet seem to be anything of a consensus about what exactly defines this field, what its specificity might be, and where its boundaries, its demarcations lie. This is the first and most serious problem that ArtScience has run into, and one that needs to be urgently addressed to avoid a melt-down of its inner core.

The problem can be summarised as follows: ArtScience as a field of emergent practice is simultaneously oversignified and underdefined.

This rather curious condition invites a surplus of speculation and unfulfillable expectations, which once these expectations have been revealed as unfulfillable might generate an equally exponential loss of interest in the field. However, something truly valuable might be lost if such an implosion of interest, and subsequent de-investment from the field (in people, institutions, activity, knowledge production, financial flows) were to happen.

To pre-empt this scenario of overheating and subsequently deflating and collapsing the field, it is useful to identify some of the most defining characteristics of this emerging field, and figure out what might be important and valuable about them.

This short essay stops short of providing a comprehensive definition of the field, nor does it provide a 'complete' mapping of a field that is currently and perhaps by definition in an emergent state. Rather it tries to identify some key characteristics as well as some key-misunderstandings, to question what might be the special significance of ArtScience, and what could be particularly important and valuable about it.

## ArtScience: not an 'interdisciplinary' but 'intersectional field of practice

The first important distinction to make is that ArtScience is not an interdisciplinary, or cross-disciplinary field of practice. The seemingly endless series of 'collaborations of Art and Science' type of events miss the most crucial point of this emerging field: We should understand ArtScience as an intersectional field that intersects a range of different established disciplines and domains, but ultimately establishes a new practice building on and moving beyond these established disciplines and domains.

The problem with the notion 'interdisciplinary' or 'cross-disciplinary' is that it leaves the existing disciplines in tact. So, in this image, on one side we find the Arts, on the other side the Sciences, both understood in the broadest sense. Then some project is defined where representatives from both sides collaborate and produce joint results, which can be more, or less, fruitful. Regardless the outcome though, both domains are left entirely unchanged, and with that their specific methodological approaches. The tacit assumptions about each respective practice are left unchallenged, after which the participants can safely return to their native professional domain.

ArtScience should instead be conceptualised more ambitiously as a new hybrid practice with its own specific methodological concerns. Operating in a field that it considers its own and that is

distinctive from both that of the Arts and that of the Sciences, but nonetheless building on experience gained in those domains. Consequently, ArtScience should not be subsumed to either of these domains. In other words, ArtScience is neither Art nor Science in any conventional understanding of these terms. It articulates a field of enquiry of its own - one that can be extremely broad and diversified, yet will also be demarcated by clear boundaries that have so far not been clearly defined.

## **Methodological distinctions / concerns**

The Arts at Cern program<sup>1</sup>, which promotes the dialogue between artists and particle physics, offers a useful methodological starting point for articulating more precisely where ArtScience should locate itself. The rationale for bringing art and fundamental research in particle physics together in the frame of the largest and most costly scientific experiment in operation on the planet today is that the initiators view art as a form of fundamental research. In that sense they understand art and particle physics to share an affinity with the pursuit of knowledge and insight primarily for its own sake, and without an a-priori conception about the application of the knowledge and insights that result from the experiment.

One might rightfully question in how far a scientific experiment at the scale of the CERN programs in particle physics can ever be entirely free from expectations and pressures for (long-term) applicability of results from the experiments. Equally one might argue about the peculiar mechanisms of contemporary art practice, its inherent reliance on reputation economy and the institutional arrangements that facilitate this system. Still, in both cases the objective of the activity is not to produce immediate outcomes that can be applied in the short-term for exterior and extrinsic purposes. In this regard they do share an affinity with 'fundamental research'.

In the broadest sense then we can understand scientific activity as the production of new forms of knowledge (rather than providing solutions for specific problems, which is the typical concern of design and engineering). The same might be said to hold true for the arts. However, here we would add not just the production of new forms of knowledge, but also the generation of new forms of experience that do not require 'scientific validity' to be accepted as valuable contributions to the field. Here the arts can draw upon scientific insights and enquiry, while the sciences can provide 'scientific' validation of insights gained from artistic experiments. There is no principal contradiction between these activities. Whether it makes sense to combine methods and insights from both fields is a situational question, not a matter of principle.

