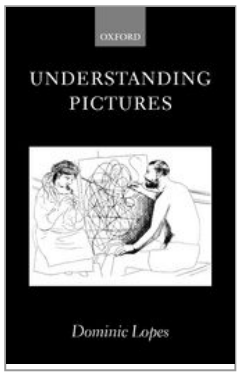

Understanding Pictures
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Goodman’s Symbol Theory

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Abstract and Keywords

In *Languages of Art,* Goodman argues that just as words, descriptions, and sentences are symbols belonging to languages, so pictures are symbols in systems of representation. In this chapter, before the author discusses the most prominent symbol theory of depiction, he first demonstrates several ways to model depiction on language, with some compatible with perceptual explanations of picturing. The compatibilist suggestion that pictures belong to systems of symbols is Goodman’s central insight. This, as the author asserts, is critical to the development of an adequate *perceptual* theory of depiction. Goodman’s view on depiction is encapsulated here in seven theses. Each is discussed in detail. A separate section provides a brief assessment of each thesis.

Keywords: Goodman, Languages of Art, pictures, symbols, theory of depiction, language

I BEGAN by enquiring how we can explain the difference between Canaletto’s pictorial representation of a Venetian piazza and Barzini’s linguistic one. Part One surveyed three versions of the obvious answer to this question: namely, that, unlike words, we see what pictures represent. I have nowhere denied that pictures might visually resemble their subjects, or cause experiences of a kind their subjects could cause, or enable us to see their subjects in them. But I have given reasons to doubt that resemblance, illusion, or seeing-in explain depiction, for they fail to accommodate the diversity and twofoldness of depiction. Since perceptual theories have reached an impasse, it is not unreasonable to take

seriously the proposal that a theory of depiction should take as its starting-point not the differences between pictures and language but their similarities.

Since this proposal is likely to meet with some incredulity on the part of committed perceptualists, I begin by considering the implications of the language model for perceptual theories of depiction. Only then do I turn to what is justifiably the most prominent symbol theory of depiction, Nelson Goodman’s in his book *Languages of Art*.

3.1 Pictures and Symbols

It is natural to be apprehensive about using language as a model for depiction. Comparisons between pictures and language flagrantly contradict our intuitions about their differences. But nobody claims that pictures are just the same as linguistic utterances. Whether our apprehensions are warranted depends on precisely what features of language and depiction are taken to be analogous. That pictures are like language in certain crucial respects need not trample our sense of their differences.

Let me briefly illustrate how making links between pictures and language can be either obfuscatory or enlightening. One important property of language is captured in Frege’s dictum that the fundamental unit of linguistic meaning is the proposition, something that is true or false. **(p.56)** But Gombrich insists that ‘a picture can no more be true or false than a statement can be blue or green’.[1] Assuming that this is correct, we will shed no light on depiction by construing pictures as propositional.[2] If language is essentially propositional and pictures are not, then pictures cannot be usefully modelled on language’s propositional structure.

Contrast this with a second way of modelling pictures upon language. One fact about language given prominence by some theorists is that linguistic utterances are used to perform speech-acts—they are used to make assertions, issue warnings, and the like. Clearly, we can learn something about pictures by examining how they might be used to perform similar acts. Just as I can communicate my belief about corruption in local politics by saying to you ‘The mayor takes kickbacks’, so I can also do so by drawing and displaying a cartoon of the mayor carrying a briefcase bulging with banknotes. Both an utterance and a picture can be used to perform what is perhaps the very same ‘speech’-act.

Propositionality does not model depiction well; speech-act theory might. The lesson is that the value of any language model of depiction depends on what features of language we incorporate in the model.

Language models of picturing fall into two categories, depending on how friendly they are to perceptual theories of picturing. ‘Anti-perceptualist’ linguistic models of depiction are those which are incompatible with perceptual

theories of depiction, whereas ‘compatibilist’ models do not rule out the possibility that pictures can be explained perceptually.

Apprehension about language models of depiction rests on the assumption that linguistic models are invariably anti-perceptual. Sceptics typically believe that explaining depiction on the model of language infects pictures with the arbitrariness commonly thought to be the hallmark of language. However, there exist linguistic models of depiction which emphasize links between pictures and certain features of language without obviously excluding perceptual theories.

Take the speech-act model just mentioned. The suggestion that pictures are used in acts such as making assertions or issuing warnings is **(p.57)** not incompatible with perceptual explanations of depiction. David Novitz, for instance, analyses the ways in which pictures are used in communicative acts, but also holds that what acts a particular picture can be used to perform depends in part on what it resembles.[3] A picture may be used to inform voters of corruption at city hall in part because it resembles the mayor carrying a money-bag.

In *Languages of Art* Goodman argues that just as words, descriptions, and sentences are symbols belonging to languages, so pictures are symbols in systems of representation. At a minimum, symbol systems consist in sets of marks (or designs) together with principles mapping them on to domains comprised of their subjects. Letters, words, texts, musical scores, pictures, diagrams, maps, models, dances, and plays are all symbols correlated with sounds, objects, states of affairs, theories, and even other symbols.[4] Pictures are obviously symbols on this definition because they belong to systems in which their designs are correlated with other objects. I shall call any theory of depiction modelled upon such a conception of symbolization a ‘symbol theory’.

