# A Causal Theory of Pictorial Representation

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I

In a recent paper entitled "Two Theories of Representation", Jenefer Robinson raises the question whether Fregean and kripkean theories of reference can be used to construct a theory of pictorial representation.[1] Robinson develops a descriptive theory out of Frege's notions of sense and reference, and a genetic or causal theory from Saul Kripke's account reference of names and natural kind terms. She concludes that neither theory alone nor a pooling of the best features of both theories can provide necessary and sufficient conditions for all kinds of pictorial representation. In particular, the combined theory fails to provide an adequate account of metaphor and misrepresentation. In what follows, I shall attempt to show how recent work by Dennis Stampe on causal theories of linguistic representation can offer further insight into those problems of pictorial representation raised originally by Robinson and left unsolved by subsequent analyses.

It is generally acknowledged that Goodman's *Languages of Art* provides a basis for all subsequent discussions on pictorial representation. So before looking at Robinson's attempt at filling in the details of his theory, let's review the general structure of Goodman's view as found in chapter one of *Languages of Art*.

II

An account of pictorial representation must address two general questions:

1. What, if anything, is represented by a given picture, and
2. How is the putative object represented, which amounts on Goodman's view to asking what kind of representation it is. (This

characterization will be modified some what in the second half of the paper).

The answer to the ontological question deals with certain classical problems of reference. In a frequently quoted passage, Goodman claims that "a picture, to represent an object, must be a symbol for it, stand for it, refer to it; and that no degree of resemblance is sufficient to establish the requisite relationship of reference".[2] The arguments in support of his claim are well known.

A. Resemblance is reflexive — representation irreflexive. Simply put, an object resembles itself more than any other thing, but one would not generally say that an object represents itself, at least not if it is part of the concept of a representation that it be in some way distinguishable from its object.

B. Resemblance is symmetric — representation asymmetric. While it is not too much of a strain to admit that Napoleon resembles his portrait as much as the portrait resembles Napoleon, it would be wrong to say that Napoleon represents his portrait.[3]

C. Finally there are countless examples of pairs of objects that are nearly identical in appearance, but neither object represents the other. One thinks of adjacent cars coming off an assembly line, or perhaps of identical twins, neither of which would be said to represent the other. The conclusion is that no degree of resemblance is going to be sufficient for representation.

Goodman in fact goes on to argue that resemblance is not necessary for representation either. Almost anything, he contends, can stand for anything else. "A picture that represents — like a passage that describes — an object refers to and, more particularly, denotes it. Denotation is the core of representation and is independent of resemblance."[4] Thus, denotation (which Goodman apparently takes to be a primitive, since he gives no analysis of the concept) forms the central notion around which an analysis of the relation between a picture and what is depicted is conducted in a way analogous to that of a predicate and what the predicate applies to.

But representation is not simply a matter of denotation or a case of mere reference. A representation may frequently present its object in a certain light, as being a certain way. This is what Goodman calls *representation - as* and what we shall see is akin to the Fregean *sense*, or in more contemporary terms, the content expressed by a representation. Representation-as plays a classificatory role in the Goodmanian scheme,

determining how we refer to the representation as a type of representation. A picture of Napoleon in full battle array denotes Napoleon (the object of representation) and represents him *as* a soldier. It is, Goodman would claim, a type of picture falling under a large class of pictures referred to as soldier-pictures. Similarly, a picture of Reagan as clown would be, inter alia, a clown - picture denoting Reagan.

Thus, a picture can perform both denotative and classificatory functions. The former serves to fix the object of representation, while the latter depicts the state of affairs with respect to the object, characterizing things as being a certain way with respect to the object.

This brief summary leaves open a number of questions concerning how pictures get the particular denotative and classificatory features they supposedly have, as well as questions concerning how one could determine that a picture has the features it has. It is at this stage that we may ask what theory of reference one would need to capture both the denotative and classificatory aspects of pictorial representation. we'll begin by looking at Robinson's attempt to apply Frege's theory to pictorial representations.

<center>III</center>

Robinson divides Frege's view of referring expressions into two large categories: (a) singular terms, that is, proper names and definite descriptions, and (b) generel terms or indefinite descriptions. A singular term has both a sense and a reference and refers to a thing by virtue of its sense. If the singular term has no extension, then it has a sense but no reference. About the Fregean sense, Robinson says that it "seems to be the set of properties 'expressed' by the name or description".[5] Thus, the sense of a proper name such as "Aristotle" is the set of properties belonging to Aristotle, given expression in the term "Aristotle", and sufficient for uniquely referring to the individual named by the singular term in question.

