

# Transpositionality and Artistic Research

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Marcel Duchamp's *Fountain* (1917) is probably the most famous engagement with expositiveness (Schwab 2011a, 2012, 2014; Schwab and Borgdorff 2014b) in the history of art. Expositiveness, understood in its most general sense, is *the articulation of something as something else*. Here, the title *Fountain* captures how a "piece of plumbing" (Duchamp's own words in "The Richard Mutt Case") could become a work of art. This exposition of a urinal as art may be called "appropriation," "ready-made," and so on but, in its most basic operation, it simply consists of the gradual transposition of the urinal in question into art: bought at J. L. Mott Iron Works on Fifth Avenue in New York City,<sup>1</sup> it must have been moved to the Grand Central Palace where the first exhibition of the Society of Independent Artists was about to take place and, later, after its rejection, to Alfred Stieglitz's 291 gallery where Stieglitz himself took the by now famous photograph that was to appear in the first issue of *The Blind Man* as an illustration to "The Richard Mutt Case." Its later whereabouts remain unknown.

However, what has happened to the object at the centre of this chain of transpositions? When seen from the perspective of the urinal we have to face the distinct possibility that nothing has changed, and that the object itself has remained what it has always been—an existing thing in the world that has not been materially altered as it was moved from shop to art. Transpositions and, hence, expositions do not necessarily alter the world by materially changing their objects; what changes in a transposition are the interrelations of material objects in the world and, hence, the difference of meaning that those objects carry across distinct positions. "Meaning" here is attributed to material constellations and not to a secondary act of interpretation, although interpretations, being material in themselves, also have an impact on those very constellations and, hence, on their meaning.

Recognising a transposition, however, implies that a difference has been made; simply moving the urinal from one corner of J. L. Mott Iron Works to another may literally not mean anything and be thus transpositionally neutral.

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<sup>1</sup> For this introductory passage, I am content to follow this simpler narrative. A more complex reconstruction states that *Fountain* was conceived by Elsa von Freytag-Loringhoven, who bought the urinal in Philadelphia and had Charles Demuth bring it to New York City (Gammel 2003, 223–28). Both versions provide ample ground to argue for the role that transpositions played in the creation of the work.

This need for difference challenges assumptions of material identity of the kind just made—surely it *is* not a urinal anymore as the object was moved first onto a plinth and then onto a photograph. In fact, the very “loss” of the urinal after its photograph had been taken attests that the transposed object—*Fountain*—was so different that the initial piece of white ware simply did not matter anymore. Hence, today, we have the absurd situation that replicas of the urinal used for *Fountain* (deployed by Duchamp since 1950 [Cabinet 2007])—that is, essentially *different* objects—appear in museums of modern art across the globe to confirm the *identity* of this masterpiece. This tangle is not dissimilar to Duchamp’s *L.H.O.O.Q.* from 1919, a picture postcard of Leonardo’s *Mona Lisa* with added moustache and goatee, which in 1965 as *L.H.O.O.Q. rasée* Duchamp omitted again. Can *L.H.O.O.Q. rasée* ever be seen as the original postcard—that is, as an identical object—or has Duchamp managed to install difference in something seemingly identical?

One may qualify the difference between the urinal and *Fountain* or the identical-looking postcard of the *Mona Lisa* before and after Duchamp’s double intervention as “infra-thin,” Duchamp’s neologism, which he refused to define beyond listing examples (de Duve [1991] 2005, 160). Following this definitory openness, scholars apply the notion of “infra-thin” differently. Thierry de Duve ([1991] 2005, 94), for instance, highlights selection and nomination of the ready-made as “infra-thin”; Dalia Judovitz points to “infra-thin” differences between mass-produced objects (1998, 129) or to the change exhibition brings to an object (*ibid.*, 142). However, all these interpretations rely on transpositions of sorts, suggesting that one should not in principle prefer one reading over the other but seek the operational logic that supports and requires the “infra-thin.” De Duve’s (2005, 160) more general point—that “the infra-thin separation is working at its maximum when it distinguishes the same from the same, when it is an indifferent difference, or a differential identity”—is, thus, more helpful for an understanding of the complications between structures of identity and structures of difference enacted in a transposition.

Caught between those structures, the ontological status of the transpositional object in question is jeopardised. While it remains, and, indeed, must remain, *a* thing, we cannot but see difference scattered all over it since without such difference any significant relationship to the thing *as a vehicle of meaning*—which we like to see it as—would be lost. The transpositional object is and is not self-same; depending on the route of access, it may present itself in a transposition as identical or as different—the urinal may or may not remain what it had been. Hence, in a theory of transposition, what may initially have looked like a contradiction—is it, or is it not the same thing that we see before and after the transposition?—when embraced, becomes the bridge to a new kind of thinking in which contradictions belong to the material conditions of reality. Not knowing what a thing precisely is may offer better access to understanding its complexities than fixing it in a reductionist notion of identity.

A *Vexierbild* or, as W. J. T. Mitchell (1995, 45–57) says, a “multistable image” displays a similar ambiguity where a single image can host two different rep-

representations in such a way that when I see the one, I seem unable to see the other, and vice versa. Accordingly, an arbitrary object (the urinal) can be looked at as a work of art (*Fountain*), or a work of art can be looked at as an arbitrary object, but not both at the same time without flattening the one into the other. Hence, multistable images are first aesthetic and not representative objects; they only represent when they have broken down into a specific image at the price of the disappearance of all other possible images in what may be called the background noise of the picture (the images that we don't see when we see an image). As Mitchell reminds us following Ludwig Wittgenstein's engagement with the famous "Duck-Rabbit" picture, there is a productive state before such breakdown if one does not lament the lack of representation but rather celebrate its *open potential*. Dario Gamboni's *Potential Images: Ambiguity and Indeterminacy in Modern Art* (2002), for instance, provides examples from the history of art to indicate that to artists multistable or ambiguous images have always been relevant. This history includes *Fountain* and the debate the members of the council of directors of the Society of Independent Artists had already had over what else the urinal may become in the imagination. (Louise Norton's contribution to *The Blind Man* is entitled "Buddha of the Bathroom." In it, she says: "Someone said, 'Like a lovely Buddha'; someone said, 'Like the legs of the ladies by Cézanne'; but have they not, those ladies, in their long, round nudity always recalled to your mind the calm curves of decadent plumbers' porcelains?" [Norton 1917, 6].) In fact, as Jacques Rancière (2004, 23) suggests, when replacing the representative regime of the arts with the aesthetic regime of art, the aesthetic mode can and, in fact, must contain a contradictory kind of heterogeneity—"the power of a form of thought that has become foreign to itself"—for it to do its work, which here has been characterised as essentially transpositional and for which to work "knowledge [must be] transformed into non-knowledge" (ibid.).

