

Diagrammatic Relations in Interart Discourse

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Abstract

My essay will commence with a discussion of general views about the subject of the *Doppelbegabung*, or multi-talented artist, and why in the past it has tended to be relegated to the fringes of the interarts field. My main focus here will be on what might be termed failed solutions to the problem of discussing similarities between works produced in different media by the same artist. Amongst these failed solutions, I will argue, are those studies which rightly recognize the need to attend to formal similarities between the various media used but which lack an awareness of the kind of theoretical framework necessary for making such comparisons. Arguing then that such theorizing must begin at the most basic level of the sign and involve an examination of the interpretive process itself, I will attempt to outline the requisite framework by enlisting the ideas of the American philosopher Charles Sanders Peirce (1839-1914), primarily those ideas concerned with semiotics and kinds of reasoning procedures. Although I will also be drawing on Umberto Eco's revisioning of Peirce's theories, I will conclude that when it comes to interarts issues Peirce's scientific view of abductive reasoning is more helpful than Eco's attempt to isolate a particular kind of abduction applicable to the analysis of creative works. Although I will not myself provide a practical demonstration of how sign theory functions in the case of specific *Doppelbegabungen*, I hope to provide the methodology that will be conducive to further and more sound ways of investigating the role to be played by such artists in discussions of relations between the arts.

1. Failed Solutions to the Problem of *Doppelbegabung*

Artists with multiple talents are frequently alluded to by historians of both literature and the visual arts: Michelangelo, William Blake, and Dante Gabriel Rossetti are but a few names that recur, and to this list one could also add such modern examples as Ernst Barlach, D. H. Lawrence, James Thurber, and A. R. Penck. Yet multiple talent in artists, as an issue of scholarly debate, is only recently beginning to be viewed as central to the broader theoretical concern of interrelationships between the arts. Even today, moreover, although mention is often made of individuals who were productive or creative in more than one medium, seldom are the relations among their works in the different media explored in any systematic fashion.

Approaches to the issue of *Doppelbegabung* are often related to two opposing views regarding the relationship between literature and the visual arts. Those like Paul and Svetlana Alpers who argue for the autonomy of the pictorial [1,457], or like Wilhelm Waetzoldt who maintains that art history and literary history are "independent disciplines, each [of which] explores its own subjects and develops its own methodology" [42,3], tend to contend that even when the same person creates works in two or more media, differing interpretive methods are necessary.¹ Thus René Wellek, for instance, is skeptical with regard to the appropriateness and significance of studies analyzing persons with multiple artistic talents [50,52-3; 51,129]. Defenders of the opposing view, that which advocates a mutual illumination of the arts [45], hold that the multi-talented artist is a prime instance where "the different arts merge in the personality of one person" [43,17]. Similarly, according to Mario Praz, "if an artist is at the same time a writer, we should be likely to find in his work the surest test of the theory of a parallel between the arts," for there is "either a latent or a manifest unity in the productions of the same artist in whatever field he tries his hand" [38,40-54]. Peter Zima concurs [52,ix], as does Thomas Jensen Hines: "Such variables as the artist's style, his

development, and his idiosyncrasies tend to carry over from one art to the next, thus making discussion and understanding considerably easier" [24,15].

Such extreme positions, however, are scarcely helpful in dealing with the issue of the *Doppelbegabung*, or as Ulrich Weisstein notes: "Wellek's view is just as one-sided as that which, at the other end of the spectrum, claims that all creative activities of an artist working in several medias are perfectly aligned and hence aesthetically compatible" [48,261]. Indeed, there are artists whose works in two media bear no resemblance, such as Franz Kafka, whose hastily drawn sketches can hardly be compared in form or content to his carefully executed literary texts. There are, of course, artists like William Blake whose poems, as W.J.T. Mitchell-like Roman Jakobson [26,35]-has argued, "need to be read with their accompanying illustrations. Almost everyone would now agree with Northrop Frye's remark that Blake perfected a... 'composite art' [14,46] which must be read as a unity" [33,3]. And yet even Mitchell remains wary of such a comparatist approach to artistic multiple talents:

[T]he composite art of William Blake...seems absolutely to demand a reader capable of moving between verbal and visual literacy.... Even with Blake's mixed media, however, I was always struck by the oddness, the arbitrariness of the demand for double literacy.... For certain purposes it might be more important to read Rousseau's *Émile* next to *Songs of Innocence and Experience* than to look at the illustrations. Blake has always served for me, then, as a kind of exemplar of both the temptation and arbitrariness of comparative studies of verbal and visual art. [34,89]

Mitchell's wariness notwithstanding, many scholars view the study of artists who exhibit multiple talents as exclusive neither to literary historians nor to art historians but as an interarts subject-one that is as fruitful for theoretical inquiry as are related topics like ekphrastic poetry, concrete poetry, collage/montage, emblems, comic strips, book illustrations, etc. All these areas pose the same problems, or as Norman K. Farmer notes: "To discover serious and sustainable points of contact between the visual and verbal has...been the challenge to comparatists in recent years. Consequently, much thought has gone into the definition of specific interart problems and of critical procedures appropriate to the discussion of these problems" [13,ix].

