

# Science as Art, Art as Science

human thinking and the act of  
understanding

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## Abstract

In this essay, I am exploring scientific conduct within an artistic frame. I endeavour to reveal the closeness between science and art by displaying the similarities in both the intellectual and practical human effort within artistic and scientific work. I will thus use art and artistic work, and especially the work of Leonardo da Vinci, as a kind of allegory of science and scientific work. The focus in the essay will be on the underlying and formative scientific and artistic work, and with the human act of understanding serving as the contextual framework for this exploration. My thesis is that such an exploration of artistic work will help us find the essence – a more rightful understanding – of scientific practice.

Keywords: *Artistic and scientific work, Leonardo da Vinci, underlying and formative processes, merging of subjectivity and objectivity, the humanities*

# Science as Art, Art as Science

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## human thinking and the act of understanding

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### Introduction

**A** common notion in contemporary society is that a fundamental separation exists between science and art. That they constitute two not comparable sides of human culture. One explanation for this separation might be that science, and especially natural science with its linear methods based on logic and causality, has become such a dominating force in our human mind-set. According to Wackerhausen (1992), it has become a colonising, standard-setting function of our whole world. Because of this position of precedence, the ideals of natural science – the simplistic, dualistic, reductionist approach with its pursuit after objectivity and fully explicit expressible unambiguous facts – are something every human conduct, directly or indirectly, is mirrored against. I believe this undermines the whole humanistic tradition in which art is found, and hence that it contributes to the separation between science and art. In the striving for objectivity, any elements of humanity,

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subjectivity, are only considered something we ought to free ourselves from (Dillern, 2020). What is real has become synonymous with tangible and external reality, and where our personal and contextually situated intangible internal reality suffers from lacking acknowledgement.

Further, another worrying symptom of contemporary society, in this relation, is that we, affected by some neo-liberal desire for efficiency, are giving less room for patience. There is no opportunity, no time, to dwell on anything at all. Dewey (1934), describes that, in this notion, doing as much as we can in the least possible time is considered the ideal way of life. Our human efforts towards what we aim to achieve are thought of as highly instrumental and where there is no room, no focus or appreciation, of underlying form. Analytical, instrumental practice powered by efficiency and focus on the finished – the represented – leads to less focus on, and assimilation with, the basic workings: the process of developing the finished.

This notion does not take into account human creativity and appraisal and the synthetic practical, often tacit, processes of making. Unsurprisingly, our appreciation of the work of art suffers and the gap between science and art widens. In my opinion, however, this diminished appreciation of the human work undermines science just as much. The practical doings in contemporary science, all the actions behind the formalised procedures and protocols, are given little recognition. Latour (1987), stated that we know the input and we know the output, but we do not know, enough, about the inside (the black box) of scientific conduct. He urged (Ibid.) more focus on science in the making, the underlying processes leading to scientific knowledge.

In this essay, I will explore this underlying process of scientific conduct. In my opinion we can bridge the gap of our comprehension of science and scientific work on the one side and art and artistic work on the other side – to bring them together in a unification – exactly by exploring this process. Through such exploration we will see that they relate closely. We will see that they both deal with the attempt to under-

stand, and subsequently describe, world phenomena: that what we within science and art are struggling to accomplish is basically the same. They can both be characterised by an endeavour to reach out for an exterior reality. In science, the conventional ambition is to develop scientific truths about this reality, but Gadamer (2012) states that we also have to acknowledge that art aims to develop a truth transferable to our exterior reality.

Hence, in this essay I will try to show the closeness between them. However, as described, in any attempt to explore any human conduct we stand the risk of making an approach with too much weight on scientific criteria. Such an approach will place art in the frame of science. I will, take a counter-perspective and explore science in the frames of art. I endeavour to disclose the closeness between them by displaying the similarities in both the intellectual and practical human effort within artistic and scientific work. My thesis is that such an exploration of artistic work will help us find the essence – a more rightful understanding – of scientific practice. I will thus use art and artistic work as a kind of allegory of science and scientific work. By this approach, I attempt to understand science and scientific work in a new manner, or at least from a new perspective. My focus will be on the underlying and formative scientific and artistic work and with the human act of understanding serving as the contextual framework for this exploration.

For this purpose, Dewey's descriptions of the work of an artist in the book will be used as a kind of basis conception of artwork<sup>2</sup>. However, I do believe Leonardo da Vinci constitutes a kind of manifestation of this unification. I will hence use him, and especially his work with Mona Lisa, as an exemplification of how sci-

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2 In this essay, I use theory to express my thoughts, and of course, in this process, I have found support and guidance from many scientists/philosophers, not just Dewey. For some of the sources I refer to, it is I who connect da Vinci, even though the scientists/philosophers themselves have not explicitly dealt with him. This is my construction and something I take responsibility for.

ence and art in fact are in deep conjunction. Interestingly, this contemporary opposition between them would not have been recognised by da Vinci himself, as he thought, “no reliable model of nature could contain one without the other” (Gharib, Kremers, Koochesfahani, & Kemp, 2002). Nevertheless, da Vinci was a universal genius, a tremendously gifted person with his deep going, “aesthetic sensibility, deep providence and patience in work” (Prvanovic, 2003, p. 6).