When speaking about 'the sciences' in the context of ArtScience this should refer to all the different scientific and academic disciplines, including the social sciences, philosophy, mathematics, the humanities, the life-sciences and the earth-sciences. There is a strange tendency to understand 'the sciences' too narrowly as referring exclusively to the natural sciences. To assume such an a-priori within the field of ArtScience would severely diminish its potential significance, unnecessarily so. ArtScience inherits from the arts the freedom to appropriate any form, any medium, any methodology, any insight, from any domain and any professional field. The specificity of the ArtScience undertaking results from the specific enquiries its proponents wish to pursue and the specific ArtScientific methodologies they develop in doing so.

## **Science, Art, and Design in the Anthropocene**

Art and Science, and for that matter any other human activity, do not operate in a neutral context at the moment. The collective efforts of all human activity combined have reached a level, because of the explosive growth of the global population, where these activities now constitute a physical force of geological dimensions in their own right. No longer is it 'nature' that bounds and qualifies human activity, but it is human intervention that now bounds and qualifies natural processes and bends

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<sup>1</sup> <http://arts.cern/>

them to our will. In short human activity has become a 'natural force' in its own right. This is a dramatic reversal of roles.

Geologists speak of a new geological time period, The Era of Man, where humans collectively move more rocks and sediments than any other force in 'nature'. This new geological era is named the Anthropocene<sup>2</sup>. The term has become somewhat fashionable in public debates, but also within the arts and the sciences. However, the prominent science philosopher Bruno Latour takes the term very seriously. We are, according to Latour, now 'facing Gaia'<sup>3</sup>, invoking the idea of physicist James Lovelock that considers the planet as a self-regulating system tending towards always new equilibria in response to any disturbance from within or from outside the planet. The point that Lovelock has been making for some decades now is that the earth-system is reaching a new point of disequilibrium that can trigger a planetary response tending towards a new equilibrium in the future, but this might be one where the human species is incapable of surviving (because of climatological changes, changes in air composition, heightened radiation levels, temperature changes and other crucial ecological factors). Lovelock's view is gaining more serious attention in recent years in the earth-sciences, not least in response to the concerns over climate change.

Most important about the conception of the Anthropocene is that it makes the distinction between 'Man' and 'Nature' redundant. Instead it emphasises the tightly interconnected network of associations between humans and what Latour has termed non-humans (animal and plant life, minerals, gasses, water, air, and technological infrastructures). It is now clearer than ever that local interventions, regardless of whether they originate from the sciences, the arts, design or engineering, have global consequences. Every local intervention reconfigures the network of associations between humans and non-humans and must be considered on both levels at the same time.

The problem is of course the enormous abstraction of such planetary scale processes, the slowness of their long-tail effects (that stand in stark contrast to the immediacy of the real-time economy), and the non-linear nature of these processes that might develop ever so slowly but can suddenly reach a tipping point, a singularity, where a radically new set of conditions emerges (global warming being the most obvious example). While the statistics speak ever more clearly and unambiguously about this problem, its communication to a wider audience and its translation into effective policies falls short of this imminent threat. To a large extent this is the result of the gap between abstract data and lived experience. Science alone cannot resolve this problem - it needs more imaginative approaches that can only come from a supra-disciplinary perspective.

## **Reappraising subjectivity in the ArtScientific process**

Subjectivity, the holy grail of the contemporary arts is inadmissible as scientific method. Perhaps here we find the greatest rift between the two domains. The 'operators' of science will readily admit that intuition and thus a subjective stance plays a key-role in scientific discovery. However, they will immediately add to this that in order to turn a subjective hunch into a scientific view such intuitions must be transformed into intersubjective methods and experiments with verifiable and preferably repeatable results. In the Arts, conversely, intersubjectivity is merely an option, and one often looked upon with some suspicion (as in the case of collective or community-based art practices). There seems to be little opportunity for bridging this divide.

Still, scientific and technological history is full of singular personalities who shifted directions in both scientific enquiry as well as technological development. Needless to say from artists we have come to expect nothing less than a 'singular personality'. When talking in 2011 in video conference to

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<sup>2</sup> <http://www.anthropocene.info/>

<sup>3</sup> A thorough introduction to Latour's recent thinking on the subject can be found in the documentation of the Gifford lectures he delivered in Edinburgh, February 2013 under the title "Facing Gaia". see: <http://www.bruno-latour.fr/node/487>

Siegfried Zielinski during the Techno-Ecologies symposium at RIXC in Riga<sup>4</sup>, who spoke directly from the Vilém Flusser archive in Berlin, I pressed him on this particular point. The question was what role, if any, subjectivity, the kind of subjectivity that we associate with the arts, plays in the 'deep time relations of the Arts, Sciences and Technologies' that Zielinski's wonderful and monumental Variantology project is investigating?<sup>5</sup> Visibly delighted by this question Zielinski explained that subjectivity was exactly at the very heart and origin of his project. One of the aims of the Variantology project is to make clear the vital role subjectivity plays equally in artistic, scientific, and technological exploration and discovery, and how it informs the desire for a diversity of praxis that Zielinski, and with him many others including myself, is looking for in the Variantology project.

