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Between Scientific Research and Artistic Research: Issues on Theorizing Artistic Practice EL BEDOUI IMEN* Researcher elbedouiimen1@gmail.com

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Abstract:

In this paper, we will shed light on the dilemma between scientific and artistic research, between art theory and artistic practices and between scientific process and artistic process in some contemporary art practices that involves sciences in arts (such nano art-biotech art ...). We will question how thinking artworks in terms of theory (from both artistic and scientific backgrounds), could be a creative way in research on art field? How could we provide a proper process of questioning artworks that are result of both "artistic and scientific research"? What kind of theorizing experience could we provide in such way of connecting art and science? What role plays laboratory research that link art and science for the process of theorizing? **Keywords:** theory; contemporary art practice; research; artistic process;

scientific research.

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Between Scientific Research and Artistic Research: Issues on Theorizing Artistic Practice

Introduction:

The relationship between art and science has been a topic of growing interest in recent years. Scientific research has its own operatory modes and methods, so does Artistic research, in this paper, we will shed light on the dilemma between scientific and artistic research, between art theory and artistic practices and between scientific process and artistic process in some contemporary art practices that involves sciences in arts (such nano artbiotech art ...). These artistic practices need the procedure of scientific approach with its methods (like the experimental approach in scientific laboratory) and the creative process are an intriguing case of studies that appeals our interest. The challenges of scientific approach and the promises on aesthetic and philosophical gage are interesting relation that needs to be questioned.

We will question how thinking artworks in terms of theory (from both artistic and scientific backgrounds), could be a creative way of research on art field? How could we provide a proper process of questioning artworks that are the result of both "artistic and scientific research"? in a certain way, artist become a researcher of meaning and a generator of senses, in the contemporary art practices he become a laboratory man-who actively participate on scientific research in other domains like biology, biotechnology and nanotechnology. Writing on artworks today become more and more challenging, we should have a sense of "complex mode of thinking", like Edgar Morin once write "complex thinking" ("la pensée complexe")...what kind of theorizing experience could we provide in such way connecting art and science? In this paper, we will re-think the aporie of writing and theorizing art, and its issues between artistic process and the process of thinking and writing. How could we re-question "scientific "and "artistic" process in terms of theory? In universities, a new kind of laboratory has been founded. These new laboratories includes artists, scientists, philosophers all together in order to create new possible way of treating art and sciences.

We will ask ourselves how theoretical thinking about artworks (both with artistic and scientific background) can be a creative way of research in art field. How can we create an appropriate process of questioning artworks that are the result of both "artistic and scientific "research"?

What kind of theoretical experience could we offer in this way of combining art and science? In this paper, we will reconsider the dilemma of writing and theorizing art and related problems between the artistic process, the thinking process and writing. How can we re-question the "scientific" "and "artistic" process in relation to theory? A new kind of laboratory has been established in colleges and universities, where artists, scientists and philosophers work together to create new way in treating art and science.

I on Art and Science: Theoretical approach

Art as a human activity that calls creativity and imagination is intriguing because it creates new forms and fascinates our senses.

Historical and theoretical approach

The relationship between art and science is not new. It is true that artists have long shown a certain fascination for science in general. It would therefore be wrong to regard the relationship between art and science as a really contemporary feature. Art has never ignored the influence of science and technology in its practices, both at the level of its processes and at the level of its themes. In Art et Science, Strosberg consider that « art provokes a personal and subjective experience [...], art asks the why while science also asks the question of the how. » (Strosberg, 1999, p.11)

Art was nourished by science. This symbiosis of art and science is not new. There are many artistic experiments that make use of science or its methods in art. In the Renaissance, the painter or sculptor had to be a scientist. So if he had not mastered the laws of optics and had not studied the anatomy of the human body, he could not create an imitation of nature. Leonard Da Vinci and Albrecht Dùrer thus demonstrated scientific competence by utilizing the laws of perspective and anatomy. It was not until the 19th century that art and science developed separately. And this separation is due to the explosion of knowledge. The example of Neo-Impressionism is an example of how artists based their practice on the application of real scientific knowledge about color and, more specifically, on the science of color perception.

(Scientific Research and Artistic Research: comparative approach - in contemprorary art practice)

What does mean *research*? Particularly in artistic perspective, how could we re-think research in terms of hybrid connection art and science?