The claim that pictures are symbols in this sense is not incompatible with perceptual explanations of depiction. Nothing in the symbol model rules out pictures being correlated with, and standing for, their subjects because they resemble them or provide for illusionistic experiences of them or enable us to see things in them. Indeed, some perceptual theorists happily grant that pictures are symbols—they are simply symbols whose symbolic function is mediated in crucial ways by perceptual processes.[5] A theory of depiction may, without inconsistency, explain pictures as both symbolic and perceptual.

As well as proposing that pictures belong to symbol systems, Goodman adds that the principles of correlation constituting pictorial symbol systems are *not* governed by perceptual processes. Depiction is arbitrary relative to perceptual facts: ‘almost anything may stand for almost anything else’.[6] As notorious as it has proved to be, however, Goodman provides little if any argument in support of this thoroughgoing anti-perceptualism. *Languages of Art* proceeds with

extraordinary insouciance from a critique of the resemblance theory of depiction to the claim that what a picture symbolizes is a matter of what symbol system or language it belongs to, as if the resemblance theory were the only **(p.58)** possible perceptual theory. For this reason, Goodman’s adherence to an incompatibilist version of the symbol model is merely tendentious.[7]

In this section I have wanted merely to demonstrate that there are a variety of ways to model depiction on language, some compatible with perceptual explanations of picturing, others not. The compatibilist option is often overlooked, and this oversight feeds our apprehensions about linguistic models of depiction. Yet the compatibilist suggestion that pictures belong to systems of symbols is Goodman’s central insight. It is, I believe, an insight critical to the development of an adequate *perceptual* theory of depiction. Only once we have recognized what the language model has to offer does it become possible to rethink the perceptual mechanisms that account for how pictures symbolize.

3.2 Seven Theses

In no small measure, the suggestiveness of *Languages of Art*, or at least those chapters concerning depiction, derives from an abundance of novel thoughts conjoined with an absence of cohesive supporting argument.[8] I have encapsulated Goodman’s views on depiction in seven theses. The failure to recognize that not all these theses entail or are entailed by the others poses certain dangers for readers of *Languages of Art*. Those who try unsuccessfully to systematize Goodman’s views will be tempted to dismiss them for their lack of logical cohesiveness. Others, who wrongly assume them to form a coherent structure, will be tempted to take the implausibility or falsity of some to impeach all. Succumbing to either temptation is unfortunate, I think, because some of what Goodman says is salvageable.

The seven theses divide naturally into two groups. The first four describe the semantic or logical structure of depiction, categorizing the relations of correspondence that hold between pictures and their subjects. These theses stress analogies between pictures and other symbol systems, including language. The remaining three theses are designed to account for the differences between pictures and other kinds of symbols.

(1) Depiction is denotation in a pictorial symbol system. This thesis establishes three points central to Goodman’s symbol theory of depiction.

(p.59) First, like all representations, pictorial representations denote, refer to, stand for, or symbolize objects—I shall use these expressions interchangeably. Denotation or reference is a relation holding between a symbol and some object, and is governed by two conditions. A picture denotes an object only if that object exists, and it denotes *a* provided that if *b* is identical to *a*, it also denotes *b*. Of course, there are pictures that do not denote only individuals. A picture of an

emu in a dictionary denotes no individual emu but rather each and every emu ‘distributively’.

Second, like all representations, pictures denote in symbol systems: depiction is system-relative. Just as sentences have meaning only in the context of a language, so pictures refer only in the context of a system of depiction. A symbol system is a set of designs correlated with a field of reference, a set of subjects. Philosophers of language will recognize in this the familiar conception of an interpreted language as an ordered pair consisting of a set of characters and a function or ‘principle of correlation’ mapping characters on to objects in a domain, the language’s or system’s ‘extension’. Different pictorial symbol systems have different principles of correlation mapping picture-symbols on to the domain. This means that a design denoting one object in one system may refer to something completely different in a second system, or nothing at all in a third. In other words, visually indistinguishable pictures may depict different subjects in different systems, and pictures which ‘look’ extraordinarily different but belong to different systems may in fact depict the same subject, each relative to its system. Every picture is ambiguous until its system is fixed.[9]

Finally, to depict, a representation must not only denote in a system, it must denote in a *pictorial* symbol system. After all, *Piazza San Marco* folded up in a certain way is a picture and may denote an airplane, but it would not depict one. Likewise, a portrait of the Duke of Wellington might, in the context of a military briefing, denote the fleet; but it does not follow that it depicts the fleet. While they represent an airplane and the fleet, they do not represent them in pictorial symbol systems, so they do not depict them. What, then, is a pictorial symbol system, and what distinguishes such a system from other kinds of systems? Goodman answers these questions in theses (5), (6), and (7).

(2) Depiction is predication in a pictorial symbol system. Pictures not only denote, they are also predicates applied to what pictures denote. **(p.60)** For instance, *Piazza San Marco* not only denotes a church, it depicts the church as Byzantine.

According to Goodman, predicates classify things by labelling them. Linguistic expressions such as ‘is a tourist’ or ‘is Byzantine’ are labels which classify objects into kinds—things which are tourists and things which are Byzantine. And just as objects can be classified by means of linguistic labels, so they can also be classified by pictures. Thus *Piazza San Marco* classifies its inhabitants as loiterers, as gesticulators, as under the observation of four stone horses (we can continue in this vein almost indefinitely).