## The work of Leonardo da Vinci

### A sensitivity

Did you know that da Vinci used more than a decade to paint Mona Lisa? And, did you know that modern analyses have revealed the painting to consist of approximately 30 layers of paint? Recently, it has also been speculated whether other women, or at least earlier versions of Mona Lisa, are hidden underneath the visible portrait. To me, this emphasises the tremendous scope of exertion behind this exceptional piece of art. For da Vinci, Mona Lisa represented a work in forever progress, a constant effort towards perfection: something serving as the ultimate definition of the things, which according to Dewey (1934) are known as art. One of the features especially highlighted with the painting, perhaps the aspect where its true beauty is found, is the vivacity brought forth in Mona Lisa’s expression. Her well known, mysterious and emotional expression: “...but the expression, wise, deep, velvety, full of promise, attracts you irresistibly and intoxicates you...” (Gautier, in McMullen, 1975, in Prvanovic 2003, p. 6). Gombrich (1995, in Prvanovic 2003, p. 6) elaborates further: “What strikes us first is the amazing degree to which Lisa looks alive...Like a living being, she seems to change before our eyes and to look a little different every time we come back to her...”. Yet, this feature of the painting was by no means a coincidence; on the contrary, it was something da Vinci truly

endeavoured to realise. In fact, it is well known that to accurately portray the intentions and emotions of the human soul was one of his overarching artistic aims (Da Vinci, 1888, Del Maestro, 2015).

To be able to do so he therefore studied human expression and human anatomy on a large scale: making observations and sketching those down. With a kind of empathising attitude, he approached this phenomenon attentively and open-mindedly, trying to acknowledge it for what it was (Gadamer, 2003), and where all the things he saw, he attempted to form into a holistic and meaningful way of perceiving them. Based on this deep interest, and a profound intellect, he over time thus developed a remarkable receptiveness for, or understanding of, and ability to appraise, his observations and the surroundings he found himself within. The combination of these personal characteristics of da Vinci and this phenomenological closeness to first-hand experiences in the context in which he was situated does in retrospect appear as the ultimate starting point for everything that was to come. To Dewey (1934), a true artist is found exactly in people holding such an unusual sensitivity to the qualities of things seen. Da Vinci's observing abilities as well as his abilities to grasp connections between what he saw thus stand out as especially determining elements of his genius.

## Human thinking

Everything da Vinci observed and everything he thought about, were then systematically stored in some kind of mental arsenal – something like a parallel universe – a universe thereafter serving as the basis for the way in which it was possible for him to express himself through his painting (Jørgensen, 2008). In his endeavour for perfection, and with his imaginative abilities, he thus created a projection in his mind – a vision of what the painting should be: a vision serving as the ultimate target towards which to aim his efforts. These qualitative structures of

da Vinci's mind constitute the constructive facets of intellectual activity, and they are, according to Dewey (in Strøm, 2018), what defines human creativity. da Vinci was hence not just a leading artist, but also a leading intellectual of the Italian Renaissance, something functioning as a figurative description of how aesthetic powers and intellectual powers merge to such an extent that their separation loses meaning. Again, his achievements were by no means a coincidence, they were the result of significant effort and targeted intentions.

As we understand it then, the work with Mona Lisa did not consist of simply dipping the brush in the paint and then stroking the brush on the canvas. It all started with an interest, followed by thinking and observing and then thinking again. da Vinci then perhaps did some painting before he again observed and thought about what he had done – as a continual act of shaping and reshaping (Dewey, 1934), shadowed by observations and critical thinking. If one part of the painting was changed, another part perhaps needed revision as well. The path towards the finished picture was thus a long and strenuous one where he had to solve, and perhaps even resolve, different obstacles on his way, and where no such thing as a completely pre-given recipe of what was to come, existed. This emphasises a unique fragility in the artistic work where a myriad of deliberations, decisions and actions has to be made, and where it is for the individual acting and thinking human being to make those.