Previous theoretical discussions of the problem of *Doppelbegabung* which have led to what might be called failed solutions fall into two categories: those which focus on issues related to the artist and those which focus on approaches to the works themselves.

1.1. Artist-Based Solutions. In the former category, one finds discussions in which scholars indiscriminately apply the term *Doppelbegabung*—artists who achieved equal mastery of two or more different art forms—to mere *Doppelbetätigungen*-artists who achieved mastery in only one of the art forms in which they were active. Kurt Böttcher and Johannes Mittenzwei, in the introduction to their *Dichter als Maler*, help to clarify the difference: "When someone is active in more than one medium, he is frequently and perhaps too rashly rated a true multiple talent. Of course, an artist's creative works are often not limited to but one field! And yet, closer inspection will generally reveal that in most cases, one cannot speak of an equal mastery of more than one artistic medium but rather of the occasional tendency of a creative personality to work outside of his preferred artistic discipline." [6,8]

Mastery of more than one art is "extremely rare" [27,373], and thus it is now recognized that claims that artists manifest equal abilities in more than one artistic medium simply can not be substantiated. Böttcher and Mittenzwei remark that this is generally the case with respect to poet-painters: "One may not charge art historians with neglect for not having taken notice of those writers active in the visual arts.... For, even had they abandoned their writing, these figures would probably not have become significant in the history of art" [6,8]. Or as Georges Braque once confessed with regard to visual artists who venture into the arena of writing: "le peintre s'écrit à peine" [7,n.p.]. Hines, however, overstates the case by remarking that such interdisciplinary ventures "always stand at the fringe of the accepted oeuvre of any artist" [24,11].

Although one should proceed on the assumption that there will often be a relation between the works of art in varying media if produced by the same person, it is most productive to begin not with the works of a worst-case scenario, that is, a *Doppelbetätigung*—someone who is not equally adept in more than one medium—but with an obvious *Doppelbegabung* whose talents are doubted by neither literary historians nor art historians. Hence the dubious value of extensive listings of artistic multiple talents, such as those provided by Böttcher/Mittenzwei and Herbert Günther, and whereby we are given such interesting information as that Lyonel Feininger was an accomplished musician, that Rainer Maria Rilke sketched as a child, that Gerhart Hauptmann referred to himself as a sculptor as late as 1888. Such attempts to emphasize the need to look at *Doppelbegabung* cast their nets too widely, especially when such biographical trivia, as Jensen calls it [27,371], comes at the expense of critical analysis or assessment—not only of the works but also of the talents exhibited by the artists.

Closely related to the tendency to focus on the artist as the coordinating aspect of the *Doppelbegabung*-phenomenon is the concentration on the psychology of the creative process. Early in the century, for example, Waetzoldt talks about the “psychologically important question of the multiple talent” [42,4]; Gustav Bebermeyer speaks of “the psychologically...significant appearance of the multiple talent” [4,160]; Kurt Wais observes that the “most important original bond among the arts appears to lie on the psychological plane” [43,15]. This tendency continues in the subsequent years and is ultimately perpetuated by Weisstein who in 1978 notes that “throughout the ages, the arts have sought to reunite...psychologically through *Doppelbegabung*...fusing the channels of the creative process” [49,7] and who in 1981 states: “When we turn from the preoccupation with works...to the scholarly concern with their makers and to the creative process itself, we face the intriguing phenomenon of *Doppelbegabung*” [46,25; see also 47,25]. As Weisstein sees it, most interarts comparativists now avoid this issue and feel that the psychologist is better equipped to deal with the sources of multiple creativity activity.

Another investigative tack that often takes scholars well wide of the mark is when they engage in what Mitchell refers to as “ad hoc discussions based in historical contingencies such as the friendships of painters and poets” [34,85]. Waetzoldt remarks that there have always been “artists through whose veins coursed the urge to write poetry...[and who] therefore sought to associate with established poets” [42,15]. Similarly, Karl Schneider has argued that the lively interaction among artists during the era of German Expressionism created conditions extremely favorable to the development of artistic *Doppelbegabungen* [39,234]. Although these ways of accounting for multiple talent have their value, there as yet exists no suitable technique to determine whether such “climates” had definitively identifiable results.