The most obvious pictorial analog to the proper name is the portrait. Applying the Fregean theory to this type of picture, one gets the result that a portrait refers to the portrayed by means of its "pictorial sense", i.e. the set of properties "expressed" by the picture. (It should be noted that the scare quotes appearing around the word

"expressed" belong to Robinson. When discussing pictorial representation, "represented in" is used as a synonym for "expressed by"). Given this way of applying the Fregean theory of names, a picture of Aristotle functions very much like a proper name or definite description. Robinson, however, inserts the proviso that the properties represented in a picture will depend to some extent upon the symbol system in which the picture occurs. This, she claims, is analogous to the way sense varies according to what language the linguistic expression occurs in. Unfortunately, Robinson gives no examples of how the pictorial sense might vary from context to context. I suppose a plausible distinction might be between a realistic symbol system where conventions of depicting correspond closely to those of projective geometry and a religious -iconographic symbol system where the means of depicting certain people or associations might rely more on an established set of relations or associations sanctioned by an independent set of religious beliefs and teachings.

The second general category of referring expressions, general terms and indefinite descriptions, brings together terms like "eagle" or "blonde -haired biped", terms that refer to whatever it is that satisfies the expression. The similarity between the functioning of words and pictures in the context of indefinite descriptions is brought out by Goodman's example of pictures used in reference books. The picture of an eagle that one finds with a dictionary definition of "eagle" refers not to some particular eagle, but distributively to every eagle. Likewise, the descriptive illustration of a creature with light yellow hair and two legs refers to every creature satisfying the pictorial description. It should be remembered, however, that general terms and pictures, like singular terms, may refer to no thing and yet have a sense. A picture of a man with three heads, like the expression "three-headed man", has a sense, i.e. a set of properties "expressed" by the terms or the picture, but does not designate an existing thing.

Finally, two descriptions may have a single reference and multiple senses. "The Morning Star" and "the Evening Star" both refer to Venus but each description is related to a different set of properties, each set constituting the difference in sense between the two terms. Robinson argues that pictures share this feature with linguistic expressions. Thus, two pictures of Venus may represent different properties, viz. those

associated with appearing in the evening sky and those associated with its appearing in the morning sky. "In general, it seems that a picture which represents *a* as a *b* is a picture the represented properties of which are those of a *b* yet determine the reference of the picture to be *a*. For example, a picture of Venus as the Morning Star represents Venus via the represented properties of the morning Star. It attributes to Venus certain properties, such as 'appearing in the morning' which would not be attributed to her by a picture of Venus as the Evening Star."[6]

Having seen the range of situations that can be captured, one may ask whether the theory as outlined can account for all cases of pictorial representation ? Robinson claims it cannot and cites three major problems.

(1) If pictorial sense determines reference, then it follows that a picture represents whatever the represented properties belong to. If a portrait of my grandfather looks just like your grandfather, then the portrait represents both grandfathers. The reason why we fail to get singularity of reference, on Robinson's modified Fregean account, is that pictures do not necessarily express the essential, or uniquely individuating, properties of the object represented. "It might, for example, be an essential property of Aristotle and part of the sense of the name 'Aristotle' that he was the most famous pupil of Plato. But being the most famous pupil of Plato is not a property that is easily picturable."[7]

Now a number of objections should be response to Robinson's criticisms here. First of all, on her reading of Frege, a sense is a set of properties represented in a picture. Her first objection takes the form of a conditional: If sense determines reference in the way outlined, then a picture represents whatever the represented properties belong to. As it stands, I would not object to the conditional. However, one cannot conclude so quickly that portraits are likely to be ambiguous. what Robinson leaves out of her objection is the important point that she made on the previous page, viz , that the properties that may be taken to be represented *depend on the symbol system in which the picture is used as a character.* This is roughly equivalent to saying that the rules governing the interpretation of the pictorial statement have some bearing on the representational features of the work. This is an important point and one Frege urges with respect to language. And while it may be acknowledged that ambiguity can arise in portraiture, it is surely a problem that

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is not unique to pictorial representation. Consider "Kennedy's wife lived with Aristotle", a sentence used to express the fact that Jackie lived with Onassis. Frege held that even in such cases, sense does determine reference; that context a) always determines sense, and b) that even in sentences like the above example, the context determines the sense of "Aristotle" to be *surnamed Onassis*. [8] Robinson, however, objects that a picture of an identical twin will represent both twins on a strictly Fregean view. Even if she were right about this I don't see how the objection has any more bite than the objection that "Paul Smith" taken out of context may refer to more than one person. So even if the range of pictorial representations fails to match that of linguistic representations, the problem of singularity goes to the heart of *any* theory of reference. Looking at *pictorial* ambiguities only serves to distract one from this more basic issue.