## In praise of amateurism

ArtScience celebrates amateurism and the cultural figure of the amateur. When artists venture into the domain of the sciences they inevitably become amateurs, and vice versa the same holds true for scientists venturing into the domain of the arts. This is a good thing. The word 'amateur' derives from the Latin word 'amator', lover and the verb 'amare', which means 'to love'. The amateur is someone who is primarily motivated by love, in this case for the arts and sciences, yet is not tied to professional conventions.

This characterisation of the cultural figure of the amateur was recognised as particularly productive by the American arts collective Critical Art Ensemble (CAE) for a critical public engagement with scientific research and method. CAE mount many of their artworks as public education projects in which advanced ideas about genetic engineering and the politics of the life-sciences are explored hands on with the audience. Through this activity CAE stimulates a broad participation of non-specialist citizens in a vital area of scientific and (bio-)technological research and development

In their 2001 book Digital Resistance CAE celebrate the figure of the amateur:

*"Amateurs have the ability to see through the dominant paradigms, are freer to recombine elements of paradigms thought long dead, and can apply everyday life experience to their deliberations. Most important, however, amateurs are not invested in institutionalised systems of knowledge production and policy construction, and hence do not have irresistible forces guiding the outcome of their process such as maintaining a place in the funding hierarchy, or maintaining prestige-capital"*<sup>6</sup>

Conversely, the amateur artist has the ability to see through the peculiar particularities of the art system (the art market and the global reputation machinery of museums, public galleries, and dedicated publications). The ArtScientist / ScienceArtist is simply looking for a truly expanded field beyond the limitations of disciplinary codifications.

## Aesthetics of ArtScience: (New-) Materialist rather than Idealist

Art as an Idea is not enough. ArtScience is a materialist practice, but a progressive one. It shares affinities with new materialism, which combines a materialist perspective with attention for issues of gender, race, the position and rights of non-humans, and a special care for diversity (cultural, biological, ethnical). The network of associations between humans and non-humans, what Bruno Latour has named 'the collective', is the expanded field that ArtScience operates in.

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<sup>4</sup> Archived event pages can be found at: <http://rixc.lv/11/en/festival.info.html>

<sup>5</sup> See for an overview: <http://variantology.com/?lang=en>

<sup>6</sup> Critical Art Ensemble, Digital Resistance, New York: Autonomedia, 2001, pp. 8-9.

The aesthetics of ArtScience reflect this materialist perspective - they position im/material phenomena in a wider axiomatic context. That is to say that ArtScience invites a reflection on the different values at play in these phenomena. This questioning of the value-system governing ArtScience experiments aims to transcend the performativity of Science as well as overly ideational preoccupations of Art.

This is not a regressive move back inside / behind the medium. Alike post-conceptual art, ArtScience can utilise any medium, appropriate any material, any process. The materialist perspective rather means a foregrounding of the sensible in the process of ideation. It aims to 'demonstrate' (through experiment), even if that which it aims to demonstrate, qua definition, cannot be demonstrated. As such it can produce both positive signs (signs that show something), as well as negative signs (signs that show that something cannot be demonstrated / presented / represented).

From this we can see that ArtScience builds on the great expansion of aesthetics that the 20th century Avantgarde movements in the arts battled for. ArtScience thus continues in the footsteps of that heroic long march through all the registers of human experience that the Avantgardes of the previous millennium had begun, and expands it with all the registers of non-human experience.

## **Beyond Good and Evil in Science and Art**

ArtScience can never occupy an elevated moral ground. It can never be innocent, nor naive. As a matter of principle ArtScience needs to shed the moral a-priori of art, but also reject the non-lieu of science. The assumption that the perspective of the artist / the arts on scientific and technological processes invokes an ethical point of view in and of itself is simply an embarrassing display of arrogance. It first of all completely denies an ethical position to the 'operators' of science and engineering. It seems to assume that scientists, researchers, engineers are either unable or unwilling to articulate an ethical position. Unfortunately we see this implicit (sometimes even explicit) assumption in numerous art projects entering the domains of the sciences.