With the projection as a guiding light, da Vinci aimed his focus and attention towards what he chose, and used general rules of conduct, techniques and equipment as extensions of his own intentions. The artist is thus not some kind of passive observer of the world, attempting to present something he has fully understood, or seen, beforehand. On the contrary, Mona Lisa arose alongside the endeavour of his work. What he understood or saw, which ultimately manifested in the finished picture, also occurred because of these very exertions of expression (Johansen, 2012). Hence, the vision, or projection, of what the picture was to become grew as the



picture grew (Dewey, 1934). da Vinci attempted to unify all the parts and connections he had made and to make this wholeness become manifest in the picture itself. According to Dewey (1934), the aim of all intelligence is exactly to grasp the full range of content and full range of connections in every experience we make. For this matter, Polanyi (1958) has also stated that we have to reinstate our reliance on our own thinking and appraisal as the supreme authority in all intelligent performance. Through this great amount of pondering da Vinci's put in his work, we even more than before realise the significant ties between scientific and artistic work (Strøm, 2018). For da Vinci, painting, therefore, was not just a formative creation, it was also an act of getting forward to some kind of understanding, as a method of inquiry (Richardson, 2003).

Mona Lisa hence appears to us, not solely as some kind of exterior product by da Vinci, but as a manifestation of the development within him. In his whole practice, a kind of harmony therefore arises between himself and his work. This harmonising attitude, discloses a special way of caring about his doings (Pirsig, 1999), and emerges as a fundamental prerequisite in da Vinci's excellent doings, making the intimate connection between the artist and his work even stronger. It is therefore undoubtedly that, da Vinci's impetus for his work arose from within himself, yet, also, in a close relationship with something exterior. According to Høffding and Roald (2019), artists working at this level feel an intense force, or will, arising from the phenomenon they are working with: that there is a logic in the phenomenon that guides them to such an extent that they feel as if they are becoming just a mediator of external forces.

As we understand it then, da Vinci's projection of Mona Lisa did not solely grow out of his own subjectivity. His personal experiences made in the particular context in which he was situated were met with, and calibrated against, something exterior, something objective. If being able to make the picture expresses something

objectively and universally understood, if he was going to be able to make the audience recognise the feelings and emotions behind the visual portrait, da Vinci had to understand these very feelings and emotions himself (Coessens, 2012). His formal study of the anatomic structures of humanity is one representation of this kind of objective and universal point of view, a point of view also merging into the wholeness of the picture. Such conceptual reflection represents a kind of higher ground, or distance, in da Vinci's thoughts enabling him to move on, and to relate to, different levels simultaneously. This hermeneutical process with its movements back and forth between closeness and distance makes it possible to reinforce the particular and the universal through each other (Gadamer, 2003). Every part of the work was thus closely linked to the other parts and, at each phase of the work, he was in a state of completing: constantly integrating what he was doing to what he previously had done, as well as with reference to the wholeness of what was to come (Dewey, 1934).

The projection in his mind therefore manifested in a desire for fulfilment, like an intense anticipatory force (Dewey, 1934), where the different parts were in a common movement towards this fulfilment – a common movement towards an integrated, completed, experience. Furthermore, in da Vinci's desire to fulfil, we can also find an urge to express. The projection he had when he was working was thus also public in its content, because he developed it in reference to the production of a completed work, accessible to the world (Dewey, 1934). To reach a fulfilment, da Vinci hence needed his work to gain some kind of public reception, and where his own qualitative judgement of the painting further, in a way, depended a great deal on highly depended this exterior validation.

## **The act of understanding**

When it comes to us, as the viewers or recipients of the finished painting, we however stand the risk of only being capable of considering it in its finished representative

form. The scope of exertion behind it, and the intimate relation between the practical acts accomplished and da Vinci's process of undergoing, are not necessarily things we are capable of grasping. And, if we do not grasp this, it corresponds to no more than pure recognition, something that does not enable us to reach an understanding of the painting's true meaning. This resembles a passivity where there is no possibility for perception because perception requires some form of responsive acts from the receivers (Dewey, 1934).

This pure recognition is, however, the very starting point in any act of understanding. When we attempt to understand something new, it always starts with the recognition of the preliminary meaning we have of the things we attend to (Gadamer, 2003). To Gadamer (2003), this first meaning, though, only reveals itself because we already have some expectations of what the meaning will be. In every new encounter we always bring with us, "a full range of biases, assumptions and beliefs" (Kallio-Tavin, 2015, p. 2), which we initially seek to confirm. To come any further we have to penetrate deeper into it, and by doing this, new things will reveal themselves, making it necessary to revise the initial conception we had of it. In fact, the process of understanding something is always a continual revision of the preliminary understandings we already have of the thing we try to understand (Gadamer, 2003). Hence, we always are, or at least we have the potential to be, in some kind of movement towards an expanded point of view. Just as for da Vinci, Mona Lisa represented a work in forever progress, so it does for us as receivers. What we know, and what we come to know is not something static, it is something dynamic. If we describe knowledge as an attribute of a human subject and his or her understanding, it emphasises so clearly that knowledge can be better described as a process of knowing (Polanyi, 1961), as a process of continuous development.