Predicates are themselves classifiable into different kinds, according to what they label. *Piazza San Marco* and the expression ‘is Byzantine’ can each be classified under the labels ‘is a Byzantine-classifying-picture’ and ‘is a Byzantine-

classifying-expression’. This long-winded way of labelling labels can be abbreviated to provide a convenient way of characterizing kinds of pictures. *Piazza San Marco*, for instance, can be characterized as a Byzantine-picture and a gesticulating-loiterer-picture.

Denotation, as we saw, may be either singular or distributive, but predication must not be confused with distributive denotation. Through predication, a picture can represent a class without denoting any member of the class. As the *Pioneer* space probe hurtles through the void towards distant planets, it carries to their inhabitants a picture meant to represent an ideal or typical pair of humans—a visual analogue of the literary figure ‘Everyman’, who is neither a single person nor in fact every person (Fig. 14). Similarly, the generic ‘happy face’ icon denotes neither a particular happy person nor all happy people; it is a happy-face-picture.

Interestingly, pictures need not predicatively represent classes through avoidance of detail. It is true that the *Pioneer* astronauts are drawn in a stylized manner, no doubt to facilitate interpretation by extraterrestrials. But the figures of peasants in Figure 15, though finely detailed, represent generic types, not individuals. Pictorial predicates, perhaps unlike linguistic ones, can give an impression of referential particularity.

The phenomenon that Goodman calls ‘representation-as’ is a special case of pictorial predication. A picture representing an object which is *F* may or may not represent it *as F*. Thus Wellington was a soldier, but a picture of him may represent him as either a soldier or a civilian. Indeed, with representation-as comes the potential for misrepresenta-tion—a picture can represent something which is not *F* as *F*. James Gillray’s cartoon denotes Wellington and represents him as a soldier, but it also represents him as a boot, which he certainly was not (Fig. 16).

(p.61)

(p.62) To put the point intuitively, predication has to do with *how* a picture represents its subject. A picture can depict the same object in many ways or many objects in the same way. The difference between the engraving that once decorated £5 notes and Gillray’s cartoon is not a difference in what each denotes, for each denotes the Duke of Wellington; rather, it is a difference in what properties each represents its common subject as satisfying.

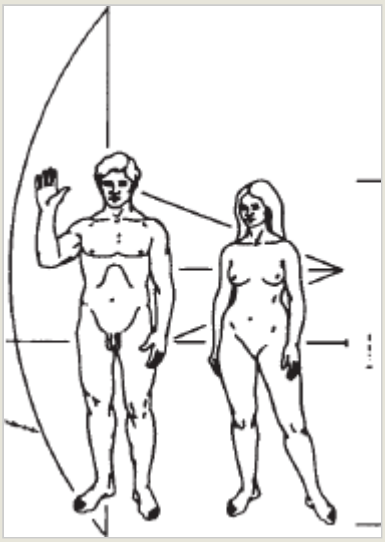

Fig. 14. Plaque from *Pioneer* space probe

Goodman’s preference for an ontology bereft of properties leads him to resist saying that an *F*-picture is one representing something as having the property *F*. So far, I have accommodated Goodman’s metaphysical scruples by talking of predication as classifying through labelling, but since his nominalism has no substantive implications for his views on depiction, I henceforth treat pictorial predication as represented property possession. In other words, we may say that *Piazza San Marco* is a Byzantine-church-picture because it represents the basilica of San Marco as having the property of being Byzantine. The set of predicates that a picture complies with, or the properties it represents the world as satisfying, comprise its ‘predicative content’.

Fig. 15. Peiter Bruegel the Elder, *The Peasant Dance*

Fig. 16. James Gillray, Cartoon of Wellington

Again, what label a picture is or what properties it represents things as having depends on the system to which it belongs. A given design may be classified as an *F*-picture in one system and a *G*-picture in another system; in a third system it may fail to label anything. As in the case of his account of denotation in a system, the question of how pictures are classified in specifically pictorial systems will be taken up in the final three theses.

(3) Independence: denotation and predication in a symbol system are independent of each other. One of the central aspects of Goodman’s views on depiction is that he posits two independent kinds of representation. We may say on the one hand what a picture refers to and on the other what properties it ascribes to its subject.

Whereas in language, reference and predication are indicated by conventional signs, no such signs distinguish pictorial denotation from pictorial predication. Pictures have no marks indicating what they denote and what properties they represent. As Goodman notes, ‘saying that a picture represents a soandso is… highly ambiguous as between saying what the picture denotes and saying what kind of picture it is’.[10] The distinction between denotation and predication is evident only in their logical differences.

(p.63) Pictorial predication need meet neither of the conditions placed on denotation. Remember that a picture denotes an object only if that object exists, and it denotes *a* provided that if *b* is identical to *a*, it also denotes *b*. But from ‘*P* is an *F*-picture’ we may infer only that *P* exists, not that there is anything that is *F*. Gillray’s caricature is a soldier-as-a-boot-picture, although ‘is a soldier and a boot’ applies to nothing. As we shall see, this point is important for Goodman’s view of fictional representation.

And whereas a picture denoting an object denotes everything identical to that object, predicative content is ‘intensional’ in the sense that although it permits substitution of some, it need not permit substitution of all, coextensive predicates. Thus, if all *F*s are *G*s and *P* is an *F*-picture, it does not follow that *P* is a *G*-picture. Of course, some pictures do permit substitution of coextensive predicates—sheep are sources of wool, and a sheep-picture is also a source-of-wool-picture—but this is the exception rather than the rule.[11] The lion is the mascot of St Jerome, but it does not follow that a picture of Churchill as a lion also represents him as St Jerome’s mascot.