The conventional choices of *Doppelbegabungen* need to be examined and by extension revised, and the key to progress lies not so much in a need to expand the scope of inquiry, by looking for more examples or even looking closer at the lists already compiled, but rather in the attempt to refine methodological procedures, and to increase awareness of the process of comparing works of art and literature. Here the second category of approaches to the *Doppelbegabung*-phenomenon which focuses on the works of art rather than the artist point us in the right direction, and wherein the focus is on “an analysis of the actual objects and thus of their structural relationships” [51,130; see also 44,6; 19,588-91]. And yet these studies suffer from a major flaw. As James D. Merriman has noted, “One obvious error in the search for parallels is to be found in the metaphorical nature of many of the terms used in characterizations of art objects” [32,154; see also 30,86-8; 3,176; 40,308]. In support of his observation, Merriman dissects a passage from a section of Mario Praz’s *Mnemosyne* in which the issue of *Doppelbegabung* is addressed: “[Praz] finds a parallel between “roughly hewn portions” of some of Michelangelo’s sculptures and the “harsh and jagged style” of Michelangelo’s sonnets. Roughness is, of course, a feature which can be literally present in sculpture, but ‘jagged’ as applied to poetry is only the vehicle of a rather nebulous metaphor, since poetry literally speaking has no surfaces, whether rough or smooth, jagged or straight....” [32,154]

A further example of metaphoric terminology can be found in Waetzoldt’s observation that “Wilhelm Bush’s drawings demonstrate just as much humor in line [‘Witz der Linie’] and form as his verses show humor in word and thought” [42,15]. “Witz der Linie” is the “nebulous metaphor” that breaks down under scrutiny. The problem here, in short, is that metaphors tend merely to highlight connections that might be made but provide no concrete basis for making such comparisons.

1.2. Works-Based Solutions. At the same time, it is difficult not to sense that works in different media by artistic multiple talents are related. For example, critics of literature and of the visual arts acknowledge that there is something intuitively common to Wassily Kandinsky's stage composition, *Der gelbe Klang*, and many of his pre-WWI oil paintings—such as *Kleine Freuden* (1913) or *Das Bild mit dem weissen Rand* (1913)—and that Ernst Barlach's literary works bear resemblance to his plastic and graphic efforts. In other words, as Jon Green remarks, “the gut reactions that prompt us occasionally to notice some striking similarity between two...works of art are often reliable cues to deeper structural and functional similarities” [17,12]. The problem is to find a methodologically sound way of discussing these similarities, resemblances, or relationships, a difficulty frequently noted, but most recently by Peter Zima [52] and Gottfried Boehm [5].

One framework within which *Doppelbegabung*-studies may be legitimated is the semiotic system advanced by Charles Sanders Peirce. Before turning directly to his work it will be helpful to consider how the following “simple” example provided by Eco affords a working basis for the kind of project entailed in interarts relations:

[There] is something “intuitively” common to the red light of a traffic signal and the verbal order /stop/.... The semiotic problem is not so much to recognize that both physical vehicles convey more or less the same command; it begins when one wonders about the cultural or cognitive mechanisms that allow any trained addressee to react to both sign-vehicles in the same way... Now the basic problem of a semiotic inquiry on different kinds of signs is exactly this one: why does one understand something intuitively? One of the semiotic endeavors is to explain why something looks intuitive, in order to discover under the felicity of the so-called intuition a complex cognitive process.... To look for...a deeper common structure, for the cognitive and cultural laws that rule both phenomena—such is the endeavor of a general semiotics. [10,9]

There may not be a problem recognizing that both the red light and the verbal order /stop/ convey the same command. Relating a drama to a sculpture, however, would involve infinitely more complex and varied interpretive possibilities before there could be any hope of disambiguating a common “message,” or determining which signs engender which responses. Or as Armen T. Marsoobian writes: “While the meaning-engendering (i.e., sign function) of simple semiotic systems, such as traffic signs, is readily understandable...the leap to more complex systems such as poetry, drama, or music is not an easy matter” [31,269]. What might help is if one were to take a closer look at that process which allows one to think in terms of relations.