Assuming the importance of transpositionality for contemporary art as suggested here with reference to Duchamp and Rancière, the intertwinedness of knowledge and non-knowledge under conditions of receding ontological stability describes the context within which artistic research can be epistemologically situated. In other words, if research is seen as directed play between difference and identification, non-representational notions of knowledge need to be sought whose epistemological strength does not come from what the world is believed to be—ontology—but from qualities emergent from the very operations of research: its "active state and not the result" (Duchamp, *Notes* 26, quoted in Judovitz 1998, 134). As when riding a bicycle, once we move and the bicycle is "active" we can let go, but we are forced to touch the ground when we stop.

2

The tension between representational and aesthetic paradigms bears heavily on the history of photography and, more generally, on the history of technical images (Flusser 2000) as such. While before the invention of non-human imag-

ing representational and aesthetic modes may have lived side by side in the murky waters of “the arts,” the invention of a representationally supercharged photography can be seen to have put pressure on artists to accelerate their engagement with the aesthetic in order to maintain not only their status as artists but also, following Kant’s *Critique of Judgement*, the balance and harmony between imagination and understanding in a wider cultural context. In other words, even before the invention of photography improvements to representational apparatus—such as for instance the use of optical devices as an aid for drawing and painting from about 1420 (Hockney 2001)—have in the arts bred a sharpened focus on the aesthetic of the kind that may have led to an “aesthetic regime,” as Rancière proclaims.

Photography as an essentially technical process would have naturally fallen on the representational side of things, suggesting that it could not be a suitable form of art under aesthetic conditions. This, in turn, provoked photographers such as Stieglitz to work towards establishing photography’s artistic credentials, for instance, in his 291 gallery, which was actually called The Little Galleries of the Photo-Secession, where he not only launched the careers of photographers such as Edward Steichen but also introduced hitherto unknown European art to the United States. While Thierry de Duve (1996, chap. 2) gives an excellent account for the reasons why Duchamp may have chosen Stieglitz to photograph *Fountain*—Stieglitz’s desire to seek recognition for photography, that is, for a “minor” practice—his focus on Duchamp makes him miss a point on photography’s own transpositional character seemingly absent from Stieglitz’s project. This concerns an understanding of “aesthetics” not so much as a field of philosophy, but as part of the sense of world created through art, an understanding that fundamentally separated Duchamp and Stieglitz. (As de Duve [1996, 117] suggests, Stieglitz could only be enlisted to photograph *Fountain* as long as he believed it to be by the unknown artist “R. Mutt” and not by Duchamp, since he “tended to consider Duchamp a charlatan.”)

At stake is the relationship to art and the role of the aesthetic in it. Duchamp, by then already famous for his *Nude Descending a Staircase, No. 2* (1912), in declaring to have moved beyond “retinal painting” in effect had decided not only against his own history as a painter and the type of painting that Stieglitz might have shown in his gallery, but also against an ideal of photography modelled on precisely such “retinal” art. While those “retinal” photographers and painters may be exquisite artists, in their work the aesthetic is confined to function only within “art” and not simultaneously against it. In other words, the institution of “art” is passively accepted and not proactively transposed into a new beginning. This is not a question of the aesthetic versus the conceptual, for instance, but a question of in whose service the aesthetic is (the eye or the mind?), how radically it is made to matter, and how seriously the aesthetic challenge to the intellect is taken.

Regarding photography, it is thus fittingly ironic that Stieglitz’s modernist path ultimately had only limited success, while a completely different strand of photography—suitably named “Walker Evans & Company” by Peter Galassi in his 2001 exhibition at the Museum of Modern Art, New York (Galassi 2000),

which included works by artists as diverse as Andy Warhol and Robert Adams—proved to be the more relevant and successful trajectory of photography in the twentieth century. Crucially, this trajectory has not been oriented “upwards” to major forms and painting in particular but “downwards” to photo-journalism, everyday photography and amateurism suggesting that photographs are arbitrary and not special objects in the world, not dissimilar to, say, a piece of white ware.

Here, Walker Evans’s reflections on his own “documentary style” photography may provide an example of Duchamp’s “infra-thin” and the associated ontological ambivalence of the photograph. As Evans said in an interview with Karl Katz in 1971, “When you say ‘documentary,’ you have to have a sophisticated ear to receive that word. It should be documentary style, because documentary is police photography of a scene and a murder. . . . That’s a real document. You see art is really useless, and a document has use. And therefore art is never a document, but it can adopt that style. I do it. I’m called a documentary photographer. But that presupposes a quite subtle knowledge of this distinction” (Evans 1983, 216).

This “subtle knowledge” is the knowledge of the possibility of an infra-thin difference within documentary, that is, representational photography. In terms of the documentary, both a police photograph and a photograph by Walker Evans are the same—they depict “a scene”—what differentiates them is their non-representational aspect in which Walker Evans’s photographs also engage with photography as such and a photographer’s as well as a viewer’s engagement in the world that dwarfs their use value as document. However, if the meaning of such “works” stems from their transpositional operations and not from modes of representation (including representing “art”), we must find an understanding of photographs that is not limited to what they depict and, thus, continue the quest for aesthetic registers for objects that are usually considered representational. How can we see a photograph, and beyond this, any document or data in general as transpositional and not just as a representation? What kind of apparatus can support and potentially intensify the transpositional?

Consisting of a simple material move, a transposition can be understood as a more basic process than a representation. A photograph is first a material object and a transposition of a material situation (“the scene”) before and beyond any interpretation has taken place. When this transposition is understood as representation, a second process becomes active in which the difference that the transposition materially installs between objects is reduced in the service of a specific identity function between the two that does not just confirm what we already know or what we have already seen but which invents new relationships that could not have been anticipated. Despite its material base, in a representational understanding of photography, a supplementary, reflexive pane is suggested that reinscribes into the transposition the photographed as origin of the photograph in a manner analysed by Jacques Derrida

as *différance*.<sup>2</sup> Hence, conventional notions of “representation” may be defined as impoverished transpositions where the structures of identity (representation) overshadow those of difference (transposition). For instance, while we know that a photograph offers only a representation of the photographed, we usually only challenge the form and not the identity of what we see. Were we to look at a photograph through a theory of transposition, though, we could also engage in a more radical play of identity and difference.