Robinson finds similar problems with the representational strength of general terms like "eagle" and their pictorial counterparts. While she seems content with the linguistic term as a means of referring to any eagle whatsover, the same feature found in pictures strikes her as problematic. Since "the essential properties of eagles are not easily picturable", she claims the analogy with general terms breaks down. But, one wonders, what is there in a merely formal, linguistic sense to a term like "eagle" that makes it refer to any eagle ? The expression of essential properties are, it seems to me, no more readily found lurking in a term with the form "eagle" than they are in a simple line drawing of an eagle. Surely if there is a problem unpacking the merely physical properties of a Fregean sense, it will apply, mutatis mutandis, to pictorial and linguistic expressions alike.

(2) A Fregean theory of pictorial representation fails to account for representation-as. A picture which is purported to represent Churchill as a lion would be a picture with a set of properties belonging to lion and which refers to Churchill by virtue of those properties. Thus it has the sense constituted by leonine properties but refers to a man, not to a lion. Robinson claims such a position cannot be sustained since a picture of a lion is not a correct pictorial description of Churchill. Likewise, a correct picture of Churchill cannot be a correct pictorial description of a lion. Thus, in the case of metaphorical pictures with contrary properties, sense fails to determine reference.

(3) Another related problem is that it is not at all clear how one could misrepresent an object and yet succeed in referring to it. One may be tempted to say that a picture of the Parthenon with the wrong number of columns represents the Parthenon, even though some of the properties expressed in the picture are not those of the Parthenon The picture is commonly said to *misrepresent* the Parthenon. A Fregean theory, Robinson claims, cannot account for the reference of such a false picture. A picture is a representation of its object precisely because it gives *true* information about it. Frege's theory thus rules out cases of reference due to inaccurate representations, as well as cases of accidental reference.

In summary, the Robinsonian version of Frege's theory of reference fails to satisfy the needs of a pictorial theory of representation. Its main defects are:

(a) It fails to account for the singularity of reference, i.e., how it is a particular thing is represented as opposed to some other thing sharing many of the same properties.

(b) Many important, if not essential, features of persons and things are describable but not picturable and, therefore, cannot be referred to by pictures.

(c) It fails to account for representation-as. If a picture represents an object by virtue of the fact that it expresses a set of properties belonging to one object and one object alone, then metaphorical representations with properties belonging to no one object end up referring to nothing.

IV

A modified Fregean approach to pictorial reference highlights a number of important features but falls short of providing a complete theory of pictorial representation. The remainder of Robinson's paper is devoted to exploring the possibility of adding Kripke's causal account to the classical theory of reference with a view to solving the problems left open in the previous analysis. This tack appears, prima facie, to have a good deal to offer.

First of all, we'll look briefly at Kripke's causal account of reference. Next, we'll see how it helps answer the singularity problem but fails

to address the problem of representation-as. Given that Robinson has already rejected Frege's view of represenation-as, we'll conclude, with her that neither theory alone nor a combination of the two theories can provide the theory of representation that we seem to need. In the last section, I'll attempt to show how Stampe's theory succeeds where the previous theories have failed.

Once again we assume that pictures behave like singular or general terms. In the case of proper names, reference to a particular individual such as Aristotle succeeds if the appropriate causal connection obtains between a particular use of the term "Aristotle" and the individual so named. This causal chain is established at what Kripke calls a "baptismal ceremony" where an object or individual acquires the name which is to be associated with it and used to refer to it in the future. Thus, since Aristotle was given his name let's say at birth, the word "Aristotle" attaches to the individual and is used to refer to him by anyone who intends to do so. It is not necessary to know anything essential about the man so named, nor to be aware of the essential properties or sense of the name "Aristotle". One merely uses the name one has come to know via the historical chain formed by teachers, acquaintances, books, etc. As long as one holds the belief that there exists a man named "Aristotle" and uses the name to refer to him, reference to the individual succeeds. For example, when my reference is to the Stagirite and not to Jackie's late husband, it is simply because it is the philosopher who I intended to single out and not the shipping magnate. This intention is what hooks me up to the particular causal chain.