Beyond cataloguing the logical differences between pictorial reference and pictorial content, Goodman argues that the one is independent of the other. ‘The denotation of a picture no more determines its kind’, he writes, ‘than the kind of picture determines the denotation.’[12] It is easy to see why pictorial predication

is not determined by denotation. We saw that a picture of an *F* need not represent it as *F*. The more radical claim is that what a picture denotes does not depend on what kind of picture it is. Of course, a picture may denote an *F*, yet not be an *F*-picture. But the independence thesis claims more than this. It claims that what a picture denotes has nothing to do with the properties it represents its subject as having. In Chapter 5 I will consider whether Goodman is right about this.

(4) Fictional depiction is pictorial predication. Thesis (1) is clearly not true of all pictures. Fictional pictures—of Charlie Brown, Pallas Athena, or Bigfoot—violate the first condition on denotation because they purport to denote objects which turn out not to exist. At best, fictional pictures can be said to denote nothing, the empty set. This generates the additional problem that since pictures of Athena and Bigfoot denote the **(p.64)** same thing, namely the empty set, we have no account of the obvious fact that to depict one is not the same as to depict the other.

Goodman’s solution to this conundrum is that fictive pictures represent what they purport to denote by predication. ‘*P* represents *a*’ is interpreted as denotational just in case *a* exists, otherwise it should be interpreted as equivalent to ‘*P* is an *a*-picture’. That a picture represents Bigfoot means not that it denotes Bigfoot, which it cannot, but rather that it is a Bigfoot-picture. And while it is true that a picture of Bigfoot denotes what a picture of Athena denotes, namely nothing, the empty set, they differ in so far as one is a Bigfoot-picture and the other an Athena-picture.

Although fictive denotation is a species of predication, this does not detract from the fact that fictive pictures belong to denotative systems and purport to denote. Goodman writes that ‘the rule correlating symbols with denotata may result in no assignment of any actual denotata to any symbol…elements become representations only in conjunction with some such correlation, actual or in principle’.[13] But, as we shall see, the notion that a system consisting wholly of fictional pictures can still be denotative is puzzling when we remember that in thesis (1) Goodman defined denotative systems as systems of symbols having extensions.

Theses (1)–(4) characterize the main logical features of depiction. Pictorial symbol systems consist of referring symbols and predicates; these are independent of each other, and fictional pictures are predicative. These are the features that pictures have in common with all representations, including linguistic ones.

But given that reference and predication are common attributes of pictorial and verbal symbol systems, what distinguishes pictures from descriptions? What distinguishes Canaletto’s painting from Barzini’s description? What, in sum,

makes a symbol system *pictorial*? A compatibilist response to these questions is that the principles of correlation and classification governing pictorial symbol systems depend on a perceptual mechanism such as noticing resemblance. This is not Goodman’s response.

(5) Entrenchment: pictorial principles of correlation and classification are merely habitual. This thesis embodies Goodman’s anti-perceptualism.

(p.65) The principles of correlation determining what objects pictures denote are arbitrary, as are the principles governing predication by pictures. ‘Almost any picture may represent almost anything’, because ‘given picture and object there is usually a system of representation, a plan of correlation, under which the picture represents the object…and there are countless alternative systems of representation and description.…The choice among systems is free.’[14] In the right system, Constable’s *Wivenhoe Park* could depict a pink elephant.

The principles of correlation underlying a system are entirely a matter of the habits and practices of the system’s users. When principles of correlation defining a system enter into the practices of picture-users in a context, the system becomes ‘entrenched’ in that context. However, Goodman’s symbol theory is not a convention theory of depiction. Conventions are rules, and Goodman is sceptical about pictorial practices (or any symbolic practices) being rule-governed. What is habitual resists codification—‘borderlines shift and blur, new categories are always coming into prominence, and the canons of classification are less clear than the practice’.[15]

(6) Pictorial resemblance and realism are matters of a system’s entrenchment in a context of use. According to thesis (5), pictorial systems may become entrenched in the representational practices of picture-users in a context. Goodman adds that pictures in entrenched, familiar symbol systems are those judged in that context to be ‘realistic’ and so to resemble what they are of to a relatively high degree. Thus a picture’s realism depends on the standardness of its system in a context of use: ‘realism is relative, determined by the system of representation standard for a given culture or person at a given time’. As old standards atrophy and give way to new systems which subsequently gain familiarity, previously unrealistic pictures can become realistic. To illustrate this idea, Goodman cites Picasso’s riposte to a complaint that his portrait of Gertrude Stein did not resemble her: Picasso is reported to have said, ‘No matter; it will.’[16] While the 1915 *Vollard* is entrenched and so deemed realistic, the 1910 one may become entrenched, and subsequently be deemed realistic.

Resemblance also derives from systemic standardness: ‘that a picture **(p.66)** looks like nature often means only that it looks the way nature is usually painted’.[17] Pictures resemble their subjects, but they do so in ways that vary from system to system and cannot be reduced to constant, objective standards.

Thus a picture depicts in a symbol system, and a picture which depicts in a relatively familiar symbol system is judged highly similar to what it depicts, in respects determined by the system. Resemblance in pictures is a product, not a precondition, of depiction.