Art becomes a site of experimentation. Artists like scientists have this occupation to achieve their goals by research process. Reserach is the activity that urges in artist like scientist, the will and the desire to possess knowledge. Artist through research process seeks to invent a new processes and new operatories modes. In this perspective, I emphasize that bioartists by using scientifics processes (like genetic engeneering, culture of tissue) shapes a new meaning in artistic research. When artistic research becomes hybrid with scientific research – in this sense, the concept of experimentation becomes crucial element in defining research in bio art.

Graeme Sullivan (2005), Art Practice as Research: Inquiry in the Visual Arts is major reference that needs to be considered as one of the main important contribution to the area of practice as research. In the art field the work of Robin Nelson, untitled Practice as research in Arts which has been edited in a second edition in 2022 is an interesting reference.

In Practice as Research in the Arts (and beyond), Robin Nelson (2022) considers the Culture of "artistic research" is itself a matter that needs a deeper understanding. (Nelson, p.5) "In recuperating being-doing-knowing, PaR is disposed to embrace ecological knowing (the knowing-body or intuition) but in dialogic engagement with other modes of knowing."

He states "The notion of "practice as researche" emerged over the past four decades (including established artists drawn into the H.E (higher education) academy not fully recognized." (Nelson, 2022, P.11) he states "my project has aimed to valourized PaR such that it might be recognized as equivalent to other modes of research, achieving status and finding within the academy" (p.11) "the concept of PaR arises when the protocols of academy, the H.E sector, address arts praxis as research". In my understanding, the, PaR, is modern instituionnel matter" (p.13). In 2006," I proposed that 'it is time to speakless pf practice as research and to speak instead of arts research (a significant methodology of which just happens to be based in practices" (P.13)

I suggest a theoretical approach that tries to highlight the meaning of *research* in both art and science in order to emphasize the connection between these

two different areas. I will define what does it means research in terms of scientific and artistic frame.

I aim to explore the intersection between art and science, particularly regarding in context of bioart and nanoart laboratories over the last two decades and to study the proces of theorizing these practices in order to shape a possible relationship between the appearance of laboratories (that link art and science) and the production of writings in the same context.

Bio art is an interdisciplinary field that emerged in the late 20th century as advancements in biotechnology opened up new possibilities for artistic expression. It encompasses a wide range of practices, including genetic art, living sculptures, biohacking, and bio-robotics. Artists working in this field often engage with ethical, social and environmental issues related to biotechnology and the manipulation of living organisms.

It is obvious that the link between the scientific advancements and its effects on the artistic practices is causative "As bioscientific issues now become the order of the day, very present in the media and visibly affecting art practices, the question of how artists can treat scientific information becomes pressing." (Nell Tenhaf, 1998, p.397)

De Menezes (2007) stated the following about the relationship between art and biotechnoly:

The use of biology as an art medium is not a recent phenomenon. It is likely that ever since early humans started domestication, animals and plants have been selected, and consequently modified, based on aesthetic values...Biotechnology was born to explore these new tools for the benefit of humankind .it is becoming possible to develop new therapies for incurable diseases, but, at the same time the public fear misuse of this powerful technology...Modern biology and biotechnology offer the opportunity to create art using biology as a new medium .we are witnessing the birth of a new form of art: art created in test tubes, using laboratories as art studios.(p.215)

II. Theorizing art and "Scientific and Artistic Research"

Theorizing as complex process—Issues

I will examine the idea of theorizing as a process. Then, I will try to link process of artistic practice and its theoriziation in terms of research.

Graeme Sullivan emphasized "The liquid path of ideas can lead anywhere" (Sullivan, 2005, p.210). He considers that the *experience of art happens* and in this space where art emerged through practice, thoughts and ideas becomes realities manifested in work of art. It is ludic relationship that links "The space of thinking about art –making art-seeing art -coming upon art" (Weiss, Tamara Rae. "Cooperating Teachers' Lived Expectations In Student Teaching; A Critical Phenomenological Exploration of Identity Infusing Arts-Based Research.", Proquest, 2014.)

For Sullivan between the *imaginative inquiry* and *research scope*, the experience of producing art become it research.

(Barrett & Bolt, 2007), Practice as Research: Approaches to Creative Arts Inquiry

As a practitioner-researcher, as an artist-theorist, as an artist engaged in the process of practicing, thinking and writing about his own experience, the concept of creativity in this sense becomes broader, since not only the artistic experience is considered, but thinking and writing about this experience itself becomes the object of creativity.