Applying the analogy of singular terms to pictorial reference, we look once again to portraiture. What makes the artist's portrait a picture of Twin A and not twin B is just the causal link between the painter and twin A. The reference is determined historically by the fact that it was Twin A who sat for the picture and not Twin B, and that the artist intended the picture to be a portrait of Twin A. In general, the singular term of picture turns out to have both causal and intentional features.

What about general terms or indefinite descriptions ? These are handled by analogy with Kripke's theory of natural kind terms. On this view, a paradigm case is picked out and used to fix the reference of the

general term. For example, when one uses the term "eagle" there is a definite class of creatures that gets singled out or referred to. A given speaker may not be able to provide a complete account of what differentiates eagles from other closely related species, but that knowledge is not essential to his using the general term to refer to such creatures as a group of natural kind. In a similar way, Goodman's picture of an eagle accompanied by a dictionary definition of "eagle" manages to refer, via a paradigm case, to every eagle rather than to one particular eagle. It is not necessary for this picture to be true of all and only egles.

At this point one should begin to suspect that the Kripkean view, while not sufficient in itself, may prove adequate if combined with the Fregean, since the former provides us with a solution to the singularity question while the latter accounts, via sense, for the way in which the properties of a representation determine *how* a given picture represents its object. Thus, relieved of the onus of answering the singularity question, the Fregean sense may be put to good use in accounting for representation-as. Putting the two theories together, we get that if A represents B as a C, than A "expresses" the properties of a C, i.e. has the sense of a C, but is caused in the relevant way by B in virtue of the fact that B served as a model or that it was the artist's intention to represent B. Putting off for the moment the usual problems of accounting for "relevancy" in causal stories, it appears that this description gives a more complete theory of pictorial representation. However, as Robinson shows, more careful scrutiny reveals that even our hybrid theory will not give sufficient conditions for representation Robinson suggests two kinds of problems that remain. What follows is an embellishment of her counterexamples.

The first problem arises in the face of gross incompetence and deviant causal chains. Suppose a painter intends to paint a portrait of Margaret Thatcher and uses her as a model. During the execution of the portrait, something goes completely haywire in the artist and totally disrupts his hand to eye coordination with the result that the properties of the picture do not correspond *in any way* to the properties of Thatcher. Thus, the causal and intentional links are in place-- the artist intends it to be a picture of Thatcher ond uses her as his sitter---so that the picture, on a strictly causal view, would be a portrait of Thatcher, even though there is *nothing* about the formal qualities of the picture that would allow one to reach such a conclusion. Our intuitions may lead us to say

that it is not a picture of Thatcher, despite the causal link to her. Support for our intuition is provided ( albeit rather incompletely ) by Robinson. "For a picture to represent the (sitter), there must be a mapping from its pictorial properties to the represented properties of the (sitter) .."[9] Robinson, however' does not explain how, in general, such a mapping could occur nor what constraints need be placed on it. So while we may agree that the Frege/Kripke model would fail to give satisfactory results in the present case, if we were to stay within the domain of classical theories, we would need a fuller explanation of the object to image mapping.

Secondly, Robinson argues that the Kripkean theory fails to provide sufficient conditions for representation-as. This objection turns on the notion that it would be wrong to think that anything can represent almost anything else. On the Kripkean view, a straightforward picture of a lion which was intended by the artist to be an inspiring portrayal of Churchill and given an appropriate title, would qualify as a picture of Churchill as a lion. "But this cannot be the whole story. The only reason we accept a picture of a lion as a picture that represents Churchill is that it is both meaningful and apposite to regard Churchill as a lion. A picture of a vase of flowers entitled Churchill on the Eve of the Normandy Invasion is likely to be merely puzzling unless we supply a context in which it might be appropriate to regard Churchill as, say, a vase of snapdragons as opposed to a vase of forget-me-nots . In other words, *what* is represented is not determined independently of *how* it is represented ."[10] And just where the Fregean theory should be brought to the rescue, Robinson argues that it reveals itself as inadequate to the task after all. In order to understand a metaphorical picture, we need to know what it is that makes the metaphor appropriate, which is to say, what properties Churchill and the lion have in common. But it is just that information which seems to come, if at all, from a source external to the picture. If the point is that *Churchill* is fierce and courageous, that has not been represented by *the picture*. What has been represented is a *lion* and perhaps a very odd lion at that. The picture may have a sense, but its referent is not the object supposedly aimed at, at least not within the present theoretical structure.