(7) Formalism: pictorial symbol systems are distinguished by the formal properties of analogicity and relative repleteness. If pictorial systems are not distinguished by their reliance on perceptual principles of correlation, and if, as is surely the case, entrenchment is as likely to be a property of many representational media as of pictures, then the question which introduced thesis (5) remains unanswered. What distinguishes pictorial systems from other types of representation?

One might think, as Goodman suggests early in *Languages of Art*, that a picture is simply a representation with certain design properties. The general idea is that something which represents by possessing certain colour and texture properties is a picture, while something that represents by possessing certain modelling properties is a sculpture, and something that represents through sound properties is a linguistic utterance or musical representation. But this is only a partial answer. It does not do justice to the differences between depiction and other types of representation. Pictures are not different from words simply because they are made of colours. Possessing certain design properties no more highlights what is distinctive about depiction than possessing sound properties gets to the heart of describing.

Instead, Goodman proposes that pictorial symbol systems possess two formal properties which linguistic systems do not: analogicity and relative repleteness.[18] Analogue systems are ‘dense’ rather than ‘notational’.

A symbol system is made up of a set of designs, marks, or sounds, ‘characters’ to which the designs, marks, or sounds belong, and a domain of compliants, objects to which characters refer. The ‘syntax’ of a system concerns the organization of designs into characters; its ‘semantics’ **(p.67)** concerns the relationship of characters to compliants. Syntactically, a notational system is disjoint and differentiated because no design, mark, or sound belongs to more than one character, and it can be determined in principle what character any design, mark, or sound belongs to. Linguistic symbols are syntactically notational, because language-bearing sounds and marks are ordered into a finite number of disjoint and differentiated characters. Any mark or sound that is an instance of one character is an instance of no other, and it is possible in principle to determine what character any mark or sound belongs to, if it belongs to any.

A syntactically *dense* system is not notational. It provides for a dense ordering of characters such that for every two there is provision for a third (and hence indefinitely many). Pictures belong to syntactically dense systems, because any

difference in a picture’s design properties makes for a different character in the system, and there is no way to tell whether a given design belongs to one character or another. It should be emphasized that while picture systems *provide for* an indefinite number of characters such that between every two on any ordering there is a third, there need not be an indefinite number of pictures for depiction to be dense.

Depiction is also semantically dense rather than notational. A semantically notational system is unambiguous, disjoint, and differentiated; no character has more than one compliant, no two characters share a compliant, and it is in principle possible to tell what any character complies with. Musical scores are notational with regard to pitch, because there is a one-to-one correspondence between notes marked on the staff and pitches, and it is possible to determine what pitch any note complies with. By contrast, a non-notational system provides for a dense ordering of objects in its extension; for every two compliants the system provides for a third (there need not actually be a third), and it is not always possible to tell to which character a compliant belongs. Music notation is dense with respect to tempo, since it provides for a tempo intermediate between every two notated tempos, and tempos shade off into each other.

Depiction is analogue, because it is both semantically and syntactically dense. Imagine some images of trees. Let one image’s design be slightly larger than another, a third intermediate, a fourth intermediate to the second and third, and so on. Minuscule differences in height make each picture a different character in the system; moreover, each image may correspond with a difference in the tree’s represented height, **(p.68)** no difference in height being too small to be represented. Again, we need not suppose that there are an indefinite number of designs or compliants: a system is dense if it provides for a dense ordering.

Analogicity does not suffice to distinguish depiction from other forms of representation—examples of non-pictorial analogue systems include line-graphs representing temperature and EEG read-outs. Goodman adds that pictures, unlike other dense systems, are ‘relatively replete’. Repleteness has to do with the number of design properties which have representational relevance in a system. Thickness of line, for instance, makes a representational difference in a drawing but not in a line-graph. One system is replete relative to a second if the design properties with representational relevance in the second are included among those with relevance in the first. Thus repleteness is a matter of degree: pictures are replete relative to other forms of representation, such as graphs, because some properties have representational significance in pictures but not in graphs.

In sum, pictures represent objects in just the way that all other symbols do, by denotation and predication within a system. What distinguishes pictorial systems from other systems is not principles of correlation reliant on perceptual

mechanisms. Pictures differ from other systems in their formal properties; they are analogue and relatively replete.

3.3 A Brief Assessment

Let me pause to take note of the virtues of Goodman’s theses. How well do they accommodate the diversity, twofoldness, and phenomenology constraints?

First, the structure of picture systems described in the first two theses as a set of designs and an extension is compatible with twofoldness: we see pictures’ designs and, in the case of those in familiar systems, experience them as like what they denote. Theses (1) and (2) also accommodate the diversity of depiction with consummate ease. It is not implausible to think of some of the pictures discussed in Chapter 1, including drawings in the caves at Lascaux, Byzantine icons, medieval book illustrations, the Kwakiutl bird, Picasso’s cubist *Vollard*, and Albertian projections, as belonging to different symbol systems. Moreover, it is because they represent within systems that pictures in some novel systems can initially appear artificial and stylized.