Relational thinking lies at the heart of attempts to outline stylistic similarities among works of differing media, wherein identity is seen to derive from the “deeper common structure” that governs more than one phenomena. What is problematic, in turn, is the terminology used to describe the similarities. Thus Merriman argues that the use of terms such as “corresponding” or “equivalent” to characterize like formal features is “both illegitimate and seriously misleading” [32,314]. For him, if a given X and a given Y are equivalent, they must be equal in “value, measure, force, effect, meaning, significance, position or function” [32,315]. Merriman then proceeds to demonstrate the irrelevance or inapplicability of each of these possible denotations of “equivalence” to interarts comparisons, and attempts to derive a set of “general formal principles” instead:

The feature must at least be a possible feature of all the objects to be compared.... [It] should be a feature...of clearly special significance to the arts.... [T]he feature must be capable of literal presence in all the objects to be compared.... The test of whether features seen in two different objects are identical rather than merely joined under the same label is to determine whether in both cases the same units of measurement...apply.... A feature must be objective; that is...it must be...unambiguously definable in such a way that all observers can agree on.... Features...ought to be simple...rather than complex. [32,160]

But, as Weisstein astutely comments, “How often does an identical feature inhere in two works belonging to two different spheres of art?” [48,268]. Here the question of measurement becomes a methodological stumbling block, for as Merriman himself notes: “This will require the development of sophisticated methods and scales of measurement...methods of weighting such specific measurements in order to arrive at a composite scoring for each innate form in a given art work, and finally development of a theory of correlations between such scores for art works drawn from two or more arts” [32,318]. Yet measurement is more than an enormous problem to be solved; it is a problem that defies solution.

Merriman’s forms, I would argue, are neither “simple,” nor “elementary,” and it is doubtful that they can be defined “in a way that all observers can agree on,” especially since, as he notes, one is not dealing with any abstract “kind of relationship” [32,315], but with those “concrete instances” that are medium-determined and which defy efforts at quantification. Thus, although Merriman strives for the positivistically identifiable and quantifiable, he fails to arrive at a workable method of discussing interarts relations. Here again so-called equivalences of formal features dissolve into metaphoric transfer; similarly, the derivation of features that are “indigenous” to the arts proves problematic. Perhaps what needs reexamining, therefore, is the notion that there cannot be “real” relations between art works if no “identical” formal features or “innate” principles can be derived.

Merriman’s dismissal of Praz’s metaphoric terminology, for example, does not invalidate the proposition that a relation exists between Michelangelo’s sonnets and sculpture. It merely indicates the problematic nature of the manner in which Praz discusses relations. To validate or legitimate Praz’s original proposition, or any interarts comparison, requires an understanding of the process that allows one to think in terms of relations in the context of sign systems.

2. Semiotic Theory in Interart Discourse

At this point, it will be helpful to re-think whether the use of metaphor in relational thinking is really as problematic as Merriman contends, and that only through its avoidance can one arrive at some enlightened understanding of the comparative process. Is it possible that metaphor might prove to be an indispensable tool when it comes to revealing “unexpected truth” in comparative analyses [5,26]? Certainly, this is Wendy Steiner’s conviction: “Few concepts have undergone as much philosophic debunking in recent years as the notion of similarity or resemblance.... And yet, probably no mechanisms are as essential to the progress of...literary criticism as metaphors, analogies and models” [41,1]. Barend van Heusden echoes Steiner, although phrasing matters as a semiotician: “Semiosis...is strongly analogical. What is new is perceived on the basis of analogies. It is the analogy that poses a problem. Something is *like* what we already know, but in what respect, and why is it different? The analogy may *suggest hypotheses* for inductive investigation; but it cannot *prove* anything. Analogy, in brief, is probably the most fruitful source of suggestions, of hypotheses, that is, of *tentative inferences*, but is not a type of proof at all” [22,136-7]. For support of such a position one may turn, as Zima too suggests [52,21-22], to the theoretical treatises of Umberto Eco and other semioticians, where a framework is posited within which the concept of metaphor occupies a central position, the importance of models is affirmed, and interarts comparisons can be legitimated.

Eco, for one, suggests that conclusions based on equivalences, or relying solely on deductive reasoning, do not figure prominently in the cognitive process of comparing signs belonging to different semiotic systems:

If signs were rooted in mere equivalence, then understanding would represent a simple case of *modus ponens*.... This is in fact the absolutely deductive process we implement when dealing with substitutional tables, as...with the dots and dashes of the Morse alphabet. But it does not seem that we do the same with all the other signs, that is, when we are not invited to recognize the conventional equivalence between two expressions belonging to two different semiotic systems, but when we have to decide what content should be correlated to a given expression. [10,39]

2.1. Peirce's Conception of the Sign. Art works, regardless of medium, are composed of formal features, of signs, and as Charles Sanders Peirce defines it, "A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity" [35,2:228; see also 2:303; 2:274; and 1:339]. As Vincent Colapietro [8,207], van Heusden [22,57], and others have noted, Peirce's conception is based on-yet modifies-the classical definition of sign as *aliquid stat pro aliquo*. Colapietro explains: "While the classical formula portrays the sign in terms of a dyadic relationship, the Peircean definition conceives it in terms of a triadic structure"; that is, "a sign not only stands for something, it stands to someone" [8,207].