3

Given the historical dominance of the representational paradigm for theories of photography, a shift to a transpositional understanding of technical images is not straightforward, making an apparatus necessary that can suspend the moulding of meaning into registers of representation. In the context of photography, the most striking example of such an apparatus is probably Roland Barthes’s *Camera Lucida*. In this book, Barthes lures us away from a *studium* of a photograph—gaining understanding of what it represents—by highlighting its figural aspects, its *punctum*, which do not require a spectator’s interpretation, which it rather disturbs, or “pierces,” as Barthes says. I use Jean-François Lyotard’s notion of “the figural” (2011) here specifically through Rosalind Krauss’s reading in *The Im/Pulse to See* (1988) not only to highlight the piercing (Barthes) or beating (Krauss, but also Barthes [(1985) 1991, 299] in his writings on Schumann) aspects of the figural/the *punctum*, but also to draw attention to the link Krauss makes with Duchamp’s *Precision Optics*, which “bears witness to Duchamp’s commitment to the construction of the image through the activity of a beat [where] the pulse is accompanied by what feels like a structural alteration of the image as it is consolidated only continually to dissolve” (Krauss 1988, 60). The active, transpositional image escapes representational fixture.

However, in the second part of *Camera Lucida*, Barthes goes beyond an analysis of images refusing simply to add the concept of the *punctum* to the *studium* of photography suggested in the first part of the book. He does so by denying us a specific image, the famous Winter Garden photograph of his late mother in her childhood, where the object itself and not an image detail *for Barthes* has the quality of a *punctum*. (“I cannot reproduce the Winter Garden Photograph. It exists only for me” [Barthes (1981) 1993, 73].) Here, then, there is no representational anchor, no image plate, for his words that we could recognise. Rather, in this second part, he exercises how a text can escape representational closure keeping open the figural wound afflicted on us at concrete material positions not readily transferable from Barthes to ourselves without us also becoming affected by his grief (ibid., 70) through the *noeme* of photography, the “that-has-been” (ibid., 77).

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2 Rodolphe Gasché (1979) traces the beginnings of deconstructive criticism also to Maurice Merleau-Ponty’s *The Visible and the Invisible* (1968). For my argument here, Merleau-Ponty’s notion of “hyper-reflection” is crucial. As he says, “the whole reflective analysis is not false, but still naïve, as long as . . . in order to constitute the world, it is necessary to have a notion of the world as preconstituted—as long as the procedure is in principle delayed behind itself” (Merleau-Ponty 1968, 34).

At the same time and as result of the operational refusal of representation in Barthes's text, we are left wondering who the girl is in the only photograph from the "author's collection" labelled "The Stock" (Barthes [1981] 1993, 104) and who somehow—miraculously?—seems to *become* his mother, and for which, of course, no proof only sense can be given. Diana Knight (1997, 138) captures some of Barthes's apparatus and its effect when she writes:

If Barthes refuses to reproduce the Winter Garden photograph, it cannot be for the reasons given in the bracketed apology that has so often been taken at face value. If *Camera Lucida* recounts a "true story" of Barthes refinding his mother in a photo of her as a child, then the photo must surely be the one reproduced later in the text with the title "The Stock" ("*La Souche*"). If the mother as child is younger than five, and if she and her brother stand with their grandfather (rather than alone in a conservatory), her pose, her expression, and the position of her hands exactly match Barthes's description of the Winter Garden photograph. It is therefore my belief (or my fantasy) that the Winter Garden photo is simply an invention, a transposition [*sic*] of the "real" photo ("The Stock") to a setting that provides Barthes with the symbolism of light and revelation appropriate to a recognition scene and to his inversion of the camera obscura of photography into a *chambre claire*.

This quotation, as it terms Barthes's operation a "transposition," highlights at least two relevant aspects. First, the accuracy of statements needs to be re-evaluated from the vantage point of the transpositional apparatus. Under a representational regime, we expect Barthes to give the correct information; that is, that the photograph of his mother in question is as he says not reproduced. Under a transpositional premise, Barthes's "lie" (i.e., that a photograph of his mother, against Barthes's claim, may be reproduced) may facilitate a more complex kind of articulation in which not only Barthes's mother but also his own sentiment as well as his philosophy of photography become re-presented. Second, Knight—or any reader for that matter—can never be sure where that photograph is. It may or may not be "The Stock," but this ambiguity needs to be negotiated in the interpretation as either "belief" or "fantasy." In other words, a secondary reflection identifying a transposition struggles to do so representationally and will always be at risk of being questioned and, hence, in need of defence, as happens here in the quotation when Knight refers not only to herself but also to something even more private and hence uncontestable such as her "fantasy."

Radicalising such a notion of transposition, Jay Prosser (2005, 43) is not content with Knight's "fantasy" that ultimately wishes to identify "The Stock" as the real photograph of Barthes's mother and the Winter Garden photograph as "invention." Rather, refusing to settle transpositional ambiguity, Prosser moves the focus to the very first photograph reproduced in the second part of the book precisely as the Winter Garden photograph is introduced: "Nadar: The Artist's Mother (or Wife)." This photograph, not depicting a child, we *know* cannot be the Winter Garden image; at the same time, it *could* be the Winter Garden photograph transposed to the time before Barthes's mother's death (she in her old age) and also to Nadar and his mother (or wife). Again, a "fantasy." When reading *Camera Lucida*, there is something in Nadar's photograph

(its glance?) that attaches itself to the image of Barthes's mother not denying the possibility that "The Stock" might be *it*, but opening up further positions and modes in which Barthes's mother may appear.

In fact, the complications do not stop here. Open to question is not just where exactly Barthes's image of his mother appears in the book, but also what she appears as. First, we have the option of seeing her as a child ("The Stock") or shortly before her death (Nadar's photograph), collapsing chronology in an image—Barthes's image—of his mother, which, as a consequence, seems to have liberated itself from history. Beyond this, as Prosser points out, Barthes's image caption to Nadar's photograph also has an impact on this play. Providing that we can see the sitter as Barthes's mother, the caption suggests that she could also be his wife. (According to Prosser [2005, 41], the caption on one level correctly represents, albeit without the usual scholarly apparatus, the different attributions of the sitter—in Barthes's edition of Nadar she is his mother, in the catalogue at the Bibliothèque Nationale she is his wife.<sup>3</sup>) Here then Roland Barthes's own identity becomes jeopardised: not anymore the mature man reflecting on photography and the death of his mother, but the mature man still as boy who desires his mother as his wife.

As Kathrin Yacavone (2012, 18) suggests, Barthes was not only aware of such scholarly imprecisions ("it's in this sense [not wanting to go through too much text to find a reference] that I'm *a bit cavalier* {*léger*}, experiencing my culture as an incomplete recollection" [Barthes 2011, 141]), he also seems to have embraced them as part of what may be called his *transpositional methodology*. Together with other, equally underdetermined elements—such as his "imagistic citation of Benjamin" (Yacavone 2012, 22)—they leave "traces . . . for others to recognize" (*ibid.*, 23). In effect, such an indirect mode of working opens up new possibilities for the text: "readers and critics . . . are compelled to embark on an interpretative and speculative search that parallels [Barthes's] own subjective and associative probing of the images in question" (*ibid.*, 170). Only if representational fixture is loosened can transpositional operations take over the development of meaning.