(p.69) Thesis (5) supports pictorial diversity of a more radical kind: almost any picture may represent almost anything. However, it must be said that Goodman gives no argument for anti-perceptualism beyond his refutation of the resemblance theory. He pays scant attention to real-world pictorial symbol systems. The only example he provides of systemic difference is a highly implausible one—there is no known system of depiction in which *Wivenhoe Park* represents a pink elephant. The phenomenon of pictorial diversity as we actually find it across cultures and periods certainly presents problems for established perceptual explanations of picturing, but it does not show that the principles of correlation governing depiction and classification are arbitrary and are not constrained by perceptual processes. There is, then, no evidence that pictorial systems are as diverse as thesis (5) suggests. Theses (1) and (2) may suffice to account for the range of systems of depiction. I will take up the claim that systems of depiction are arbitrary in Chapter 6, where I hope to ascertain the limits of pictorial diversity.

As an explanation of the phenomenology of pictorial experience, the idea that perceived resemblance is a consequence of entrenchment is incomplete at best. Thesis (6) does have this virtue. The claim that pictures represent arbitrarily is highly counter-intuitive, and any theory which undercuts our intuitions in this way should offer an account of why we are so mired in error. The entrenchment account of pictorial resemblance provides just such an ‘error theory’. It is because depiction is a matter of deeply entrenched habits that our pictorial practices come to seem natural and, having been naturalized, acquire the intuitive force of necessary truths.

Nevertheless, entrenchment does not explain the nature of pictorial experience. First, pictures in unfamiliar systems can be experienced as of their subjects—witness the effect on Renaissance viewers of the innovations of Alberti and his colleagues. Furthermore, nothing precludes non-pictorial symbol systems from being well entrenched, yet no amount of familiarity with one’s native language, for example, suffices for linguistic tokens to seem to resemble (sound like?) what they refer to. Goodman concedes that non-pictorial symbols can be entrenched, and that ‘no amount of familiarity turns a paragraph into a picture’.[19] He concludes that the essential feature of depiction is not its entrenchment but its analogicity and relative repleteness. However, analogicity does not explain how we see pictures as their subjects. **(p.70)** Consequently there is a gap between what Goodman holds is the distinctive mark of depiction, namely possession of the formal properties of analogicity and relative repleteness, and what he thinks explains judgements of resemblance, namely a high level of entrenchment.

We must jettison either the view that pictures have a distinctive phenomenology or the explanation of their phenomenology as a side-effect of familiarity. The latter seems more reasonable.

The final point to note about Goodman’s theses is that the four semantic theses entail none of the second group of three substantive theses. If it is true that pictures denote or label in systems, each governed by certain principles of correlation, it by no means follows that systems of depiction are arbitrary, merely habitual, and independent of perceptual facts. Nor does it follow that pictures are distinguished from other symbol systems by the formal properties of analogicity and relative repleteness.

3.4 The Competence Constraint

A constant source of resistance to any attempt to model depiction on language lies in certain facts about our mastery of pictorial representation. Our ability to interpret pictures, so the objection goes, differs in crucial respects from our ability to interpret denotative linguistic expressions. If this is so, then Goodman’s symbol theory of depiction is unable to explain the distinctive character of pictorial competence.

Our competence with pictorial representation manifests itself in two interesting and useful ways. First, we do not need to learn the meaning of unfamiliar pictures in the way we must learn the meaning of unfamiliar words. Competence in depiction consists in an ability to understand almost any picture of a familiar object at a glance: depiction is ‘generative’. Being able to interpret some pictures generates an ability to interpret any other picture, provided that one knows what the object it represents looks like.[20]

Goodman’s insight that pictures belong to systems is not only consistent with this pictorial generativity, it also explains its structure. As we have seen, the subjects of pictures belonging to unfamiliar systems are not always evident to us

at a glance. Think of your first encounter **(p.71)** with a cubist or split-style picture, and how difficult it was to puzzle out its subject. If research on the perception of pictorial depth cues across cultures is correct, then interpreting Albertian pictures also requires some learning. But once unfamiliar systems are mastered, any picture in the system can be understood with ease. The implication is that depiction is only partially generative between pictorial systems. Competence in Albertian depiction does not carry with it complete competence in split-style depiction. Depiction is generative, however, *within* pictorial systems. Once viewers are able to interpret some split-style pictures, they have mastered the system and can interpret any picture belonging to it.

Our competence in interpreting pictures is manifest in a second way when they are used to show us what *unfamiliar* objects look like. This is the point of pictures in advertisements, children’s alphabet books, and Audubon field guides. As Wollheim remarks, ‘children who are not as yet able to recognize things in pictures learn to recognize them through pictures…a picture-book is not only a mirror of, it is also a guide to, the world’.[21] Being able to grasp an A-is-for-aardvark-picture or a Q-is-for-quagga-picture conveys an ability to visually identify aardvarks or, were they not extinct, quaggas.

Thus the second direction in which pictorial competence runs is from picture to object, for looking at a picture of an unfamiliar object often confers an ability to visually identify that object. I call this aspect of pictorial competence ‘transference’, to convey the idea that an ability to identify depicted objects often quite usefully carries over into an ability to identify seen objects.[22] Transference differs from generativity in the following way. A system is generative when familiarity with the system plus a knowledge of an object’s appearance enables viewers to grasp any picture of that object in the system. A system provides for transference when familiarity with the system endows viewers with the ability to recognize a novel picture’s subject, sight unseen.