Hence, if we want really to understand the true meaning of Mona Lisa, we need to strive for creating our own integrated experience – something corresponding to a

kind of re-creative act, where we, in a manner, try to go through the same operations as da Vinci did (Dewey, 1934). What we perhaps soon then will come to realize is that the expression of Mona Lisa in fact is an integration of different expressions (Prvanovic, 2003), and that this is one of the main aspects behind the painting's mystery. The expression has an ambiguous and *flickering* quality (Livingstone, 2000, in Prvanovic 2003) which manifests into an enigmatic and seemingly changing mode, making it not fully comprehensible, and making us believe she is alive (Prvanovic 2003). The combination of different, or even contradictory, entities is perhaps what gives the painting its profound quality: "The object is no longer static and stable, it is in latent motion, has a sort of vitality" (Prvanovic, 2003, p. 6). By the use of small details, narrative pieces – lights and shadows, dark areas, blurred outlines and mellowed colours with smooth transitions making a continuous flow from one form or mood to another – Da Vinci introduced and balanced discrepancies, yet always leaving something to the audience's imagination (Prvanovic, 2003).

The main issue regarding the comprehension of Mona Lisa's ambiguity is her mode: whether she smiles or not. Some have analysed her mouth and concluded her not to be smiling. To what extent it is possible to conclude that she smiles or not, when analysing her mouth solely has, however, to be discussed. According to Polanyi (1965), when we attempt to understand something, we cannot attend to the focal object directly, on the contrary we have to rely on our subsidiary awareness of all the parts that together constitute the whole. To see the object as it is, we thus have to approach it holistically, or else we won't be able to see it for what it is. Livingstone (2000, in Bohr, Carbon & Hutzler, 2010, p. 378) states that, "you can't catch her "(Mona Lisa)" smile by looking at her mouth". It is more viewable from the periphery of our vision (Bohr, Carbon & Hutzler, 2010). Prvanovic (2003) further emphasises that the whole expression is built upon the *corners of her mouth* and the *corners of her eyes*, and even though it is not possible to identify the eyes to be smiling, they may function as emotive amplifiers for an expression (Kontsevich & Tyler,

2004). As Pirsig (1999, p. 439) wrote, “quality is what you see out of the corner of your eyes”. The picture’s mysteriousness is nevertheless, as described, one of the main features making it so well known, so much discussed and so well recognised, and is, ultimately then, a constituting feature for the picture being such a tremendous piece of art.

Nonetheless, one of the mistakes made when attempting to understand any artwork, is the belief that the main essence is found in what is purely represented – the visible. To the French philosopher Henry (2009, in Delay, 2017), on the contrary, the essence is found in the invisible. As shown, Mona Lisa moves our attention to what we immediately don’t see and forces us to go beyond the external phenomenon that stands before us, and to enter into the internal layers of what it is (Delay, 2017). Artwork (e.g., music) first reaches its full meaning, “when it points beyond its own structure to other structures and relationships – that is, to realities and possibilities around us and within us” (Lachenmann 1996, in Coessens, 2012, p. 453). The internal, the invisible, is then an expression of the transcendental self-affectivity of the artist (Delay, 2017) – expressions of the formative and undergoing process of da Vinci. This is a perspective that brings the subject alive, both the painter and the viewer – and again reveals the close relationship between the artist and the artwork (Beavington, 2017).

A question is, though, how is the internal, the invisible, revealed? Henry (2009, in Delay, 2017), replies that it is expressed in a way of life. In fact, according to him, the quality of a painting comes down to its ability to locate and express the essence, or even the pathos, of life itself (Ibid.). This is, though, not solely something we see in the painting, it is on the contrary something we *feel* when we see the painting (Delay, 2017, p. 157). Delay (ibid. p. 164) states that a good painting (like Mona Lisa) makes us wonder, and where questions like what would it have been like to be there...sitting beside her, talking to her, arise. As described, the boundary between ourselves and

the thing we attend to might in such experiences become permeable and blurred, and where everything else is left almost as if we disappear into the work fully absorbed in its ethos (Høffding and Roald, 2019). It is something we feel a resonance with that, “matters behind, beyond the matter” (Coessens, 2012, p. 468): a depth that surpasses the material, it is something inherent in the manifestation of the art object that moves and captures us (ibid.). In this process, we embody the painting (Delay, 2017) where our subjective relatedness to the object and/or environment guides us. Like the artist, we are now caring, and we are attentive, and we feel identified with what we attend to. We are freeing ourselves from the dualistic disinterested insistence on the purely representative and opening the door to something more.