According to Peirce, a sign in all cases, and thus in a work of visual art or literature, is connected with three things: "the ground, the object, and the interpretant" [35,2:229]. The way these concepts are related is as follows:

A sign, or *representamen*...addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the *representamen*. [35,2:228]

2.2. Index, Symbol, Icon. For Peirce, a sign is either an icon, an index, or a symbol ([35,1:369; 1:558; 2:247; 2:304; 3:361-2; 4:447-8; 4:531], and elsewhere) depending on how it can be related via the interpretant to what he calls its dynamic object [35,2:243; 1:558-9]. Although Peirce explores in great detail each of these three classes of sign, which he refers to as his second trichotomy of signs [35,2:247-50], the following working definitions, formulated in a letter from Peirce to Lady Welby dated October 12, 1904, will suffice for this study [see 29,437]. An index for Peirce is "a sign determined by its dynamic object by virtue of being in a real relation to it" [36,33; see also 35,8:335]. Or as Robert Innis accurately rephrases it, using less technical terminology: "indices signify by existential or physical connection with their objects" [25,2]. A symbol, for Peirce, is "a sign which is determined by its dynamic object only in the sense that it will be so interpreted. It thus depends either upon a convention, a habit, or a natural disposition of its interpretant, or of the field of its interpretant" [36,33]. Again, as Innis explains, symbols "signify without motivation, through conventions and rules, there being no immediate or direct bond between symbols and objects." [25,2] An icon, for Peirce, is "a sign which is determined by its dynamic object by virtue of its own internal nature" [36, 33]. Or as Innis puts it, icons "are based on 'resemblance' between sign and object as well as on a putative sharing of 'properties'." [25,2]

Peirce examines numerous examples of indices, including a weathercock, which is an index of the direction of the wind; a plumb-bob, an index of the vertical direction; a sundial, which indicates the time of day; and, a low barometer with a moist air, which is an index of rain—"that is we suppose that the forces of nature establish a probable connection between the low barometer with moist air and coming rain" [35,2:285-6]. To illustrate his notion of symbol, in turn, Peirce provides the following example:

We speak of writing or pronouncing the word "man"; but it is only a replica, or embodiment of the word, that is pronounced or written. The word itself has no existence although it has a real being, consisting in the fact that existents will conform to it. It is a general mode of succession of three sounds or representamens of sounds, which becomes a sign only in the fact that a habit, or acquired law, will cause replicas of it to be interpreted as meaning a man or men. The word and its meaning are both general rules; but the word alone of the two prescribes the qualities of its replicas in themselves. [35,2:292]

With respect to iconic representamen, Peirce argues for three varieties, which he terms hypoicons: images, diagrams and metaphors [35,2:276-7], whose characteristics are conveniently summarized by Steiner:

A sign which substantially replicates its object, e.g., a model of a house showing doors, windows, and other house properties, is called an image; a sign whose relations replicate those of its object, e.g., a blueprint of a house, is called a diagram; and a sign that represents...the representative character of another sign through a parallelism, e.g., "snail shell" used for "house" to stress the house's protective nature, is a metaphor. [41,20]

There are, however, problems with Peirce's general theory of iconism, indeed with any theory of iconism that supposes that signs are to some degree similar to, analogous to, or naturally linked with their object. As Eco points out in his "Critique of Iconism," one finds that not only in symbols but also in icons "a correlational convention is in operation" [11,191]. Thus when one speaks of a similarity between a sign and an object, one is actually referring to a relationship between the image and a previously culturalized content. Or as Martin Heusser explains, meaning is not the result of icons standing "in a natural, self-evident relation to what they represent...[but rather] of exceedingly complex and elusive cultural, psychological and physiological synergisms, of whose operation we are largely unaware" [23,15-6; see also 20a,].