V

As a general rule, any account of pictorial representation must address two general questions: (A) The question of its *object*--What, if

anytihing, is represented by a given picture (drawing, photograph, etc),
and (B) The question of its. *content*--How is the putative object represented;
what is it represented *as*, or, what is represented as being true of it.
Stampe provides an explanation in terms of the causal connections needed
for a thing to be the *object* of a representation, as well as the causal and
counterfactual relations that determine the *content* of a representation.[11]
The primary concern in the determination of what object a picture
represents is the specification of an *essential* causal link between the
actual properties of a pictorial representation and the existing properties
of the represented object. Unlike the traditional Fraegean account of
reference wherein an expression essentially refers to whatever particular
object instantiates the properties expressed, the present view insists that
it is the fact that the properties of the object are *causally* related to the
pictorial properties that forms the essence of the representing relation.
Thus, the kind of relation we seek is between a set of properties (F) of
the thing represented (O), and a set of properties (G) of the representa-
tion (R). It will normally by the case that the relevant causal relation
preserves an isomorphism between O's being F and R's being G.[12] For
example, consider a portrait of your Grandpa Harold painted in honor
of his eightieth birthday. The picture, we want to say, has the properties
it has only because your grandfather has the properties he has. Your
grandfather's physical properties *cause* the protrait to have the properties
expressed therein. The nature of this hook-up is expressed in the following
way. "Ordinarily. if O's being F causes R to be G, R is G *only* because O is
F, and R wouldn't be G were it not for the fact that O is F. Where this
ordinary situation obtains, it will be possible to acquire knowledge of
the thing represented from the representation of it. Specifically, it will
be possible to tell, from the fact that R is G, that O is F (that is, to know
*of* O that it is F). There being such a causal relation as this can be made
to account for the central fact about representation--that is, that
representations provide information about what they represent."[13] By
looking at the portrait of your grandfather, it will be possible, under
certain conditions, to tell what he looks like, to know *of him* that he has
certain properties.

Of course, it is not a necessary feature of a picture that it look like
what it is a picture *of*. But in the case of poorly executed (realistic)
portraits, for example, it seems natural to say that *if* the portrait had
been accurate (had it been *well* executed), it would have shown what the

sitter looks like. Such an analysis applies, mutatis mutandis, to systematic distortions found in cubism, mannerism, and other stylized works as well, insofar as they *are* representations. The critical, underlying assumption here is that if the picture is a representation of something, there is a route, however circuitous, that one could conceivably trace from the features of the picture to the features of the object represented. This route or mapping as accounted for by means of the counterfactual covariation between the picture and its object. Furthermore, it should be allowed that, in the case of portraits that are not merely bad or distorted but, let's say, *mad*, there is no rational method of reconstructing the features of the sitter from those of the picture. If one were to explain why the particular configuration appears on the canvas, one would not be able to give this account in terms of the features of the sitter. There would be no essential causal relation of the kind specified above that would provide a mapping of properties from O to R and vice versa, and the picture would fail to represent the sitter. The picture is a representation of an object only when the two are related in the appropriate *causal* way.

Such is the case for the object of representation. What is it that constitutes the *content* of a representation--what the representation *expresses*? To know what a representation (R) expresses is to know what would be the case if certain conditions obtained. On a causal view, these are conditions having to do with the causal background of the representation. So, to know what R expresses is "to know what would be the case were certain conditions to govern the *production* of the representation. The conjecture is this: if certain conditions do characterize those processes, the production of the representation would be caused by that state of affairs that the representation represents as being the case. That is to say, it is exactly the fact that would make the representation an accurate one, that would also cause the representation to be produced. provided that this particular set of conditions governs its production. If, however, those conditions do not obtain, then it is not to be produced [14] The conditions referred to are called "fidelity conditions" and are generally understood to be conditions that identify well-functioning or normal systems. A thermometer, for example, may be used to tell what the temperature is. Its function is to represent the temperature, and it will do this if it is in normal working order. Similarly, in a realistic portrait, the function of the painting is to represent the portrayed--to show what the sitter looks

like. Our understanding of a partricular kind of representation generating system or mechanism (e. g., realistic portraiture, naturalistic landscape, etc.) determines the range of potential representations acknowledged as the appropriate output relative to a particular system or mechanism. This is central to understanding how to look at pictures and to our specification of the content of a picture since content amounts to what would cause the representation under the relevant conditions of fidelity.