In See it again say it again, the artist as researcher (2013), in 'artistic research,' practical acts defining by (making) and theoretical reflection defining by (thinking) go jointly, in the same way that creating and thinking being intimetly related with artistic practice. In this book art is considered as practice and the contributors are artists who elucidate the phenomenon of research in art.

Artistic research has the power to alter how we see things and the way we think. Thus, the laboratory experience is a form of intellectual and imaginative inquiry. It is a place where research can take place. This is quite enough to strengthen the field of knowledge and understanding.

Theorizing artistic practice as research, then, means creating a basis on which practice can be considered and conceived as a form of questioning and consistent in its method. But it can also be a source of creative and critical meaning. Artistic research generates new perspectives that emerge in the tension between what is already known and what is not. Traditional research builds on the known to explore the unknown. Thus, visual forms are part of cultural practices, individual processes and information systems that we inhabit based on our experiences. Contemporary artists employ practices that bridge the boundaries between different disciplines. Contemporary artist is creator, critic, theorician, activist and archivist.

For Paul Thomas (2013)« The possibility that visual arts research might be the kind of activity that has the potential to make good use of these emerging sites of inquiry is probably best exemplified in the performative area of contemporary

art.

The pervasive impact of information technologies, interactivity, identity politics, cultural diffusion, and educational opportunity are some of the areas contributing to a theoretically robust area of artistic practice. »

Mann and Shanken (2006) explored the impact of the emergence of nanotechnology on both art and culture. They examine the artistic practice that uses nanotechnology as part of process of creativity.

This investigation aims to provide an insight into the process of theorizing and writing about artistic practices that involve a scientific approach (such as bioart and nanoart). I argue that between –practicing art and –writing about it, a complex process of theorizing is founding.

Stephen A.Carter (2010) investigates the use of nanotechnology in art and explores the relationship between the unique properties of nanomateriels and their prospective for artistic expression.

For Edward A. Shanken, (2005) examines how contemporary artists who works in collaboration with scientists –engineer produce together theoretical and practical issues and he considers that this kind of hybrid scientific work need to be studied in deeper dimension and need to be evaluated taking into account the challenges.

Toward a new paradigm: the art of inventing concepts.

Given the complexity and novelty of the techniques used by scientists and the ways of working developed by artists, as well as the collaborative process 483

between them, it seems that thinking about art practice itself becomes complicated.

When artists leave their so-called traditional processes and mediums to enter laboratories, our pre-established conception of art and the work of art is called into question. How can we think of the work which is no longer the fruit of the creative act of the artist alone, but the fruit of a collaboration between the artist and the scientist and we are no longer designed artwork but also art project.

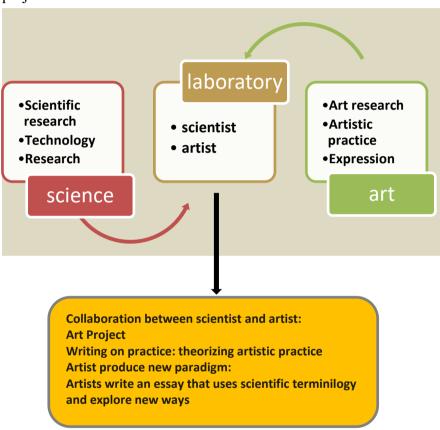


Figure N°1: Imen El bedoui, Process between Scientific and Artistic research

When the artist took the initiative to write and theorize his artistic practice, taking into account all the scientific tools and techniques, it is interesting to note that in the last twenty years, for example, the case of bio-artists, they are

making their own reflections and offering a different approach to writing their own practice. The connection between the processes of making art, practicing art, and processes of reflecting, writing about it has become a very fascinating process and a new way of writing. Eduardo Kac, who is considered a pioneer of bio-art, is also a pioneer in the direction of writing about his art practice. - Eduardo Kac has published a first fundamental reference in the field of bio art untitled Signs of Life, bio art and beyond. In this book, artists from different backgrounds and theorists have their thoughts and positions regarding the connection between art and life sciences, biology and related fields. It is considered a fundamental source for researchers and those interested in bioart.

The artist Georges Gessert written his book Green Light, toward an art of evolution, as an artist, he treated the question of aesthetic values and its influences on the ways of breeding plants and animals. Georges Gessert considers that "Gene technology has put...an end [to]... the polarity natureart. It is of great social import for our future to analyze and criticize works of art (a cow or a gene manipulated bacterium) by the views and criteria of art. The living organisms ...that surround us ...can only be understood and interpreted as works of art" (Gessert, 2010, P.116).