More importantly, such a position completely ignores the fact that there is a lot of great art that is corrupt, amoral, or even immoral, anti-social, incorrect, outrageous, potentially criminal, or deeply abject. If one truly believes in the freedom of the arts to appropriate any material, topic, or process then this includes the freedom to violate any social norm, to be abject and incorrect, to be morally corrupted, or ambiguously morally suspect. As an artist, if one follows this rule, one then has to be ready to face the consequences (rejection, exclusion, imprisonment).

Equally, though, ArtScience cannot accept the non-lieu of the sciences contained in the basic statement; "We are only figuring out how this works, how it will be applied is not up to us.", or worse: "We only measure things." The ethical dimension of the arts and the sciences is part and parcel of ArtScience practice.

This indicates that the ethics of each situation, each project, each experiment must be carefully considered on a case by case basis. There is no space to assume comfortable a-priori positions. Instead ArtScience asks for a constant articulation of one's ethical position, even if that position is incurably anti-social and immoral.

## **Significance / contribution of ArtScience**

Based on the set of characteristics laid out here the question is what could be the (specific) contribution of ArtScience to our collective enterprise?

It is possible to make a few preliminary suggestions, though it is wise to proceed diligently here:

### **1) ArtScience as a 'transversal' practice can establish new methodological bridges**

The practice of ArtScience is transversal 'by nature'. ArtScientists are transversalists - they operate across and between the different registers of the sciences and the arts. In this nomadic movement ArtScience can help to establish new methodological bridges between different disciplines within and across the domains of the arts and sciences. It is hard to overestimate the importance of this role of ArtScience as a go-between.

Consequently ArtScience practices hold an exceptional potential for methodological innovation. This might very well be their most important contribution to both the fields of the arts and the sciences.

### **2) ArtScience can enable new modes of knowledge production**

Through its nomadic movement across and between the different registers of the sciences and the arts ArtScience can enable new modes of knowledge production. Particularly in the reconciliation of scientific method and artistic subjectivity ArtScience can open up new domains of knowledge production. It is also here that ArtScience can find its own 'genius' - that what sets it apart from other worthwhile human endeavours.

### **3) ArtScience can enable expanded aesthetic experiences**

By insisting on the sensible in the ideational, and through the incorporation of the most advanced and sophisticated scientific methods and findings, ArtScience can enable expanded aesthetic experiences that build on the legacies of the Avantgardes, while remaining firmly locked in a contemporary sensibility that anchors itself in (new-) materialist approaches.

### **4) Closing the experiential gap between rigorous scientific enquiry and subjective appraisal**

Through the reconciliation of scientific method and subjective experience ArtScience can contribute to efforts to close the experiential gap between the abstractions of scientific enquiry and the experience of everyday life. ArtScience can do for science what art does so well for itself: turn abstract ideas into lived experiences. Here we see the unique intersection at work of two methodological universes considered to be 'incommensurable'<sup>7</sup>, where in fact they are complementary and mutually reinforcing modes of understanding and experience.

### **5) ArtScience can foster a heightened sensitivity for the emergent**

Like the field of ArtScience itself the universe is best understood as 'emergent'. ArtScience is not interested in creating grand statements of artistic genius. Instead it is driven by a curiosity for phenomena, processes and sensations in becoming. ArtScience locates itself deliberately outside of the domain of the arts and even largely outside of the confines of human society. ArtScience studies and composes the processual, the becoming, the 'pressing crowd of incipiences' (Massumi). In short, ArtScience is a study of the emergent.

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<sup>7</sup> 'Incommensurable': by virtue of the absence of a shared scale of measurement / qualification incomparable.

**6) ArtScience can and must produce a deeper engagement in the ‘progressive composition of the good common world’**

Given the pressures of intense demographic growth and planetary resource exhaustion ArtScience cannot but take responsibility for finding alternative pathways into the future. It therefore needs to engage in what Bruno Latour has described so beautifully as the ‘progressive composition of the good common world’<sup>8</sup> of humans and non humans. We may dream about the limitlessness of the universe, but we are bound to Earth. We cannot escape facing Gaia.

Eric Kluitenberg, May 19 / December 8, 2017.

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<sup>8</sup> Bruno Latour (2004): The Politics of Nature - How to Bring the Sciences into Democracy, Harvard University Press, Cambridge (MA).