Ultimately, as the secondary literature on *Camera Lucida* testifies, the book's transpositional mode can be interrupted at any point and the representational fallout harvested by scholars. However, in terms of artistic research, its proper contributions happen in its transpositional operations as the further complication, densification, and intensification of an epistemic object before it breaks and settles into representational knowledge. In *Camera Lucida*, at least, it seems futile to argue where the "real" Winter Garden photograph is. Hence, representational reduction—being partial and closed—seems less intellectually attractive than a continuation of the epistemic play that is better able to meaningfully engage with the complexity of the material situation. Delaying in

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3 While with those two references Prosser manages to explain Barthes's double attribution of the sitter, he seems at risk of overinterpretation when he emphasises the importance of the parenthesis in the image caption. Other than the English translation, which states "Nadar: The Artist's Mother (or Wife)," in the original 1980 French edition it simply says "Nadar: mère ou femme de l'artiste" (Barthes 1980, 108).

an aesthetic operation the (inevitable?) process of becoming-knowledge must thus also be seen as an epistemic function postponing claims as to what precisely it is we know while continuing to add relevant materials and, thus, depth.

4

The transpositional operations along which we can try to capture where in *Camera Lucida* Barthes's mother appears are highly structured textual moves and not a game in which Barthes simply withholds information. Thus, we have to imagine the book as revealing a multiple image of Barthes's mother not only to us but also to Barthes himself—that is, as an investigation in text of what both author and reader do not yet know. In this way, the “death of the author” (Barthes 1978) liberates the text, so that an author, too, will not know in advance what a text amounts to; rather, after accepting the operations of the text, we will supply all relevant positions in varying degrees of clarity: Barthes's mother(s), he as the author, we as the readers, photography, and so on. Furthermore, the better a text works, the better it will be able to secure not only already known relationships but also those of a highly speculative order. That is, if we accept that this and that is the case, through transpositional operations we may be led to insights of varying degree of sharpness and blur that are not as yet representationally secured and perhaps never will be.

Concretely, in *Camera Lucida* we are told that there is a relationship between the absent Winter Garden photograph and Barthes's dead mother; we may say, the Winter Garden photograph is as absent as Barthes's mother is dead. In other words, through the absent Winter Garden photograph, *Camera Lucida* can become to us what the photo itself is to Barthes, a form, in which an absence can be experienced. This experience is, of course, not simply an omission, but an absence is made present for Barthes through the photograph (his mother) and for us through the book (photography). Since it is clear that the Winter Garden photograph will never mean to us what it means to Barthes, his decision not to show it on the one hand blocks a route along which we would be led to compare our respective responses to the photograph, while, on the other hand, it opens up the possibility that the book itself can become a transposition of photography. In this way, then, *Camera Lucida* not only can be about photography but also can be a work of *photography*.

This logic may explain some of Prosser's unease with Knight's suggestion that “The Stock” is, in fact, the missing photograph of Barthes's mother. Seen in this light, the crucial part of the interpretation is not so much whether it is Barthes's mother who is photographed in “The Stock”; rather, what really matters is whether we think that it must be a photograph that fills in for the missing Winter Garden photograph or whether *Camera Lucida* itself can be granted that role. Knight, as it were, by over interpreting “The Stock,” limits the transpositional operations of the text.

Yacavone's reflections on *Camera Lucida* lend further support to this argument. Just as in “normal” photography, where there is always something that is photographed, for a book to be a work of photography, it *must* have a material reality to work from; or, in Yacavone's (2012, 185) words, *Camera Lucida* can

“only be triggered by an actual photograph.” Hence, *Camera Lucida* can only be a transposition of photography if the Winter Garden photograph really existed in the way it is described, a necessity that Yacavone sets out to prove by arguing that a framed photograph visible in two portraits of Barthes at his desk (both from 1979) is the actual missing photograph that is likely still in the possession of Barthes’s family.<sup>4</sup>

However, while from this angle also Knight’s suggestion that the Winter Garden photograph was “an invention” (see quotation above) must be questioned, and while it is important to state with Yacavone that it must have existed, the proof that is constructed with the help of the two portraits of Barthes at his desk risks damaging *Camera Lucida*’s transpositional operations, for we are getting closer to seeing precisely what Barthes did not want us to see. In Yacavone’s defence—if such a defence is, in fact, deemed necessary—it is important to note that despite allowing us to glimpse the Winter Garden photograph in those portraits, the quality of their reproduction is so poor that we see virtually nothing.

De Duve also discusses such transpositional operations at length in chapter two of *Kant after Duchamp* using Duchamp’s notion of “algebraic comparison” from his *Green Box* (1934): “*a/b*, *a* being the exhibition, *b* being the possibilities, the ration *a/b* is in no way given by a number *c* (*a/b* = *c*) but by the sign (/) which separates *a* and *b*” (Duchamp quoted in de Duve 1996, 99). He does so in combination with a note from *The Box of 1914* (Duchamp quoted in de Duve 1996, 101):

$$\frac{arrhe}{art} = \frac{merdre}{merde}$$

This allows de Duve to not dwell on the “separator” (the /) as Duchamp suggests in the first note but proceed to a formulaic interpretation of Duchamp’s “algebraic comparison” guiding his own interpretation of *Fountain* through this general formula (de Duve 1996, 101):

$$\frac{a}{b} = \frac{a'}{b'}$$

This expression states that the ratio between two things can be the same as between two other, unrelated things. Hence, it is not the things themselves that matter but their relationships and the relationship of these relationships. Through relationships, things that are not alike can become part of identity structures. While this formulaic interpretation of Duchamp’s “algebraic comparison” as analogy appears to be a reduction of the note from the *Green Box*, in de Duve’s hands, it can nevertheless be used to explain how *Fountain* may have arrived in art. Such formulations may also inform a theory of transpositions.

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4 As Yacavone states (2012, 166n14), the framed photograph in question is also referred to as the Winter Garden photograph in the 2010 English translation of Barthes’s *Mourning Diary*. She further states (ibid., 171n24) that the Winter Garden photograph was not handed to the Bibliothèque Nationale in 2011 when Barthes’s estate was transferred, remaining a “family secret.”