It is important to note that the increase in books and articles written in the fields of art and biotechnology is directly related to scientific discoveries and advances.

If we trace the relationship between the rise of scientific research in biotechnology and the rise of artistic practice that has made biotechnology it's subject or technique, we find that since the year 2000, there has been a boom in collaboration between scientists and artists on the one hand and an upsurge in literature linking artists with scientists on the other.

According to the WorldCat, (1) Books that included the topic of bio art within its context: The number of search results was 412,875 books that dealt with the topic within its context. There are 360,000 printed books and approximately 61,000 e-books. The process of authorship and publishing was largely concentrated in the years after 2015, with a large percentage of authorship and publication between the years 2000 - 2015, the largest amount of which appeared in the year 2008. However, the largest number of publications was in the year 2020 until 2023, which gives a clear indication of the increasing interest in the topic during the last five years.

(2) Books whose title directly includes the subject of bio art:

The number of books written and published according to the site. The search showed 469 results, most of which were written after the year 2000, and a large number appears in the year 2013.

According to the American Library Association www.ala.org, the result of the search showed that there are 23,700 books included in the libraries that deal dealed with the subject of bio art in its content. When searching for the years of authorship and inclusion, we find that the period between 2000-2020 is the period of momentum in authorship and publishing. A significant increase in authorship has also appeared during the period 2015-2020, and it is considered. The year 2020 has the largest percentage.

According to https://www.goodreads.com/ the search shows 15,612 results about books that include the subject of bio art in their titles and content. When looking at them, it appears, as in the previous sources that the activity of writing and publishing on the subject received the greatest attention after the year 2000, and the writings are quantitatively concentrated in the period 2015-2020, and the year 2020 also receives the largest amount of writing and publishing. Based on these statistics, I should mention that the year 2000 is significant for the revolution in genetic and DNA research and cloning, and biotechnology in general became a major issue in scientific society.

The establishment of research laboratories in universities and institutions that provide structures, tools and elements necessary for both artistic and scientific research is an important moment to question the process of theorizing artistic practice and the act of creating a new theoretical paradigm.

In the list bellow, I try to present a mapping on the status of laboratory research that implicates art and science in their purpose and protocols and goals:

SymbioticA (University of Western Australia): is a leading bio art lab that offers an artistic research facility within a scientific setting. It has been at the forefront of bio art since its establishment in 2000 and has hosted numerous artists-in-residence, exhibitions, and workshops exploring the intersections of art and biology.

Bio Art Society: Based in Helsinki, Finland, the Bio Art Society is an international organization that promotes bio art through research, production,

and collaboration. They organize events, workshops, and residencies, and they operate the SOLU Space, a platform for art, science, and society.

Genspace: Located in New York City, Genspace is a community lab that provides access to biotechnology tools and education for artists, scientists, and entrepreneurs. It offers classes and workshops in bio art, biohacking, and synthetic biology, fostering a collaborative environment for creative exploration.

Waag Society: Based in Amsterdam, Waag Society is a research institute that explores the connection of art, science, and technology. They have a dedicated bio art lab called The Open Wetlab, which provides a space for artists, designers, and scientists to experiment living materials and to engage in critical discourse.

Hackteria: Hackteria is a global network of biohackers and artists working in the intersection of art, science, and technology. They organize workshops, residencies, and events that explore DIY biology, citizen science, and bio art. Hackteria encourages open-source collaboration and knowledge sharing.

Biotopia Lab (Munich, Germany): Biotopia Lab is part of Biotopia – Naturkundemuseum Bayern, a museum dedicated in exploring the relationship between humans and nature. The lab focuses on interdisciplinary projects that combine art, biology, and technology, fostering collaborations partnerships between artists, scientists, and the public.

Science Gallery Dublin (Dublin, Ireland): Science Gallery Dublin is a public science center that explores the intersections of art, science, and technology. They host exhibitions, events, and workshops that tackle contemporary issues, including bio art and biotechnology.

KASK / School of Arts (Ghent, Belgium): KASK is an art school associated with the University College Ghent. They offer a program called "In Vivo," which focuses on artistic experimentation with living matter, biohacking, and the ethical dimensions of biotechnology.

C-LAB (Barcelona, Spain): C-LAB is an art and science laboratory associated with the Center for Contemporary Culture of Barcelona (CCCB). They

explore the intersections of art, science, and technology, including bio art, through exhibitions, workshops, and research projects.