For example, if one encounters a picture that goes by the title "Portrait of Ronald Reagan", one would ordinarily expect it to have been produced by an artist who intended to show what Reagan looks like and intends that the picture be taken in that way. Sincerity and some level of competence are expected or presupposed by the viewer. That is, one assumes that those things that would make the picture an accurate picture of what Reagan looks like form a part of what brings the picture into existence. To know how to look at the picture, how to understand it, is to know what would be the case if these conditions obtained. Without such knowledge, it would not be possible to form an interpretation of the picture. It should be noted here that fidelity conditions might hold even for inaccurate representations. Fidelity conditions are those under which an interpretation of the representation would be *reasonable to accept*. They are conditions governing the *production* of the representation and are not to be identified with conditions governing the accuracy of the picture. So to specify the content, one forms the conditional hypothesis that if fidelity conditions hold, a thing's having the properties it does would cause the representation to have the properties it does. Altering the conditions for fidelity, however, would significantly alter the set of reasonable interpretations. If a shop assistant were taken off the job and used as a model for St. Eloy in the painting by Petrus Christus, then the religious and iconographical system of fifteenth-century netherlandish painting would dictate which properties are to be understood as expressed by the work of art. Knowing how to look at such a picture is to understand the functional role that pictures of this kind play within a system of such representations. In this case, those things that would make the picture an accurate representation of St. Eloy are what play the relevant causal role in the production of the picture. If fidelity conditions obtain, it would be reasonable to accept "Eloy was a goldsmith" as true. In general.

interpreting a picture amounts to forming a conditional hypothesis that *if* fidelity conditions hold, then O's being F would cause R to be G.

We are now in a position to see what would constitute an inaccuracy or misrepresentation. First off, there is a true subjunctive conditional, viz., if fidelity conditions hold, then O's being F would cause R to be G. But a correct interpretation will not necessarily reflect the actual *causal* explanation. All the interpretation provides is an hypothesis concerning what state of affairs would cause R if fidelity conditions hold. The representation is accurate if and only if that of affairs obtains. It is not necessary that the state of affairs *cause* the production of the representation. "Representations may quite by chance or accident be accurate, as statements may merely chance to be true."[15]

Suppose I draw a picture of the Temple of Fortuna in Rome and operate within a realistic representational system, which means that as an artist I am (to put it roughly) depicting the way the Temple looks to a typical observer under relatively normal viewing conditions. Furthermore, assume the Temple has thirteen columns. but that my picture, which otherwise looks just like the Temple of Fortuna, represents it as having only twelve columns. Now you, as viewer, have available the following true hypothesis: If fidelity conditions hold, then the Temple's having twelve columns would be cause the picture to show twelve columns, and it would be reasonable to accept "The Temple of Fortuna has twelve columns" as true. But in this case, fidelity conditions have failed us, I have made a mistake, and as consequence we are left with a misrepresentation of the Temple. By way of contrast, suppose that under the influence of my superstitious beliefs I intended to represent only twelve columns but miscounted and accidentally gave the picture the correct number of columns. The picture then would correspond to the actual state of affairs but only by chance. Furthermore, the cause of the picture's expressing "The Temple of Fortuna has thirteen columns" would not be due to the Temple's having thirteen columns, at least not in any straightforward kind of way. Nonetheless the picture would be accurate independent of the causes of its production."*Accuracy* can only be that property a representation has if and only if the thing it represents has the properties that it represents it as having (that is, the properties it expresses)."[16]

So much, then, for accuracy. But what is it for a property to be *expressed* by a picture ? The properties a representation expresses are the

properties that would be instantiated by something that would cause the productions of that representation, provided that certain set of conditions obtained. And recall that the set of conditions (fidelity conditions) referred to are not the conditions under which the representation would be accurate, but rather they are conditions governing the *production* of the representation.

So to summarize:

(A) Accuracy is a property R has if and only if the object of representation has the properties expressed in **R**.

(E) Expressed Properties are those properties of an object that would *cause* the production of R under fidelity conditions (FC).

(FC) Fidelity Conditions are conditions under which an interpretation (I) of the representation would be reasonable to accept, as being true.