Similarly, whereas for Peirce icons can signify by natural resemblance, for theorists like Nelson Goodman icons signify due to inculcation and thus "depend at any time entirely upon what frame or mode [of representation] is then standard" [15,38; see also 16,269-72]. The connection between the two views is aptly described by Steiner when she observes:

Considering the array of languages and other models of reality, and the changes in them throughout history, one could not argue for a fully iconic representation of reality through any sign system. All sign systems are conventional. But once a system is conventional, its artificiality is largely invisible, and the system is perceived as a model, a diagram of reality. A work of art that imitates a model of reality thus seems to be imitating reality itself. [41,30-1]

In this context, it is understandable why in his critique of iconism Eco would define "sign" differently than Peirce: "I propose to define as a sign *everything* that, on the grounds of a previously established social convention, can be taken as *something standing for something else*" [11,16]. Eco's basic definition of sign, with its emphasis on the notion of convention, corresponds roughly to what Peirce would call a symbol.

At the same time, as James A. W. Heffernan astutely comments: "Whether or not resemblance itself is something we are taught to see cannot change the fact that we customarily *do* see it between certain kinds of pictures and what they represent" [21,173]. In this sense, certain signs can clearly be seen as iconic insofar as they resemble actual objects if not naturally then at least by reason of their conformity to a model of reality readily accepted by most viewers. In turn the sign that would be purely symbolic is one which does not resemble an actual object or conform to a model of reality accepted by most viewers [see 15,36-8].

It is important to note, however, that Peirce himself did not consider these classes of signs—index, symbol, and icon—as mutually exclusive. On the contrary, all three aspects frequently or, he sometimes suggests, invariably, overlap and are co-present. As Eco has noted, "never, in Peirce, does one meet a 'real' icon, a 'real' index or a 'real' symbol, but rather the result of a complex intertwining of processes of iconism, symbolization and indexicalization" [9,177; see also 37,13-4; 18,248].

What Christine Hasenmueller calls "the puzzle of iconicity" [20a,297] has always haunted semioticians. Concurring, van Heusden remarks that iconicity, or iconism, has been "one of the most frustrating problems, ubiquitous in semiotic research, from its most abstract elaborations to its most pragmatic endeavours" [22,77]. Eco—among others—emphatically criticizes the concept of iconism. And yet, grounding his analysis of iconism in a less narrow reading of Peirce's writings than Eco, van Heusden, to his credit, seems to be able to move discussion past such conventional criticism. He finds ample evidence in Peirce that allows one to distinguish "formal icons" (or iconic signs, not essentially different from what has been described above) from "non-formal icons" (or the general iconicity of signs in perception). Here, I would like to quote van Heusden's comments on non-formal iconicity at length:

Non-formal iconicity...is an aspect of every form in perception...[and] is what makes a form concrete. It relates to the *difference* between the form recognized and its concrete manifestation in consciousness. This iconicity is not based on formal similarity, but on an awareness of difference. It is not dependent on any formal qualities but applies to every form consciously perceived. Being the basis of human perception, the icon forces us to search for form. It poses a form problem, to which different formal icons, as well as arbitrary forms, may provide a solution.... [I]t is this non-formal iconicity which is crucial for semiotics because it triggers the semiotic process and turns forms into signs....Instead of being the object of a syntactico-semantic analysis, non-formal iconicity is the object of pragmatics², because it entails an operation of “attribution of form” or “qualification” of the icon as this or that form. The perceived form is thus iconic, not *vis-à-vis* an object, but *vis-à-vis* one or more known forms....It is [non-formal iconicity] which Peirce had in mind when he said that reality presents itself to us as an icon: reality never completely matches our expectations, and continually forces us to eliminate differences, ambiguities....[22,79-80]

Non-formal iconicity constitutes, for van Heusden, “the motor of the semiotic process” [22,84] and thus would be critical to the process of drawing conclusions about the similarities or differences among works produced by the same person in different artistic media:

The ubiquity of the particular makes human perception *iconic*. Whatever we consciously perceive resembles what we know and expect, more or less. All of conscious perception lies on a scale between the two unattainable limits of, on the one hand, pure identity between what we perceive and what we expect...and, on the other, pure difference between expectation and perceived reality.... The iconicity which characterizes human perception...is not, however, an iconicity of a form or sign with respect to a supposed “reality”. When I judge a portrait to be iconic in relation to the person depicted, I do not refer to some “external” reality, but to that person *as I happen to know him*. The same situation occurs when I meet the person in question: again he or she is iconic with respect to *my knowledge* of that person. Iconicity thus determines the relation, not between perception and reality, but between what is perceived and what is already known. [72]

2.3. Deductive, Inductive, and Abductive Understanding of Signs. In the first chapter of *Semiotics and the Philosophy of Language*, Eco also points out that understanding even the most basic sign concept involves more than a mere spontaneous assumption of equivalence, more than an identity: “The semiotic process of interpretation is present at the very core of the concept of sign.... A sign is an x standing for a y which is absent, and the process which leads the interpreter from x to y is of an inferential nature” [10,1-2]. The act of interpretation involves reasoning, arguments, and inferences, of which for Peirce there are three fundamentally different kinds: “Deduction...Induction...and Retroduction” [35,1:65; 2:96-8]. The latter term, as Douglas R. Anderson explains, is one that Peirce uses interchangeably with abduction, hypothesis, retroduction, and presumption [2,163n8]. Peirce, in part basing his discussion on a novel interpretation of Book II, chapters 23-25 in Aristotle’s *Prior Analytics* [see 35,2:776], was one of the first to recognize the significance of abductive reasoning to the inferential nature of interpretation.