Biofilia –is laboratory of biological arts located within Aalto University. It offers artists and researchers access to biological materials and equipment for interdisciplinary projects that combine art and life sciences.

these are some example that shown the foundation of a new kind of institution that considers art and science (particularly biology, biotechnology and life sicences and related areas) as two different sites of research tha works side by side in the same space.

HI RESULTS AND DISCUSSION

Many artists like Eduardo Kac, Laura Cinti, and Steve Kurtz are engaged to scientific laboratories in the fields of biology, life sciences, and the environment and chose to have academic scientific training in specialized fields in order to acquire in-depth knowledge, whether in techniques or precise scientific methods. Thus, the artist becomes a joint artistic and scientific researcher in a multidisciplinary path to present his own vision and expression. Bridging the gap between art and science, artists seeks to integrate creativity into its artistic and scientific fields by producing an art of work that reveals secrets of science and inspired by its laws.

I consider that there is a fundamental connexion that needed to be shaped in order to clarify the relationship between the main three processes: Theorizing art –artistic research and scientific research. The first characteristic is the *artist's background* (some artists have a vocation to scientific approach) - the second characteristic is the *role played by institution*, in this case, some university like Perth University has adopted a new training as biological arts as master training. Here the role of institution is fundamental in the process of genereating and producing new kind of knowledges and new paradigms. The third characteristic is *collaboration between* artist and scientist that participate actively to produce writings.

The research in art, the practice as research or the art-based research are paradigms that need a deeper understanding that should take into account some facts (the artistic practice, the engagement in the scientific approach at the institutional framework), the example of bio-art or nano-art are cases of studies that reflect the intertwining between scientific research and models and the artistic experience that is involved). I think that the topic of theorizing artistic practice in terms of research is a very broad field that we can address in various consultations. The results show that there is a close relationship between the emergence of institutes founded as association's between art and science and the emergence of scientific research and writings on these topics.

IV. CONCLUSION

In this paper we try to shed light on how theorizing art (especially artistic practices related to scientific fields such as biotechnology, nanotechnology, ecology and related fields) can be a challenging task for artists as well as philosophers and art critics – it articulates a whole system of thinking about these practices and leads to producing both concepts and theories that move between *science* and *art*.

At this point, it is important to mention the fundamental role that institutions (foundations and laboratories) play in bringing artists, –scientists and thinkers together to create a new form – a new paradigm of theory.

Theorizing art is a rich, multidisciplinary and transdisciplinary field that seeks a deeper understanding of art and its role in society.

We need to re-think our conceptions on how artistic practice that engaged scientific process that previously unthought-of-as a site of thinking could be considered as a-starting point for generating *theoretical systems* and *new paradigm* on so-called Art-based-Research.

It is crucial to rethink the idea of complexity and plurality and transdisciplinarity in order to find a possible theoretical paradigm that could be used as a reference in the field of theorizing art practices (especially those that combine artistic and scientific fields).

The role of the scientific laboratory and the institution that adopt a transdisciplinary approach (how artists – scientists – philosophers and thinkers work on the same project to create a different vision that takes into account different perspectives on the same subject.

The role of these institutions (higher education) could indeed be a facilitator for the experimental practices used by artists. In a way, they could be considered as space providers for the realization of certain art projects that adopt a scientific approach in their creative process. The question of the means provided by such an institution is fundamental, as the conditions for facilitating the work of artists and researchers are important.

V. Bibliography List:

- 1. Anker, Suzanne. Nelkin Dorothy, The Molecular Gaze, Art in the Genetic Art, New York, Cold Spring Harbor Press, 2003
- 2. Chapter 5 Technogenesis: Aesthetic Dimensions of Art and Biotechnology Suzanne Anker, Susan Lindee, Edward A. Shanken, and Dorothy Nelkin,
- 3. Dorothy Nelkin and Suzanne Anker, "The influence of genetics on contemporary art", NATURE REVIEWS, VOLUME 3, DECEMBER 2002, p.968
- 4. Edited by Eduardo Kac (2007), Signs of life, bio art and beyond, Massachusetts Institute of Technology, MIT Press, Cambridge;
- 5. Eduardo Kac, (2009) Histoire Naturelle de l'Énigme & autres travaux / Eduardo Kac: Natural History of the Enigma&Other Works, Éditions Al Dante, Marseille;
- 6. Ed. Janneke Wesseling, (2011), See it again say it again, the artist as researcher, Valiz/Antennae Series,
- 7. Edward A. Shanken, (2005), Artists in Industry and the Academy: Collaborative Research, Interdisciplinary Scholarship and the Creation and Interpretation of Hybrid Forms, Leonardo (2005) 38 (5): 415–418., Volume 38, Issue 5; https://doi.org/10.1162/leon.2005.38.5.415