From the many formulas that de Duve offers in chapter two, given the above discussion regarding Stieglitz, this one may best explain the concept:

$$\frac{\textit{Photograph of Fountain}}{\textit{The Blind Man}} = \frac{\textit{Fountain}}{291}$$

De Duve describes it as such: “Since Stieglitz, who is author of the photograph, falls into the trap and more or less unwittingly endorses Richard Mutt, the legitimation ‘Photograph by Alfred Stieglitz’ by P. B. T., the editorial board of the magazine, is equivalent to that of the object that is its referent, *Fountain*, by Gallery 291” (de Duve 1996, 122). In other words, authenticating a photograph of an artwork for an art magazine is like authenticating the artwork itself for a gallery. In effect, de Duve argues that it is Stieglitz’s gallery that despite not having shown *Fountain* as a work of art made *Fountain* a work of art through Stieglitz’s depiction. It is for this reason alone, according to de Duve, that Duchamp turned to Stieglitz for the photograph and not to, say, Man Ray, who had already photographed previous works by Duchamp (de Duve 1996, 118). Man Ray would not have been able to provide the same level of authentication of *Fountain* as Duchamp was able to obtain from Stieglitz through his role in Gallery 291.

While de Duve’s interpretation and use of Duchamp’s “algebraic comparison” seems to explain aspects of the genesis of *Fountain*, de Duve runs the risk of portraying Duchamp as a calculating genius (de Duve [1996, 116] speaks for instance of “a stroke of genius”), for instance, akin to the well-known image of Duchamp as chess player, missing perhaps the point of the whole episode as an experiment on art. Hence, it is important not to confuse the result of a transpositional operation with its beginning and to highlight also its generative dimension. In other words, the “/” and the related “=” are deeply situated and productive elements of the formulation; their historical character runs against an interpretation of Duchamp’s “algebraic comparison” and the notion of “transposition” as discussed here as calculation. However, this does not mean that the transposition of an artistic operation into a formulaic expression will not yield any insights as long as we don’t take the outcome of such an interpretation as predating the transposition.

With this in mind, the transposition that turns *Camera Lucida* into a photograph of photography may be interpreted and expressed like this:

$$\frac{\textit{Winter Garden photograph}}{\textit{Barthes}} = \frac{\textit{Camera Lucida}}{\textit{“us”}}$$

As in the case of *Fountain*, this equation only works if all elements come together in an apparatus that supports the transposition. In *Camera Lucida*, it is, for example, the preparatory first part that lays with the *punctum* the ground for this operation, or the arrangement of text and images including the way Barthes deploys his captions. As de Duve suggests in the case of Duchamp, such an apparatus is manufactured to realise, or better still, to *make* concrete spec-

ulations, such as about the nature of photography or contemporary art. Those elements are more than positions in a single equation, but a network of relationship within which transpositions become quasi-logical moves as if, as the “maths” suggests, a complex formula could be “solved.” However, and this is the striking realisation, despite the fundamental differences between a photograph and a book, or a urinal and an artwork, transpositions work insofar as they *make* the formula and hence make demonstrably possible what until then may have looked like an impossibility. In effect, the transpositional logic of contemporary art has irrevocably broken the functional and, thus, representational limitations of what under conditions of modernity used to be the role of the medium. Photography can no longer be reduced to its technical support (the camera, etc.); likewise, art has no basis anymore in specific objects or specific practices. In other words, transpositional operations have added new possibilities to art.

5

Two further aspects of Duchamp’s “algebraic comparisons” as transpositional operation must be emphasised. The first concerns the difference between quantity and quality, or number and concept. In his note, Duchamp states that “the ratio  $a/b$  is in no way given by a number  $c$ ” (Duchamp quoted in de Duve 1996, 99). De Duve (1996, 100n19) stresses that “it is most likely that in Duchamp’s mind at the time the notion of *algebraic comparison*, which he invented, was his response to that of *arithmetical proportion*, then in favor with his brothers and cubist friends, all members of the group *La Section d’Or*” in order to assert that there can be no fixed number—such as 0.618 or the golden section—or, more generally, a rule that would help predicting what counts as “art.” Duchamp’s “equations,” as it were, can only be solved by another differential and not by a (fixed) identity ( $a'/b'$  and not  $c$ ).

Furthermore, despite looking like a formula, we are of course dealing with concepts not numbers. To emphasise this, at the start of chapter 2 of *Kant after Duchamp*, de Duve quotes a section from “The Analogies of Experience” from Kant’s *Critique of Pure Reason* where Kant distinguishes philosophical from mathematical analogies. As Kant says in this quotation, if we were dealing with numbers as we are in mathematics, we would be able to construct a missing fourth number providing the other three are given. In philosophy, that is, when operating with qualities, this is not possible. “The relation yields, however, a rule according to which I may look in experience for the fourth term, and a sign by which I may detect it” (Kant as translated in de Duve 1996, 89, cf. Kant 1998, 298).

The second aspect follows from this. In Kant’s philosophy, the rule to which he refers here is a priori given; that is, *in general terms*, we know how  $a$  relates to  $b$ . The task then is to find a relationship *in experience* that is analogous to the general relationship expressed in the rule. How and by which terms this relationship is constructed is not predictable; that is, we will not be able to anticipate the fourth term, but, as long as it is an analogy, the relationship itself must

be according to the rule. Hence, with the help of philosophical analogies, we can move from the general to the concrete, allowing us to explain cases where deductions are impossible.

However, does Duchamp with his *algebraic comparison* actually suggest that he is after applications of a rule? Looking at the wider context that de Duve supplies, for instance in chapter 1 of *Kant after Duchamp*, one may be tempted to look for a new rule of what counts or does not count as art after *Fountain*. However, focusing on the details of the *transpositional operations* as analysed in chapter 2, it is clear that in order to arrive at his challenge to art, Duchamp does not follow a rule but moves from a concrete relationship to a concrete relationship. Taking this into account, Milan Jaros replaces the notion of “rule” by that of “model,” suggesting that the concrete relationship given on the one side of the analogy acts as the model for another relationship that is as concrete as the former. What Kant says—namely, the impossibility of anticipating missing terms—still applies while liberating art from the idea of “rule” altogether, at least at the moment when it is made.

Jaros explains his use of “model” with reference to science, where, for instance, models of the solar system had been “invented . . . years before any analytic mathematical apparatus for implementing them was available” (Jaros 2004, 657). Although such examples from the history of science can support Jaros’s desired limitation of “calculation” and highlight the role “creativity” may play in knowledge generation, they nevertheless place emphasis on theoretical rather than material processes of the kind Karl Popper favoured, who likewise claims that to start with, theories must be unscientific (See Popper 2007, 8). The notion of “model” may, however, also designate a particular type of material object, for instance, “model organisms” of the kind Hans-Jörg Rheinberger describes in *An Epistemology of the Concrete* (2010). Such “models” still act as points of reference in a research process, but they lack the transparency and clarity of theoretical formulations. As Rheinberger writes: “From the standpoint of the research process, models maintain their function for only as long as this representational relation [that “every model stands for something that it represents”] remains somewhat hazy, only as long as we cannot say exactly what a particular model ultimately represents. The emergence of certainty about a particular question abolishes the need for models altogether” (Rheinberger 2010, 8).