And for the form of an interpretation, we have said that (I) It fidelity conditions hold, then O's being F would *cause* R to be G.

What we have here is an account of how one can tell from the content of a representation what its object might be, in such a way that explains both representation and misrepresentation. Like the Fregean view, the content is seen to play a central role in the theory but, unlike the Fregean view does not *determine* the object of representation. That would, of course, be a fatal error in a causal account. The object of representation, if one exists, is a purely extensional matter, as we have seen. Recall that R has properties G only because O has properties F and R would not be G if O were not F. The content, on the other hand, is due to counterfactual relation between properties of a thing that would cause R to be G if fidelity conditions were in order. This, of course, allows for representations of objects that do not, in fact, exist and is consistent with both fictional and metaphorical representation. What remains to be done is to check the theory against the kinds of examples frequently enountered in the literature.

Let's start with an easy one. Suppose A and B are identical twins. Twin A has his picture taken by Twin B The resulting picture is a picture of Twin A since the physical properties of A cause the picture to have the properties it has. The picture looks the way it does only because A looks the way he does and the picture would not look the

way it does if it were not for the fact that A looks the way he does. If Twin A is wearing a Cub's uniform at the time the picture is taken, then the picture will express properties of A in conjunction with properties of a baseball player. Suppose the photograph is a straight forward picture—a snapshot taken around home plate in Wrigley Field. Then relative to an interpretation determined by the function of such pictures, e.g. photos on baseball cards indicating a player's affiliation, one concludes that it is a picture of Twin A the professional baseball player and it is reasonable to accept "A is playing for the Cubs this year" as true. If it is true of A that he is playing for the Cubs, then relative to the interpretation offered, the representation is an accurate one. However, if the situation had been different and the same photograph had been used in a news story reporting on the man who has been posing as Thad Bosley, the picture might represent A as the notorious impostor. The interpretation might be : If fidelity conditions obtain, A's being the guilty party would cause the picture to have the properties it does. And if A is, in fact, the impostor, the picture is an accurate representation of that state of affairs.

What does the theory say about the picture of an eagle that accompanies a dictionary definition ? What are the properties expressed by the picture and to what do they belong ? In this case, it appears there is no one thing O that is F, but rather a class of things, a *kind* of creature that one can roughly identify on the basis of a certain morphology. Application of the theory gives us that R is G only because ( the species in question ) is F and R wouldn't be G if O weren't F. This case as well seems unproblematic, provided one is willing to admit a type or natural kind as the object of a representation.

Let's turn to a harder example suggested by Jenefer Robinson -- a representation of Churchill as a lion. There are two important cases to consider, viz., staightforward pictures of lions and pictures of odd-looking lions that smoke cigars and sit on the Front Bench of Commons. As far as the straightforward picture of a lion goes, it seems clear that, apart from *any* contributing context, the question whether or not it represents Churchill would not even arise. I think that squares with what one would want. It can't be the case that one can simply present any image willy-nilly and expect it to take on any arbitrary meaning or refer to any individual solely because one

intends it to. However, in an appropriate context, the lion could conceivably be taken as a metaphorical representation of Churchill. For example, a lion might be pictured running in front of the troops toward the German border on the night following an inspiring speech by Churchill, indicating that Churchill is to be thought of as acting like a lion. And it is because he has acted thus and so that the expressed properties are leonine as opposed to bovine. A conceit might even take hold if artists repeatedly used the image of a lion in a visual context where one would ordinarily *expect* to see a picture of Churchill, e.g. on the Front Bench of Commons. Fewer and fewer clues would be needed in subsequent illustrations for pictorial reference to succeed. Such examples are familiar in the history of iconography.17 What is essential to the present story is that there be some plausible explanation for Churchill's behavior causing the picture to express the properties it does. Churchill's speech tonight might have been sufficient to cause the staff artist to pull his favorite drawing of the raging lion out of his file and paste it up for tomorrow's editorial page.