Hence, we realise that art has the potential to disclose worldly relations familiar to our own form of life. In our movement from pure recognition to deeper understanding, the number of relations included in our vision widens extensively. We go beyond the focal and purely externally represented objects of the painting and enter the interior world of the artist with a potentially infinite number of projective relations portrayed in the invisible (Delay, 2017). All these relations reveal some kind of background horizon, and in a way make, as described, a way of life come to light (Delay, 2017, Beavington, 2017). It emerges as a quality which the focal objective representation is unable to express purely on its own.

According to Polanyi (1961), it is all these subsidiary relations that make the object what it is. Heidegger (Ihde, 1993), expressed it in a similar way as he described that every little thing in this universe is what it is in reference to its surrounding context, and that it is this contextual relation that makes the thing what it is. In a way, it is a synthesis of all the features, different points of view, all associations in the experiential background, which perhaps are not in attentive focus, that make the thing what it is. Furthermore, all these relations are, again, not necessarily directly visible, but more something dependent on our abilities to tacitly and sub-consciously orientate

ourselves towards. The movement from an attempt of purely recognition to a deeper perception in our probing of Mona Lisa thus requires that we free ourselves from our categorical thinking and open ourselves to what is truly expressed. This process is, yet, not about setting the focal object aside. It is more like the picture's exterior and interior are different modes of manifestation which first express their essence when synthesised into a meaningful whole.

In our effort to deepen our understanding, art can be a facilitator for questioning our conservative and confirmative thoughts and might, "convey layers of meaning" (Beavington, 2017, p. 31). Art makes it possible for us to break the pattern in which new impressions, or new information, are placed in already existing perceptive or cognitive categories and schemas, thus enabling us to go beyond our preconception of the things we attend to. Art, therefore, not only stimulates our routine conceptions, but also exceeds them. When we immerse ourselves in an artwork, "the profane suddenly takes a sacred aspect" (Coessens, 2012, p. 467).

To be able to free ourselves from habitual thinking, to open the door for what is really being told, we need to share some of the background – the life-world – of the artist. Hence, as Mona Lisa constitutes an expression of a kind of aesthetic experience of da Vinci, it also needs to constitute an aesthetic experience for us as recipients. We need some common ground, some familiarity, to have walked some of the same trails as him, if to come in a position to grasp the essence of, to feel a resonance with, the invisible expressed. When what is expressed is some kind of subjectively experienced pathos of life itself, we, as the audience, need to have some similar experiences. To really understand the phenomenon we address we need a life lived, a wealth of impressions and experiences from a diversity of human contexts (Dillern, 2021). We need what Coessens (2012), describes as a sediment layer, a pool of embodied experiential knowledge which again nourishes our imaginative, foresighted abilities making us capable of creating and understanding something new. Of course, how well the re-

cipients can recognise themselves in the artwork – in a way something that concerns its plausibility and universal significance – is primarily for the artist to facilitate. Yet, we also realise that it demands something of the audience.

## Context

Another element making our understanding of Mona Lisa difficult is that we always understand the things we understand within the context in which we are situated, and that which context we find ourselves in, and the specific context itself, is not something invariable (Liaci, Fischer, Heinrichs, Tebartz van Elst & Kornmeier, 2017). When it comes to the facial expression of Mona Lisa it has been shown that in eastern and western cultures different facial expression decoding-strategies exist, which might lead to different understandings of which modes and emotions an expression is a manifestation of (Jack, Blais, Scheepers, Schyns & Caldara, 2009). This contextual element, of the in itself difficult interpretations of these contradictions found within the painting, leaves us obviously in a state of confusion and makes us incapable of coming to any final conclusion regarding Mona Lisa's mode. We do not seem to fully come to understand her. Bohrn, Carbon and Hutzler (2010, p. 380) state that even when we catch her smile, "she keeps her mystery". This is, nevertheless, not a problem, is it? There are very few things in this world of ours that are one-sided, all or nothing affairs.

In my opinion, this ambiguity, this mysteriousness, is one of the main aspects of the inherent quality in the things we face in life, and something which Mona Lisa constitutes a brilliant example of. It is not black or white, not static, not something we can know with absolute certainty. On the contrary, it is something we have to appraise, interpret, and if to really understand it, requires human imaginative and foresighted abilities at their highest pitch. The whole process of understanding is thus a process of knowing, and it is dynamic, it is shifting and it is developing. Even more



so, as our understanding of the picture develops, perhaps the picture itself might change as well. Our world is an everlasting changing world, our knowledge of this world is logically, then, taking the same character. The process of knowing is hence a continuous path of self-transcendence, a self-transcendence that has the potential even to transcend the world itself.