Deduction for Peirce is “merely the application of general rules to particular cases” [35,2:620] and induction is “the inference of the rule from the case and result” [35,2:623; see also 1:66-74, 2:266-70, 5:161-71 and especially 2:619-44]. For Peirce, as K.T. Fann explains, the difference between induction and abduction is as follows:

[In] induction we generalize from a number of cases of which something is true and infer that the same thing is probably true of a whole class. But in abduction we pass from the observation of certain facts to the supposition of a general principle to account for the facts. Thus induction may be said to be an inference from a sample to a whole, or from particulars to a

general law; abduction is an inference from a body of data to an explaining hypothesis.... [Induction] classifies, [abduction] explains. [12,9-10; see also 35,2:636; 5:145]

Thus, one reasons abductively when one finds a curious body of data and then posits, or hypothesizes, a rule so that the data no longer is strange. Or, in Peirce's own words: "Hypothesis [abduction] is where we find some very curious circumstance, which would be explained by the supposition that it was a case of a certain general rule, and thereupon adopt that supposition" [35,2:624]. A clear schematic is provided by John R. Josephson:

D is a collection of data (facts, observations, givens).
H would explain *D* (would, if true, explain *D*).
 No other hypothesis can explain *D* as well as *H* does.

Therefore, *H* is probably true. [28,5]

2.4. Abductive Reasoning in Semiosis. Like Peirce I consider abduction, or abductive reasoning, to include the whole process of generation, criticism, and acceptance of explanatory hypotheses. Van Heusden provides useful elaboration on this matter: "the abductive inference establishes a similarity or iconic relationship, relating the new facts to what is known already, thus enabling the development (by deduction and induction) of a scientific theory about these new facts. Abduction is a possible reaction when confronted by a semiotic problem. It is the first step of scientific inquiry: the iconic structure is taken to hide a logical or necessary form. What one looks for, in abduction, is a form explaining the apparent contradiction" [22,132].

As an especially clear example of abductive reasoning-and paraphrasing Peirce [35,1:71-4, 2:96-7]-Eco stages the following scenario:

Kepler notices that the orbit of Mars passes through points *x* and *y*...this was the Result, but the Rule of which this was a Case was not yet known.... Points *x* and *y* could have points of, among other possible geometrical figures, an ellipse. Kepler hypothesized the Rule...they are the points of an ellipse. Therefore, if the orbit of Mars were in point of fact elliptical, then its passing through *x* and *y* (Result) would have been a case of the Rule. The abduction, of course, had to be verified. In light of the hypothesized rule, *x* and *y* were "signs" of the further passage of Mars through the points *z* and *k*. It was obviously necessary to wait for Mars at the spot where the first "sign" had led one to expect its appearance. Once the hypothesis was verified, the abduction [was] widened (and [again] verified): the behavior of Mars...became a sign for the general behavior of planets. [10,40-41]

Peirce contends that abduction is "the only logical operation which introduces any new idea" and that "if we are to learn anything or to understand phenomena at all, it must be through abduction that this is to be brought about." He also argues that "every single item of scientific theory which stands established today has been due to Abduction" [35,5:172; see also 5:161; 5:145]. But as Anderson explains: "Abduction is not a matter of pure chance, science is understandable.... Peirce sees the attack on abduction as a disbelief in a scientist's control in obtaining hypotheses and therefore, over scientific inquiry as a whole. He views it as an escape into tychism he cannot buy. He defends his point by example" [2,152]. And Anderson quotes Peirce: "Think of what trillions of trillions of hypotheses might be made of which one only is true; and yet after two or three-or at the very most a dozen guesses, the physicist hits pretty nearly on the correct hypothesis. By chance he would not have been likely to do so in the whole time that has elapsed since the earth was solidified" [35,5:172].