While Jaros may not get sufficiently deep into the role of materiality in scientific research, his move from law to model in the context of de Duve’s analysis of Duchamp’s work is still useful to highlight a point of departure from the Kantian concept of philosophical analogy that moves from the general to the concrete. Laws, and even traditions, according to Jaros, do not secure or legitimate anymore what is to be done; rather, “sequences of approximations”—or transpositions—“are the invisible rails along which contemporary thoughts travel and collide. They are the ultimate residual source of motion—what remains when traditions fail us” (Jaros 2004, 655). And later: “In the absence of legitimating meta-narratives the mathematical-algorithmic relations appear (consciously or unconsciously) to be a handy source of onto-epistemic dynam-

ics. As Duchamp already understood it, its inscriptions lurking behind any manmade structure-events are there to help us at the moment of an embarrassing lack of ideas about what to do next. They invite us to make analogous moves.” This “amounts to an irreducible directional move whose main source is local individual energy” (ibid., 656). Nevertheless, the historical status of those sequences remains unclear. While they are meant to be outside tradition, the sequence is still historically organised as a more or less extended succession of sequential positions. Can the individual transpositions that make up such a sequence by themselves be the “rails” that Jaros talks about, or must they be historically extended in order to be stabilising and legitimising?

The analogies that de Duve traces in Duchamp’s work may be turned into rules about art—representations as mentioned above—but this does not do justice to their methodological as well as epistemic function and perhaps also not to Duchamp’s motivation. Rather, they can be used to describe how artistic practice can be liberated from the presuppositions that have been used to externally define how it is to be done, be they tradition, taste, or aesthetic rules, such as the golden section.

Rather than the term “analogy” that still carries relationships to rules, the notion of “transposition” may be used as a descriptor for the smallest unit of such sequences. It is a construct with two distinct positions and a logic that allows moving from the one to the other. This logic is speculative, experimental, and opens when proposing a possible move forward; it is reflexive, confirmatory, and closes when looking backward, where in upholding the transposition it demonstrates its force to bind both positions. Hence, hidden in the equals sign is not an already given identity, such as  $a = b$ , but a move that allows us to see something as  $a$  at the position of  $a$  and as  $b$  at the position of  $b$ . This move displaces and replaces  $a$  by  $b$  without an external structure that would allow for a formal comparison of  $a$  and  $b$ . Ultimately, at least in the context of contemporary art, it may not be  $b$  that really matters but the logic—that is, the mode of thinking and doing that allows for the transposition and thus a meaningful and knowledge-generating relationship between what is otherwise unconnected:  $a$  and  $b$ , urinals and artworks, or photographs and books.

## 6

Interpretations of transpositions will always be limited since there is only a representational register for their residues and not for the transpositions themselves. The work they do can only be grasped from within the transpositional sequence as its extension and not from outside in representational snapshots of single, static elements. Outside representation, sequence formation may be the best way of capturing transpositions; but, like representations, sequences *cover* individual transpositions in what may be called their “historical effect” (event if it does not amount to a “tradition”). Thus, given that both representation and extension may miss the work of individual transpositions, it is difficult even to argue that transpositions of the radical, proto-sequential kind alluded to here exist; and, if they are taken to exist, it seems impossible to locate them

both in time and space. Are the transpositions in *Camera Lucida* in the photographs that the book reproduces, in the text, or in my mind as I read the book?

While my mind can certainly be part of a transposition, it literally can only ever occupy *one* position without turning spatio-temporal positionality into a metaphor allowing my mind to “occupy” multiple “positions” and “transpositions” between them. Comparable with Derrida’s focus on “writing,” transpositions, being spatio-temporal constructs require both materiality and difference. They can thus never occupy exclusively exterior or interior spaces; rather, transpositions transgress the order of subject and object not having settled yet in *this* internal or *that* external representation, be it “subject” or “object.” Transpositions *must* be outside singular places or times as they concern relations between them. Crucially, as there is no pure trace, to use Derrida’s notion, there is also no pure transposition. “It” is always “instituted” (Derrida [1976] 1997, 46) and we know of it only through acts of confluence, confirmation, representation, or identification, that is, in degrees of stability and duration. “Artistic research” through its active involvement in creating transpositions, and hence models rather than representations or sequences, may thus be relieved of philosophical explanations. Important as it is, philosophy represents a discourse different to artistic research, for which philosophy can and perhaps even should be bracketed if it cannot be transpositionally deployed. Transpositions must be made or missed.

Artistic research as a field of practice needs to negotiate its border not only with philosophy but also with other disciplines that explain how transpositions function in places where the notion of “sequence” also seems to feature prominently. For instance, George Kubler’s art historical theory of “formal sequences” described in *The Shape of Time: Remarks on the History of Things* (see Kubler 2008) is able to describe how artworks and, more generally, artefacts may historically be linked. In Kubler’s theory, each formal sequence has its own historical speed and, through its focus on specific artefacts, sites at which it is developed. This opens the possibility of multiple, parallel sequences that run side by side (with limited cross-fertilisation) that never amount to a single history that is being developed. The sequences themselves are defined as open-ended problem solving chains, where the “problem”—also a historical entity—supplies the “armature” that keeps the “solutions” linked over time. Formal sequences are thus characterised by repetition and variation.

Kubler’s historisation of art history could provide a useful framework for a theory of transpositions with its focus on the materiality and situatedness of cultural production. At the same time, Kubler’s emphasis on form marks an important difference since it implies that formal comparisons within a sequence are not only possible but also necessary to stabilise it. Transpositions of the kind discussed above clearly don’t allow for such formal comparison; in fact, the notion of transposition was chosen to emphasise the possibility that relationships can be made in art for which no point of external reference exist and where formal triangulation is impossible.

Hence, transpositions are not highlighted as plastic elements in Kubler’s theory of formal sequences. When he uses the notion, he means it to indicate

a move not along a sequence but across sequences. Such “transpositions” are deemed problematic since they would “betray the nature of our ideas about historical change” (Kubler 2008, 58) since “we would have to abandon *all* our own positions” (ibid., 59, my emphasis). As Kubler says, “since no two things or events can occupy the same coordinates of space and time . . . no two things or acts can be accepted as identical” (ibid., 61). Hence, to Kubler, transpositions cannot manufacture identity; identity is seen as a passive concept. Can art (and with it artistic research) still be captured as operating by repetition and variation, or would certain phenomena, in particular those belonging to contemporary art not be lost if it was made to cohere to an idea of history (which Kubler as a historian admittedly brings to the table)? If at all, transpositions would need to be captured in a-formal sequences that can cut across what can be recognised.