- 8. Edited by Mark W.Scala. (2012), Fairy Tales, Monsters, and the Genetic Imagination, First Center for the Visual Arts.
- 9. Estelle Barrett, Barbara Bolt (2007), Practice as Research: Approaches to Creative Arts Inquiry, Bloomsbury Academic;
- 10. Galison Peter, A. Jones Caroline, (2014) Picturing Science, Producing Art, Routledge;
- 11. Graeme Sullivan (2005), Art Practice as Research: Inquiry in the Visual Arts Thousand Oaks, Calif.: Sage Publications, United Kingdom;
- 12. Georges Gessert (2010), Green Light, toward an art of evolution, Massachusetts Institute of Technology;
- 13. Hauser Jens, (2008) SK.Interfaces, Exploding borders-creating membranes In Art, Technology and Society, Fact;
- 14.Ingeborg Reichle, Speculative Biology in the practices of BioArt, Artlink, Australia, Vol.34.N°3
- 15. Jens Hauser (Ed), (2003), Collectif. Catalogue: L'art biotech', Édition Filigranes/Distribution Le Seuil, Le Lieu Unique;
- 16. Marta de Menezes, "Art: in Vivo and in Vitro", in Signs of life, bio art and beyond, edited by Eduardo Kac, Massachusetts Institute of Technology, MIT Press, Cambridge, 2007, P.215
- 17. Nell Tenhaf (1998),"As art is lifelike: evolution, Art and the readymade", Leonardo, Vol.31 N°5;
- 18. Paul Thomas (2013), Nanoart: the Immateriality of Art, intellect Ltd;
- 19. Siàn Ede (2000), strange and charmed: science and the contemporary Visual Arts, éd. Calouste Gulbenkian Fondation,
- 20. Robin Nelson (2022), Practice as Research in the Arts (and beyond),
- 21.Robin Nelson. "Chapter 2 Lineages and Principles: The What, Where, When and Why of PaR", Springer Science and Business Media LLC, 2022
- 22. Robert Mitchell, (2010), Bio Art, Bio Art and the vitality of media, University of Washington Press,

- 23. Stock Gregory, Redesigning humans, our inevitable Genetic future, New York, Houghton Miffin, 2002
- 24. Stephen Wilson (2010), Art + Science Now, Thames&Hudson, London;
- 25. Thacker Eugene, (2005), the Global Genome. Biotechnology, politics, and culture, MIT Press;
- 26. Weiss, Tamara Rae. "Cooperating Teachers' Lived Expectations in Student Teaching; A Critical Phenomenological Exploration of Identity Infusing Arts-Based Research." Proquest, 2014.

بين البحث العلمي والبحث الفني: رهانات حول تنظير الممارسات الفنية المحدث المارسات الماري

باحثة

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الملخص:

في هذا البحث سنلقي الضوء على اشكالية بين مفهومي البحث العلمي والفني، بين نظرية الفن والممارسات الفنية المعاصرة التي تنطوي على والممارسات الفنية، وبين المسار العلمي والمسار الفني في بعض الممارسات الفنية المعاصرة التي تنطوي على العلوم (مثل فن النانو والفن البيولوجي). سوف نتسائل كيف يمكن ان يكون التفكير في الاعمال الفنيي من الجانب النظري (اخذين بعين الاعتبار الخلفيات الفنية والعلمية) طريقة ابداعية في البحث في مجال الفن؟ كيف كمكننا ان ندرس ونتعمق في قراءة الاعمال الفنية التي تجمع بين البحث العلمي والبحث الفني ؟ كيف يمكننا ان ندرس العملية التنظيرية التي تحاول تقديم قراءات للمارسات الفنية التي تربط الفن والعلم؟ يعتبر ظهور مخابر بحثية تمتم وترعى الفنانين والعلماء الذين يشتغلون معا من اجل انتاج اعمال فنية تخضع الى ظوابط المخبر والوسائل المخبرية نقطة تحول في العملية التنظيرية ليصبح مفهوم البحث رهانا سواءا كان البحث العلمي او البحث الفني.

الكلمات المفتاحية: ك. النظرية .، التنظير . البحث العلمي .، البحث الفني . الممارسات الفنية المعاصرة.،