Perceptual theories are appealing in part because they seem to explain the generativity and transference of depiction inherently. If pictures resemble their subjects, then knowing what an object looks like and how pictures resemble things adds up to knowledge of what a picture of that object will look like. And if we do not know what an **(p.72)** object looks like, a picture that resembles it teaches us what it looks like, in case we encounter it. Thus the thought that pictorial competence is generative and transferable is not uncommonly taken as proof that depiction is at bottom perceptual.[23]

Moreover, it is widely held that the generativity of depiction refutes symbol theories. Generativity is incomprehensible if pictures are like linguistic expressions, because, as one commentator puts it, ‘with words it is unfortunately the case that we must learn in a tiresome way what each refers to one-by-one’.[24] A glance, by contrast, usually reveals a picture’s content. Likewise, Wollheim

insists that generativity must baffle adherents of the ‘semiotic’ theory of depiction: it is as if ‘knowing that the French word *chat* means a cat, and knowing what dogs look like, I should, on hearing it, be able to understand what the word *chien* means’.[25]

These pronouncements obviously assume that any linguistic model of depiction necessarily infects depiction with the arbitrariness of language, and it is this arbitrariness that is incompatible with the facts about pictorial competence. One of my aims in this chapter has been to challenge the assumption that symbol theories of depiction modelled on language are incompatible with perceptual theories of depiction. I believe it is enlightening to compare pictures with linguistic expressions, without sacrificing perceptual explanations of pictorial competence.

It is also worth pointing out, however, that our competence in many ‘arbitrary’ symbol systems, including language, is manifest through generativity and transference. Any symbol system allows for generativity and transference when the system is rule-governed and competence in the system consists in grasping the rules governing the system. Take, for example, standard musical notation.[26] Mastery of a suitable sample of symbols, including markings for pitch, duration, tempo, and dynamics, enables readers of music to interpret novel scores of familiar or unfamiliar music. Thus musical notation is both generative and transferable.

Of course, it is crucial to the usefulness of knowing a language that it also possesses these features. Once English-speakers have mastered **(p.73)** the grammatical and lexical fundamentals of English, they are able to understand novel utterances and learn about features of the world through them. A sentence such as ‘The quagga is a wild horse which looks part zebra and part donkey’ can be understood with a knowledge of English grammar and the meanings of the individual words, thus providing a means to identify quaggas.

Musical notation and language are arbitrary symbol systems in so far as any set of marks could stand for any musical or linguistic phrase. Given suitable principles of correlation, Constable’s *Wivenhoe Park* could represent the theme from *The Godfather*, or the theme from *The Godfather* could count as a statement of the first law of thermodynamics. But provided that there are sufficient regularities governing the symbols *within* a system, learning some symbols may suffice for being able to interpret any symbol in the system.

The amount that must be learned about a system before competence is achieved varies from system to system. Competence in a language requires many years of study; competence in number systems is easily acquired; the representational system used by analogue thermometers, which correlates the height of a column of mercury with temperature, is learned at a glance.

In sum, the claim that pictures are arbitrary symbols is not in conflict with the facts about pictorial competence, so long as pictorial symbol systems are rule-governed. Our mastery of a system of depiction might consist in a grasp of rules that govern it, enabling us to understand novel pictures in the system in a way that adds to our knowledge of their subjects. In this case, any set of marks on a flat surface may depict anything else, given suitable principles of correlation. But if those principles of correlation are regular across all pictures within the system, mastery of the regularities enables viewers to understand and learn from novel pictures.

It will be helpful to summarize this in the following principle, which I call the ‘competence constraint’. A theory of depiction should explain how mastery of pictorial systems is possible, where this mastery includes an ability to understand novel symbols and to learn about the appearance of unfamiliar objects through pictures. Competence in a system can be explained as a consequence of either the system’s reliance on perceptual processes or learning the rules of the system.

The facts about pictorial competence do not help or hinder the case for the symbol theory. As it happens, though, some of Goodman’s statements call into question whether the theory, as he understands it, **(p.74)** can explain pictorial competence. Not only does Goodman reject perceptual correlations between pictures and their subjects, but, despite talk of systems as ‘*principles* of correlation’, he also rejects the notion that pictorial systems are rule-based. ‘Understanding a picture is’, he writes, ‘not a matter of bringing to bear universal rules that determine the identification and manipulation of its component symbols.’[27]

In Goodman’s view pictorial competence is explained by the possession of background knowledge about a system, knowledge in virtue of which the system is entrenched. Entrenchment provides Goodman with a way to evade both perceptual theories of depiction as well as theories which construe pictures as rule-based and conventional. But placing such a heavy burden on possession of the relevant background knowledge for understanding pictures seems to me to render depiction an opaque, mysterious phenomenon. My inclination is to accept this position only in the last resort.

3.5 Competence and Systems

The strength of Goodman’s symbol theory of depiction lies in the way it relativizes picturing to systems. A picture represents something as having certain properties only in the context of a system. This insight promises to explain the diversity of depiction. Unfortunately, one weakness of Goodman’s theory is that it also takes this insight as a licence to endorse the radical view that any set of (analogue and relatively replete) picture–object correlations may count as a pictorial system. Another is that it provides no account of how to

individuate pictorial systems—of how to tell one system of depiction from another.[28]

If, as I have speculated, pictorial competence is system-relative, then it is possible to use that fact to provide an account of what it is to be a system of picturing. This idea has been developed in detail by Flint Schier in his book *Deeper into Pictures*.[29] According to Schier, there **(p.75)** are distinct pictorial systems only because competence with some kinds of pictures does not entail competence in others.