In chapter two of *Pandora’s Hope: Essays on the Reality of Science Studies*, Bruno Latour also highlights sequences or “chains,” as he calls them, that display transpositional qualities. His case study investigates how scientists arrive at knowledge about the world—in this case, the zone between savannah and forest. Latour describes, for instance, how the forest floor is first partitioned to organise the sites at which soil samples are taken, which are then deposited in a gridded box, a pedocomparator, before being colour matched in the Munsell colour system and finally appearing as numbers in a scientific paper. Each stage along the chain is separated from the preceding and succeeding stages by a “gap” that allows for “transformations, transmutations, and translations” (Latour 1999, 58) in such a way that the previous stage acts as content to the following form: the soil is the content placed in the pedocomparator, the colour codes are the content of a diagram in the scientific paper, and so on. Suitably, in Latour’s own diagram (1999, 70, fig. 2.21), the gap between matter and form is labelled as “?,” the productive but unnameable “glue” that connects two elements, which without resemblance are able to stand in for each other.

The chains that Latour describes, by bracketing resemblance, seem more relevant to a theory of transpositions. They are sequences of articulations and not variations, which afford a greater degree of formal distance between successive positions on the sequence. In fact, Latour’s matter/form couple allows for absolute formal distance, but this does not mean that the problem of representation is avoided. Just the opposite, representation precisely needs such a “gap” to operate and to “mediate presence” (Seyhan 1992, 8). “Making strange, distancing, and exoticizing are, paradoxically, poetic operations of making an other familiar” (ibid., 14). It is, thus, not resemblance but familiarity, and, hence, still “presence” that binds the positions together, which allow for upstream *and* downstream movement along the chain. Its point of origin (a sample collected on site), like Kubler’s initial “problem,” remains an identity that informs the whole sequence, through which, conversely, it can become known. While it is already transpositional in nature, it severely limits what transpositions can do.

However, in another context, in which Latour describes how an articulation also “loads” what it articulates, he relinquishes original points of reference. Each “translation . . . completely transforms that which gets transported”

(Latour 1991, 117) and hence quite literally changes the world. While transforming what is passed through the connection, each position is not an articulation in its own right but always in danger of becoming just an element in a larger assemblage that harbours identity. It adds to the chain, but it may not fundamentally rework and unwork (Lacoue-Labarthe and Nancy 1988) it. In art, however, transpositions need not “grow”; transpositions need not be compared with regard to their length, which for Latour (1991, 118) is the degree of reality that they carry.

That historians or sociologists may approach art through sequences does not mean that they would not learn something about art; my point here only is that as a transposition is made, a sequence is not as stable as it is made to appear and must always also be ready to be jeopardised if we try to capture the practice of contemporary art and through it aspects of artistic research. The “rails” that secure practice, to use Jaros’s notion again, may not need to be seen to form a sequence extended in history and could be seen—and in fact must be seen—to be as short as a single transposition.

In both Kubler and Latour, despite their relevance for a theory of transpositions, specific transpositions seem to *disappear* into larger sequences, chains, or networks, which are called upon to represent them. This cannot be compared with the situation of an artist or artistic researcher who has the task of not only adding to the sequence but also transposing it—*inventing* a new origin.

7

Relationships to rules or sequences may be explained in transpositional terms, but notions such as “analogy” or “model” do not allow for a sufficient focus on concrete things and their respective internal relationships. In other words, those explanations live off—as explained for the case of representation—the productivity of transpositions since they rely on their plastic character while still affording external references, which act as points of origin, however remote. Yet, a more radical theory of transpositions must also hold for situations in which we move from the concrete to the concrete in a single step where no preceding sequence offers the kind of “rails” that could secure a movement. Is there a post-deconstructive, post-historical mode of research that we may perhaps call artistic and which we can only transpositionally grasp?

This approach to artistic research implies that it cannot be a stable field, discipline, or concept (Schwab 2011a) since each new example will shift what we believe the term to cover (Schwab 2017). This is not dissimilar to the situation of art in general (de Duve 1996, chap. 1; Schwab and Borgdorff 2014a, 13). It implies, furthermore, that while one may insist on a notion such as “transposition” there may not be a clear definition that can be applied to all possible examples, since each new example may enact transpositional operations differently, thereby redefining the scope and character of the notion. It may describe an aesthetic idea rather than a concept, to use Kantian terminology, or, more precisely, how aesthetic ideas operate transposing experience into thinking. At the same time, as should have become clear, while thinking is always possible,

such transpositional operations of understanding need not be limited to some form of “subjective” realm but happen between positions, including but not limited to that of the subject. This aspect of non-hermeneutic understanding is the reason why transpositions must be articulations; positions stand in for meanings, which transpositions connect to understanding.

In reality, however, what we think artistic research is has to a large degree been conditioned by institutional definitions, most importantly perhaps by institutes of higher education that have been grappling since the 1990s with the inclusion of practice-based knowledges (engineering, medicine, but also art)<sup>5</sup> feeding into the so-called Bologna process, which aims at the integration of higher education across the European Higher Education Area. While these developments have had a big influence on the discourses of which this chapter is an example, the degree to which practitioners have been trying to avoid the formation of a discipline is striking. This may be due to an “incursion” within the institutional setting itself that the introduction of artistic research has provided; lacking an already established “discipline” of artistic research, its insertion into the institutional context at that particular historical point in time has had the effect that credible artistic research, in not being able to avoid the issue of “institution,” needed to institute itself rather than be instituted (Kirkkopelto 2015). Using the notion of “institution,” Kirkkopelto emphasises the contested territory of artistic research, which in consequence may look less like a single institution than a multitude of connected and disconnected institutions from which the dynamics of the field emerge. In effect, these dynamics can also be explained in terms of transposition: a new institutional form transposes the field to its own concrete setting, changing it in turn. How precisely this happens on the level of artwork, exhibition, or university matters a lot since through it an originary stance becomes possible. As such, “institution” is first of all local action and not so much the organisation of power (into which transpositions may nevertheless decay).