## Concluding remarks

In this essay, I have attempted to explore the underlying process of scientific conduct. I have explored science in the frames of art and used artistic work as an allegory of scientific work and I have done this with human sensitivity, creativity, thinking and the process of understanding as a contextual framework. My thesis was that such an approach would help us find the essence, at least a new perspective, of scientific practice. Furthermore, although it was not a definite aim with this essay to explore art or artistic work in itself, I am sure my attempt to unify science and art has implications in this direction as well. Nevertheless, by means of this essay, what we now have come to realise is that the act of understanding – of really coming to a new point of view - is not an easy thing to accomplish, and to embark upon such a task is something many feel a kind of repugnance for. Dewey (1934) describes how, when faced with something we find difficult, a discrepancy, and which we feel a kind of resistance against, whatever it might be, we have two choices: we can continue to recognise, or we can begin to perceive. To Lindseth (2015), this resembles the choice between embarking on some form of broad, easier, un-reflected road, or a more narrow, demanding and reflective one. If we are unable to see the difficulties we face, or if we are not open to seeing them, the broad road becomes the obvious one. For further learning and developing to happen, for any self-transcendence, we thus have to be open to accepting these difficulties (Lindseth, 2015): we have to have a willingness for, as well as an impetus for, entering this, perhaps, hard and demanding narrow road.

At the same time, it is about reaching out for what is prominent and interesting in our surroundings (Høffding and Roald, 2019). It is an engagement of our affective and bodily dimensions of subjectivity, a dynamic continuum of potential life-lived experiences we can integrate in our view (ibid.), where we, from the position we have, attend to something external. However, it requires that we are interested, that we have a driving force similar to the passion that inspired the production in the first place (Delay, 2017). If we are not open to this new, and perhaps difficult, we fail to construct the necessary mental space needed to understand what we attend to as a meaningful whole (Høffding and Roald, 2019). Høffding and Roald (ibid.) describe how we, when attending to something new, like music, at first mainly will hear noise and diverse sounds without being able to grasp the structure and flow of the melody. With some effort, though, we gradually learn to make sense of the different pieces of the work, and only then is it possible to move into a kind of “deep listening” required to really be able to embrace the unique quality expressed (ibid., p. 17).

Through the work of da Vinci, we further see how the close relationship between the formative underlying process of the artistic subject and the objects he works with constitutes a synthesis of the visible and the invisible in the painting. We also see that it is in this manifestation, this aesthetic experience, that the painting’s true quality is found. The invisible in the painting – a life lived or the pathos of life – is, “irreducible to any [purely] objective representation” (Delay, 2017, p. 160). As described, the notion in art, but not least in science, of creating and representing something purely objective, absolute, explicitly expressible, is fallacious. On the contrary, due to the significance of the artist’s prolonged, both highly specific and targeted and more general, formative process and all the underlying often tacit relations – the fundamental aspects of the entirety of the phenomenon we address; the complexity and all the dimensions; all the appraisals, decisions and judgements – our overarching aim has to be an attempt to un-conceal all these invisibilities (Gadamer, 2012).

The contemporary division of objectivity on the one hand and subjectivity on the other is therefore wrong. To reach something truly universal, something objective, subjectivity in its richest form is needed. In order to understand something external, our gaze must just as much turn inwards into our own subjectivity. If not, a main part of the essence, the quality, is left outside (Pirsig, 1999). Quality, in art or in science, is thus the point where the two meet, like an event (ibid.). Quality is when the invisible and visible; the creation and manifestation; the underlying formative process of undergoing and the purely represented; the subjective tacit relations, dimensions and levels and exterior objective focal point to which we attend, unite into a comprehensive, yet enigmatic whole. This synthesis is still, though, something of a liminal entity. It is a point of transition, a point which again could lead to new diversity.

The process of getting to know something exterior is thus always a self-encounter (Gadamer, 2012) – an open window on ourselves. Art and science have the potential to be the ultimate manifestations of this encounter. The machine (motorcycle) Pirsig (1999) attempted to refine in his book, *Zen and The Art of Motorcycle Maintenance – An Inquiry into Values*, was in fact himself. The undermining of the whole humanistic tradition and the common notion that there is a fundamental distinction between science and art, thus needs adjustment. As this essay illustrates, we have to place the sensitive, creative, thinking human subject with her endeavour for understanding the external reality in front. Any extrospection is always an introspection. There is no contradiction between the humanistic and the scientific tradition – quite the opposite, their symbiosis is a defining feature of quality. It is time for every fragmented and highly specialised education or training programme to acknowledge this symbiosis. Aspects of the humanistic tradition are not just a kind of broad supplementary addition to any disciplinary knowledge. On the contrary, it constitutes substantial and essential assets of this disciplinary knowledge itself. By such an approach we are re-contextualising and re-humanising science because we understand that the development of any scientific truth (or artistic truth), as well as any recipients ap-

praisal of this truth, is just as much a human personal development. The merging of science and the humanistic tradition is how we, and increasingly precarious in contemporary science, can give science and scientific knowledge meaning and make them matter again – it is how we can bring the kingdom back to the king (Aarnes, 1996, in Asdal 2005, pp. 254-255)<sup>3</sup>.