On one interpretation of the latter case of a composite depiction, i.e. the lion/man, we see that the picture is not intended *simply* to represent Churchill's physical appearance. That would be to miss the point. Much like the case above, one wants to represent Churchill *as* fierce and courageous. On our causal theory we don't have a problem of *who* is referred to by the picture. That gets handled in the usual way, i.e., by the rule for the representation of actual object. A subset of Churchill's physical properties fixes the *reference* (it is only because Churchill looks the way he does that this lion has some of the features that it does), while the leonine properties determine (at least a part of) the *Content* viz., the fierce and courageous aspect. Now this is not a trivial problem, this representing the properties of being fierce and courageous, even if one uses the King of Beasts to do it. Lions have a multitude of properties of which the sought after are only two. On the other hand, the problem is surely no *more* difficult than that of representing Churchill himself as fierce and courageous. The problem, in any case, is reduced to one of *expression*, not of *reference*.

Now the expressed properties are those that would be instantiated by som_thing that would cause the productions of the representation under

fidelity conditions. But the fidelity conditions are conditions under which an hypothesis about the cause of R would be reasonable to accept. I submit that Churchill's literally being part man/part lion is not among the reasonable options. So one looks for an interpretation that does seem reasonable. Suppose for the sake of argument that there is an established practice in the history of art of using lions to represent various psychological states such as courage, strength, leadership, etc. On this basis, one may reasonably conclude that the representation is of Churchill as a man with such qualities. Of course, the picture may be ambiguous with respect to which particular qualities are represented. (I said it was no easy task to represent psychological states pictorially). If the depiction is of Churchill-as-a-lion-roaring, perhaps the field of reasonable interpretations may be more tightly constrained. Obviously, a lot more needs to be said about the problems of interpretation, but this would take us well beyond the scope of the present discussion. All we need for the moment is the assumption that reasonable interpretations could be found. As far as accuracy is concerned, it would of course be determined by whether the expressed properties were in fact qualities that Churchill possessed.

Finally, the problems of fictional reference can be handled by identifying the thing represented with whatever it is that explains the production of the representation.[18] To be represented, an object need not actually exist. This is not to suggest that every non-existent object can be represented. 'It seems that non-existent can be represented so long as there is a correct specification of what is represented in which a reference to that object occurs within an intensional context, which context is created by an expression (such as 'proposed' or 'alleged') which identifies an actual occurrence which can apropriatly enter into the projection of the representation. Thus we may have representations of the alleged assailant, the predicted eruption, the mythological unicorn.'[19] The identity of objects such as Don Quixote or Pan are fixed within an iconological or historical tradition which gives to these fictional objects certain determinate and distinguishing properties. These properties, when expressed, are properties that *would* cause the production of the representation under fidelity conditions. What is essential once again is that there be sufficient historical basis for the determinateness of the putative object. The interesting question here has to do with the conditions determining what kind of context one needs in order to *establish* a fictional character. Again, one might want to look at the

historical conventions surrounding so-called "baptismal rights" as discussed in Kripke.20

## NOTES AND REFERENCES

* I wish to thank Don Crawford and Dennis Stampe, both of whom read and commented on earlier drafts of this paper.

(1) Jenefer Robinson, "Two Theories of Representation", *Erkenntnis 12* (1978)

(2) Nelson Goodman, *Languages of Art*, Indianapolis: Hackett, 1976, p. 5.

(3) I think the intuitions here are determined by the difference in the role causality plays with respect to resemblances and representations. At the risk of getting too far ahead of ourselves, let it be said just briefly that if R represents S, it is due roughly to R's being caused by S. Given that causes must precede their effects, it follows that representation is asymmetric. Note, however, that this is not the case for resemblance relations, which accounts for the intuition that the portrayed resembles his portrait as much as the portrait resembles the portrayed).

(4) Ibid.

(5) Robinson, p. 38.

(6) Ibid., p. 39.

(7) Robinson p. 39

(8) Ibid., p. 46

(9) Ibid., p. 49

(10) "Toward a Causal Theory of Linguistic Representation", *Midwest Studies in Philosophy*, II; reprinted in P. French, et. al., *Contemporary Perspectives in the Philosophy of Language*, University of Minnesota Press, Minneapolis, 1979.

(11) Ibid., p. 85

(12) Ibid., p. 86

(13) Ibid., p. 88

(14) Ibid., p. 89

(15) Ibid.

(16) Ibid.

(17) See Erwin Panofsky, *Studies in Iconography*, New York: Harper and Row, 1967.

(18) See Stampe, Appendix to "Show and Tell", in *Forms of Representation*, Bruce Freed, et. al. (eds.), Amsterdam: North Holland Publishing Company, 1975.

(19) Ibid.

(20) Saul Kripke, *Naming and Necessity*, Cambridge: Harvard University Press, 1972.