Peirce thinks that abductions result not from blind intuition or pure chance but rather are informed by experience: "the stimulus to guessing, the hint of conjecture, [is] derived from experience. The order of the march of suggestion in [abduction] is from experience to hypothesis"

[35,2:755]. Abduction comes to “consist in examining a mass of facts and in allowing these facts to suggest a theory” [35,8:209]. Although Eco similarly regards abduction as the “tentative and hazardous tracing of a system of signification rules which allow [certain signs] to acquire meaning,” for him there are several types of abduction, and he isolates *creative abduction*-where “the rule acting as an explanation has to be invented *ex novo*” [10,40-2]. Eco argues that whereas in other types of abductions “one uses explanations that already held for different results,” in creative abductions “one is not sure that the explanation one has selected is a ‘reasonable’ one” [10,43]. Like Peirce, however, I would argue that what allows one to make abductions of any type is experience, and furthermore that the criteria of degrees of reasonableness, or probability of verification, serve merely to distinguish between induction and abduction-there is no numerical probability that attaches to abduction. In fact, for Peirce an abduction “is a method of forming a general prediction without any positive assurance that it will succeed” [35,2:270]. On this subject, Peirce remarks:

It is a great mistake to suppose that the mind of the active scientist is filled with propositions which, if not proved beyond all reasonable cavil, are at least extremely probable. On the contrary, he entertains hypotheses which are almost wildly incredible, and treats them with respect for the time being. Why does he do this? Simply because any scientific proposition whatever is always liable to be refuted and dropped at short notice. A hypothesis is something which looks as if it might be true and were true, and which is capable of verification or refutation by comparison with facts. [35,1:120]

Peirce, in short, conjoins both aspects of the reasoning dynamic, and when applied to interarts issues, this means that if abductions about similarities between art works in different media can be made at all, then such abductions must represent hypotheses whose explanatory power can, in some sense, be evaluated by checking the veracity of their conclusions. In this respect, the process of abductive reasoning described by Peirce is the same as that employed by the interarts critic:

At each stage of a long investigation...[a scientist] proceeds to modify [a] theory, after the most careful and judicious reflection, in such a way as to render it more rational or closer to the observed fact.... Thus, never modifying his theory capriciously, but always with a sound and rational motive for just the modification he makes, it follows that when he finally reaches a modification...which exactly satisfies the observations, it stands upon a totally different logical footing from what it would if it had been struck out at random. [35,1:73]

As I see it, therefore, understanding of signs-regardless of whether they are icons, indices, or symbols-and furthermore of relations is not a mere matter of recognition, of a stable equivalence, but rather of interpretation. In turn, the tasks of the interarts scholar in comparing the works produced in various media by a person of multiple artistic talents-and experience suggests that these works are often related-are to identify those signs, to trace a system of signification rules which allow these signs to acquire meaning, and to interpret relationally these signs and signification rules by means of abductive reasoning.

2.5. Diagrammatic Relations and Conclusion. It is true that relations of signs of a particular artistic or semiotic system are largely matters of convention peculiar to that system. Yet the relations among signs of one artistic system may diagram the relations among signs in another system, in much the same manner as is outlined in the following example provided by Peirce:

let f_1 and f_2 be the two distances of the two foci of a lens from the lens. Then,

$$\frac{1}{f_1} + \frac{1}{f_2} = \frac{1}{f_0}$$

This equation is a diagram of the form of the relation between the two focal distances and the principal focal distance; and the conventions of algebra (and all diagrams...depend upon conventions) in conjunction with the writing of the equation, establish a relation between the very letters f_1 , f_2 , f_0 regardless of their significance, the form of which relation is the *Very Same* as the form of the relation between the three focal distances that these letters denote. [35,4:530; see also 2:278-82]

In much the same fashion, although different art media diverge from one another most dramatically at the level of aesthetic convention, similarities occur at the interart level, that is, between intra-art sign relations. As Peirce explains during his discussion of the manner in which iconic representation such as metaphors and diagrams relate to their objects: "many diagrams resemble their objects not at all in looks; it is only in respect to the relations of their parts that their likeness consists" [35,2:282]. It is at this level of the overlaying diagrammatic relations between relations-of-signs that one might find a useful way of discussing how the works in varying media produced by the same person relate.

Note

¹ Unless otherwise noted, all translations from German texts are my own.

² Van Heusden explains: "Syntactics, rooted in linguistics, logic and mathematics, is the study of the contiguity relations among signs, whereas semantics studies the relations between a sign and its meaning" [22,33]. And further: "Syntactics and semantics study the relations between forms. These are not, strictly speaking, semiotic relations.... Semiotics taken in a strict...sense...coincides with pragmatics" [22,91]. For him "Pragmatics studies the use of forms in semiosis. In terms of relations this means: pragmatics studies the way in which forms are related to the iconicity which characterizes human perception" [22,92].

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