As we understand it though, it is not a straightforward, linear, certain process leading to something like unambiguous answers. The contradictions, tensions, refractions, oppositions are necessary parts of our developmental process and inherent entities giving quality to the objects we address. In his work, da Vinci was interested, exactly, in combining contradictory entities, as he believed this was where the quality in any artwork was found (Prvanovic, 2003, p. 6). As with *Mona Lisa*, our deepest reality is not static and stable, it is in latent motion, and it is the unambiguousness - the balancing of opposites – that ultimately gives it its deep vitality. For *Mona Lisa*, this vitality, as described, is especially a feature of her expression manifested in her smiling eyes. da Vinci (1888) thought of the human soul as the manifestation of life wisdom: the fusion of every lived experience, every observation made. As previously pointed out, one of his overarching artistic aims was exactly to portray the intentions of our human soul. Interestingly then, he termed the eye “the window of the soul” (ibid., IX, 653). He also wrote (ibid., I, 22) that, “[h]ere [in the eye] forms, here colours, here the character of every part of the universe are concentrated to a point; and that point is so marvellous a thing.... Oh! marvellous”. This thing (the eye) thus becomes a highly focal object on the one side, and on the other side the culmination of boundless life pathos: the synthesis of object and subject, of the finite and the infinite. Beauty or quality in its most profound form.

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3 Here I borrow, and make a little twist on, Aarnes’ metaphor where he originally stated that it was positivism that had become a king without a kingdom.

By acknowledging and trusting our own subjectivity, this self-encounter constitutes not just the only, but the ultimate starting point for anything to come (Dillern, 2020). It is a position which surpasses sheer subjectivism because we are attending to, and aiming towards, an external reality (Polanyi, 1958). However, the modern craving for objectivity has caused a kind of fear of our own subjectivity – a fear of these self-encounters. Delay (2017) writes about contemporary society’s negation of subjectivity - the self-negation of life – and that it results in few individuals who are willing to confront themselves by appreciating a work of art. Contemporary man is fleeing from himself and thus avoids any self-encounter that any work of art might trigger. Delay (*ibid.*, pp. 168-169) further describes how those who do not want to, “confront the pathos of their own subjectivity”, will lose the ability to feel or experience anything at all, and when their human sensibility is gone, there is no possibility of experiencing what an artwork expresses: for the, “insensible, the work is mute”. In contrast, Beavington (2017) writes about the opposite process in relation to a group of student’s encounter with the rainforest. As the students gradually begin to, “breathe in the rainforest”, they begin to feel, “more permeable, more interconnected” with nature (*ibid.*, p. 9). Bit by bit a receptivity and a wonder for what surrounds them arise, where they begin to hear the voices of the world around (*ibid.*). Beavington (*ibid.*, p. 9) accentuates his message with a poem (*Amazonia*) where he emphasises that the rainforest comprises of, “a million lessons for those who listen”.

By embracing the world out there, by embracing something new, or something difficult, our assumptions and preconceptions can be tested and made subject to possible nuancing and development (Gadamer, 2003). This process becomes vital for avoiding being stuck in a potentially, “shallow, dogmatic or perhaps fanatical pre-understanding” (Lindseth, 2003, p. 48). It is within these discrepancy-experiences that we awaken our critical thinking; hence, they become a prerequisite for learning, a fundamental necessity for being able to become wiser (Lindseth, 2003). In this way we constitute our life in the frames of an everlasting refinement. Still, for many, most

of their experiences have a beginning and an ending that occur without them noticing. One thing replaces the previous in a habitual laxity (Lindseth, 2015), and these experiences are recognised in a manner where the essential, and perhaps demanding, questions are covered up. It is a sign of our speedy and impatient civilization that our experiences do not seem to penetrate the surface. The question now is which road do you take?

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## References

- Asdal, K. (2005). Returning the kingdom to the king: a post-constructivist responds to the critique of positivism. *Acta Sociologica* 48(3), 253-261.
- Dillern, T. (2020). The Act of Knowing: Michael Polanyi Meets Contemporary Natural Science. *Foundations of Science* 25, 573–585.  
<https://doi.org/10.1007/s10699-019-09626-3>
- Dillern, T. (2021). The Scientific Judgment-Making Process from a Virtue Ethics Perspective. *Journal of Academic Ethics*. <https://doi.org/10.1007/s10805-021-09399-0>
- Beavington, L. (2017). Romanticism and Science Education. *European Journal of Philosophy in Arts Education*, 2(2), 6-45.