In other words, lacking those historical “rails” that a long standing discipline may have provided and being sufficiently sensitive to the pitfalls of historicalisation through the legacy of contemporary art, deconstruction, and institutional critique, the only solution available to “the field” has seemingly been to solve the problem of artistic research on a case-by-case basis.<sup>6</sup> This had to happen outside a presupposed identity of the concept of artistic research, also suspending with it the identity of each project that lays claim to it. Other projects may inform a specific project (and our understanding of the notion of artistic research) but none in their particular material locality can provide a shortcut to it since it is the concrete within which a transposition operates.

There can thus be no sequence or “rails” that could be enacted; rather, research takes place precisely *against* sequences from which it aims to meaningfully deviate. Therefore, a transposition of the kind envisaged here must

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<sup>5</sup> For the case of the UK, see Candlin (2001).

<sup>6</sup> This reflects the position of the *Journal for Artistic Research* (JAR), which I have edited since its inception in 2011; a case-by-case assessment rather than the application of assessment criteria play an important part in JAR’s peer-review process (See Schwab 2011b, 2018).

be unique. While it may be tempting for a historian (or those looking for a project's "impact") to search for sequences originating from a particular transposition, say, from *Fountain*, its value at the moment of creation cannot be derived from them. Rather, at the point of making, there can only ever be potentials for sequences, and it is those rather than their form that may in-form future transpositions (see also Schwab 2013, 9). Seen from this angle, it is clear that transpositions may inform but cannot be captured in sequences since a sequence has already aligned its elements into an institution. Only if the next transposition breaks sufficiently deeply with the previous one does it have the power to institute again. This is another way of saying that the concrete must remain concrete, resisting absorption into more general forms or movements. However, this does not mean that concretes may not become aligned; it simply means that alignment is not due to a power that is exerted by one concrete over another but rather that through a transpositional approach those concretes will be more sensitive to the material conditions of meaning-making, which have their own texture effecting meaning and understanding.

Against the backdrop of such an approach to artistic research and despite what I seem to have suggested in this chapter, *Camera Lucida* cannot simply be seen as an example of artistic research, as if what we today call "artistic research" had already existed. At the same time, it seems perfectly possible to ask how the book could be transposed into this discourse and to what effect—that is, whether relationships can be made between Barthes, his mother, photography, and so on and artistic research, which could highlight the role and importance of transpositionality. If this was the case, we could be tempted to retroactively see in Barthes's work—and also in that of Duchamp—some form of artistic research *avant la lettre*. And, in theory, we could expand this circle to include other examples, so that a fabric might emerge that may support the kind of concern that I wish to highlight as a particular stance regarding the relevance and potential of artistic research.

Crucially, though, I am stressing the importance of transpositional operations in this context not to simply associate certain practices, but, by doing so, to place emphasis on their fundamentally *different* material reality that resists any form of generalisation or representation, where the one could simply stand in for the other without being affected by this change of position. Knowledge could then be seen only to propagate through concrete transpositional connections. This aesthetico-epistemic approach, which with Barthes ([1981] 1993, 71) may be seen as "*the impossible science of the unique being*," is what he posits as photography and which I seek to extend to include notions of artistic research. In some sense, despite appearing as (general) concepts, "photography" or "artistic research," implied as they are in such concrete operations, can never settle—this much we know from the long history of photography as well as from the comparatively short history of artistic research.

In *Duchamp and the Aesthetics of Chance*, Herbert Molderings (2010) argues that Duchamp's work after 1912 was heavily influenced by the changing science of his time. However, rather than arguing that Duchamp was primarily working through the more specific problems of non-Euclidean geometry and

the representation of higher dimensional spaces, which Duchamp also did (cf. Henderson 2013; Schwab 2015), Molderings highlights Duchamp's two-sided approach along the limits of both art and science. Duchamp criticises "all painting [as] antiscientific" (quoted in Molderings 2010, 12), explaining, for instance, his development away from retinal art, at the same time as he is out to "discredit" science (ibid.). "This contradiction, that is, his fascination with modern scientific thought, on the one hand, and, on the other, his simultaneous ironization of the claim laid by science to universal truths, was to be the hallmark of his entire oeuvre from 1913 onward" (ibid., 12). While this "contradiction" keeps the history of art and science distinct—art as obscuring representational operations and science as idealising them—they both converge insofar as neither problematises the basic operation in which a thing is to stand in for another thing: a painting for a world it depicts or a universal law for cases that it explains. A critical position towards both histories, thus, requires developing what is happening during this operation from a merely reflective into a productive understanding—that is, seeking non-neutrality on all levels.

What has been characterised as Duchamp's ironic, artistic "solution," Molderings presents as predating the later development of quantum mechanics, which also problematised orthodox science. As Wolfgang Pauli—who, together with Werner Heisenberg and Niels Bohr, was a key figure in the development of quantum mechanics—says: "The need for a definition of reproducibility in the law of nature has . . . resulted in the loss of the unique in the scientific conceptualisation of nature. What we have experienced in quantum mechanics is the occurrence of the essentially unique where it would least be expected, namely in ('non-lawful') individual observation" (quoted in Molderings 2010, 127).

The term for Duchamp's own "science" would arguably be "pataphysics"—the "merdre" in Duchamp's note from 1914 that triggered de Duve's analysis is a reference to Alfred Jarry's play *Ubu roi* (1896) (Molderings 2010, 119)—at least in the eyes of Molderings, who suggests as much in chapter eight of his book. Pataphysics was invented by Jarry as "the science of imaginary solutions . . . pataphysics will be, above all, the science of the particular, despite the common opinion that the only science is that of the general" (Jarry quoted in Molderings 2010, 117). While there is a strong surrealist current in pataphysics, by linking it beyond quantum mechanics also to philosophy (Nietzsche) and mathematics (Poincaré), Molderings gives pataphysics—and Duchamp's work—a particular epistemic relevance, which, at the limits of both art and science through its focus on the unique cannot sufficiently be secured by the "rails" of those disciplines. As Andrew Hugill suggests when he says that "to understand pataphysics is to fail to understand pataphysics" (Hugill 2012, 1), given that those limits are not only limits of disciplines but also limits of understanding, the phenomenon of pataphysics itself cannot be coherently comprehended and must remain disciplinary vague. Still, "pataphysics, although complex and difficult, is in fact quite a cogent body of exploits and ideas, which has a history and certain fixed precepts" (ibid., xvi).

Although for some, such elusiveness may give reason to doubt the epistemic status of Duchamp's work (he may have been interested in science, but used it only to produce art), for others, his work may represent knowledge of a more advanced kind (Duchamp proposes a new art and a new science). However, as I suggest in section one of this chapter, either option simplifies and thus flattens the particular transpositional ambiguity at hand. Rather than deciding for the one reading against the other, we could also try to capture a transposition's suspended state, entering a transpositional relation with it as I have tried to do—successfully or not—in this chapter.

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