However, we should be aware that pictorial systems overlap, and competence in one may produce partial competence in another. Remember that someone competent in a system can interpret any picture in the system provided that its subject is one whose appearance is familiar. But although competence in one system does not guarantee competence in another, it may, and usually does, provide a foothold. For instance, mastery of Albertian depiction is an aid (some would argue a precondition) to interpreting cubist pictures. If you have competence in Albertian picturing, you can probably interpret some cubist pictures, though not all. Partial mastery of a system puts full mastery within relatively easy reach, however. A survey of the diverse range of pictorial systems used by humans suggests, I think, the general rule that competence in any system of depiction entails partial competence in any other.

In this regard pictorial competence is quite unlike competence in a language. We do not as a general rule expect knowledge of one language to provide any basis for understanding even some expressions in other languages, whereas the overlap between systems of depiction, and thus between the abilities constituting mastery of them, may well point to common underlying processes.

Nevertheless, the fact that pictorial competence is fragmented among systems should be taken as a warning for certain perceptual theories of depiction. For example, if pictures depict because we can see their resemblances to their subjects and our ability to see resemblances is innate and automatic, then we would expect pictorial competence to be monolithic, so that being able to interpret any picture should suffice for being able to interpret any other picture whatsoever.

This suggests an addendum to the competence constraint. A theory of depiction should explain how it is possible for a viewer to possess competence in one system and not another. And it should explain how a viewer who has competence in one system can have partial competence in another.

Goodman’s views on depiction are conveyed with vigour and a delight in overturning long-established assumptions. For this reason, rightly or wrongly, they serve either as exceptional foundations or foils, as the case may be, for discussions of depiction. In the following chapter I defend thesis (1), arguing

that pictures are referential, while in Chapter **(p.76)** 5 I dispute thesis (3) by arguing that pictorial reference depends on predicative content. In the end, I hope to have set the stage for a compatibilist account of depiction, one which will make possible a rethinking of the place of perceptual mechanisms in explaining depiction.

Notes:

(1) Gombrich, *Art and Illusion*, 89.

(2) The claim that pictures cannot have propositional content has been challenged bynumerous theorists. See Marcia Eaton, ‘Truth in Pictures’, *Journal of Aesthetics and Art Criticism*, 39 (1980), 15–24; and Carolyn Korsmeyer, ‘Pictorial Assertion’, *Journal of Aesthetics and Art Criticism*, 43 (1985), 257–65. Nevertheless, it seems that propositionalcontents are not fundamental in depiction as they are in language. See Sects. 4.3 and 4.4 and Ch. 6.

(3) Novitz, ‘Picturing’.

(4) Goodman, *Languages of Art*, p. xi.

(5) e.g. Wollheim, *Painting as an Art*, 361 n. 23.

(6) Goodman, *Languages of Art*, 5.

(7) Some of those inspired by Goodman have sought to remedy this by arguing that pictures are conventional, hence arbitrary; however, Goodman himself rejects this tactic. I discuss the convention theory in Sect. 6.5.

(8) This section draws on Goodman, *Languages of Art*, 3–43, 127–73, 225–32.

(9) Of course, a picture may also be ambiguous *within* a system, if it denotes two or more objects in the system’s extension.

(10) Goodman, *Languages of Art*, 22.

(11) I thank Paul Snowdon and Bill Child for this point and the example illustrating it.

(12) Goodman, *Languages of Art*, 26.

(13) Goodman, *Languages of Art*, 228.

(14) Ibid. 39–40.

(15) Ibid. 23.

(16) Ibid. 37. For a critique of Goodman’s account of realism, see Lopes, ‘PictorialRealism’.

(17) Goodman, *Languages of Art*, 39.

(18) Goodman’s notion of analogicity has fomented some discussion. See esp. Kent Bach, ‘Part of What a Picture Is’, *British Journal of Aesthetics*, 11 (1971), 119–37; David Lewis, ‘Analog and Digital’, *Noûs*, 5 (1971), 321–7; and John Haugeland, ‘Analog and Analog’, in J. I. Biro and R. W. Shahan (eds.), *Mind, Brain and Function* (Brighton: Harvester, 1982), 213–25.

(19) Goodman, *Languages of Art*, 231.

(20) On generativity, see Flint Schier, *Deeper into Pictures: An Essay on Pictorial Representation* (Cambridge: Cambridge University Press, 1986), ch. 3.

(21) Richard Wollheim, ‘Nelson Goodman’s *Languages of Art*’, in *On Art and the Mind* (London: Allen Lane, 1973), 298.

(22) In *Painting as an Art*, Wollheim uses the term ‘transfer’ as equivalent to what I havebeen calling ‘generativity’.

(23) See Robert Schwartz, ‘Representation and Resemblance’, *Philosophical Forum*, 5 (1974), 499–512, for a discussion of this presumption in the psychological literature ondepiction.

(24) Wilson, ‘Illusion and Representation’, 212.

(25) Wollheim, *Painting as an Art*, 77.

(26) Schwartz, ‘Representation and Resemblance’, 501–2.

(27) Nelson Goodman and Catherine Elgin, *Reconceptions in Philosophy and Other Art and Sciences* (London: Routledge and Kegan Paul, 1988), 110; see also Goodman, *Languages of Art*, 23.

(28) The two weaknesses are linked. If pictorial systems are radically different arbitrary alternatives, the boundaries between systems are clear. But if pictorial systems overap and blur into each other because they share common perceptual foundations, then it is not clear how we can differentiate them.

(29) Schier, *Deeper into Pictures*, 44–8.