- Bohrn, I., Carbon, C.-C., & Hutzler, F. (2010). Mona Lisa's smile—perception or deception? *Psychological science*, 21(3), 378-380.
- Coessens, K. (2012). Sensory Fluidity: Dialogues of Imagination in Art. *Essays in Philosophy*, 13(2), 6.
- Da Vinci, L. (1888). *The Complete Notebooks of Leonardo Da Vinci – Volume 1* (J. P. Richter, Trans.). In. London.
- DeLay, S. (2017). Disclosing Worldhood or Expressing Life? Heidegger and Henry on the Origin of the Work of Art. *Journal of Aesthetics and Phenomenology*, 4(2), 155-171.  
<https://doi.org/10.1080/20539320.2017.1396697>
- Del Maestro, R. F. (2015). *Leonardo Da Vinci and the Search for the Soul – The 30th John P. McGovern Award Lecture*. American Osler Society – John P. McGovern Award Lectureship. Baltimore, Maryland.
- Dewey, J. 1934. *Art as Experience*. New York, Penguin Books Ltd.
- Gadamer, H. G. 2003. *Collected Works* (Norwegian version) [Gesammelte Werke]. Oslo, Cappelen akademisk.
- Gadamer, H.-G. (2012). *Truth and method* (Norwegian version) (2nd ed.). Falun: Pax Forlag.

Gharib, M., Kremers, D., Koochesfahani, M. M., & Kemp, M. (2002).

Leonardo's vision of flow visualization. *Experiments in Fluids*, 33, 219-223.

Høffding, S., & Roald, T. (2019). Passivity in Aesthetic Experience. *Journal of Aesthetics and Phenomenology*, 6(1), 1-20.

<https://doi.org/10.1080/20539320.2019.1589042>

Ihde, D. (1993). *Postphenomenology – Deromanticizing Heidegger*. Evanston:

Northwestern University Press.

Jack, R. E., Blais, C., Scheepers, C., Schyns, P. G., & Caldara, R. (2009). Cultural confusions show that facial expressions are not universal. *Current biology*, 19(18), 1543-1548.

Johansen, A. 2012. Writing style and method, in: Johansen, A. (ed.) *The language of knowledge- writing work as a research method* [Skrivemåte og metode, introduksjon til Johansen, A. (ed.) Kunnskapens språk – skrivearbeid som forskningsmetode]: Oslo, Scandinavian Academic press

Jørgensen, D. 2008. *Aglaias dance. Towards an aesthetic thinking* [Aglaias dans.

*På vej mod en æstetisk tænkning*], Århus: Aarhus Universitetsforlag.

Kallio-Tavin, M. (2015). Representation of art as an ethical and political act.

*Nordic Journal of Art and Research*, 4(2).

<https://doi.org/10.7577/if.v4i2.1540>



- Kontsevich, L. L., & Tyler, C. W. (2004). What makes Mona Lisa smile? *Vision research*, 44(13), 1493-1498.
- Latour, B. (1987). *Science in action*. Cambridge, Massachusetts: Harvard University Press.
- Liaci, E., Fischer, A., Heinrichs, M., Van Elst, L. T., & Kornmeier, J. (2017). Mona Lisa is always happy—and only sometimes sad. *Scientific reports*, 7, 43511.  
<https://doi.org/10.1038/srep43511>
- Lindseth, A. 2015. Response-ability and critical reflection – How to develop practical knowledge? In: McGuirk, J. & Methi, J. (eds.) *Practical knowledge as professional research [Svarevne og kritisk refleksjon - Hvordan utvikle praktisk kunnskap? In: McGuirk, J. & Methi, J. (red.) Praktisk kunnskap som profesjonsforskning]*. Bergen, Fagbokforlaget.
- Pirsig, R. M. (1999). *ZEN and The Art of Motorcycle Maintenance – An Inquiry into values*. New York: Harpertorch.
- Polanyi, M. 1958. *Personal Knowledge – Towards a Post-Critical Philosophy*, London, Routledge.
- Polanyi, M. 1961. Faith and Reason. *The Journal of Religion*, 41, 237-247.
- Polanyi, M. (1965). On the Modern Mind. *Encounter*, 12-20.

Prvanovic, S. (2003). Mona Lisa-ineffable smile of quantum mechanics. *arXiv preprint physics/0302089*.

Richardson, L. 2003. Writing – a method of inquiry. In: Denzin & Lincoln (eds.) *Collecting and interpreting qualitative materials*. Sage Publications, 2. edition.

Strøm, H., A. (2018). Creativity in Science. *Information – Nordic Journal of Art and Research*, 7(1). doi:<http://dx.doi.org/10.7577/information.v7i1.3084>

Wackerhausen, S. (1992). Technology, competence and knowledge forms [Teknologi, kompetence og vidensformer]. *Philosophias temanr: Teknologi og Filosofi*, 20, 81-117.

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