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John Kulvicki, *Modeling the Meanings of Pictures.*
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John Kulvicki's book *Modeling the Meanings of Pictures* offers a bold and original theory of pictorial meaning. The discussion sidesteps well-worn debates about the role of resemblance and perception in depiction, instead offering a philosophical account of pictorial expression's basic components and how they compare with language. The book makes a welcome contribution to the semantics of pictures at a time when linguists themselves have begun to reckon with the world of nonlinguistic signs (Schlenker 2019).

For Kulvicki, there are a variety of communicative uses for pictures, each with its own semantic mechanisms and types of meaning. In their central *attributive use*, the subject of chapters 1 and 2, pictures express *pictorial content.* For the most part, pictorial content consists of a purely descriptive collection of attributes, without singular content. So if A is a drawing of a chair, and A′ is an indistinguishable drawing of a distinct chair, the two pictures will, all else equal, have the same pictorial content. There is a derivative sense in which a picture can *denote* an object, but only if that object uniquely satisfies the descriptive content of the picture in the context in which it was produced (32–35). (Kulvicki makes a limited exception for direct reference to *locations* in maps and in some uses of photographs and videos [119–22].)

Though pictorial contents are only collections of attributes, they can be enlisted as part of more complex communicative acts to express full propositions. For example, pictorial contents may be predicated of an individual supplied by a title, a caption, or communicative context (66). And images in sales catalogs provide indefinite pictorial descriptions for any one of the individual objects being sold (33).

The passage from picture to pictorial content takes place in two steps. First, every picture determines a *bare-bones content*, the minimal geometrical and chromatic content implied by the syntax of the picture alone. Pictorial syntax, the topic of chapter 3, is based on the spatial layout of ink on the page, but in context, a picture's syntactic parts will correspond to certain subregions of the whole, or layered abstractions from it (e.g., just the colors, or just the general spatial layout). Syntax determines bare-bones content by general rules of geometrical projection, and such content specifies the direction of color points, but little more (26–27). The theory of bare-bones content is developed at greater length in Kulvicki's earlier work and elsewhere (Kulvicki 2006; Greenberg 2021).

Pictorial content proper, which Kulvicki also calls *fleshed-out content*, is a context-dependent expansion of bare-bones content. To illustrate, Kulvicki has us consider three qualitatively indistinguishable pictures, A, B, and C (23–25). In terms of production: A is a photograph of a chair; B is a photograph of A; C is a photograph of an Ames-chair—a spatially discontinuous assemblage that only looks like a chair from a specific viewpoint. All three have the same bare-bones content, but differ in fleshed-out pictorial content. Picture A represents a chair in a specific configuration and lighting, B represents a flat colored surface—that is, a photograph—in frontal orientation and uniform lighting, and C represents an Ames-chair of unspecific shape.

These claims break with the orthodoxy that visual perception plays the dominant role in pictorial interpretation. Since A, B, and C are indistinguishable, they each elicit the same perceptual response, yet their meanings are differentiated in context. For example, in a publishing house for art books, pictures normally depict other pictures. If B, the picture of a picture, were put on your desk in such a setting, it would typically be a mistake to think that your colleague was showing you a chair (24). So too for picture C in the context of an Ames-chair factory (29). Context here has a lot of work to do.

Kulvicki tells us that the fleshed-out pictorial content of a picture must be an *appropriate* and *recognizable* manifestation of bare-bones content. Recognizability is a standard of identification informed by perception and by world knowledge; it explains why A represents a chair, and not a swirl of particles that happens to look like a chair (29). Appropriateness has to do with the selection of acceptable interpretations from among the recognizable ones; it is the criteria that distinguishes pictures of chairs from pictures of pictures of chairs in the art house scenario (30). The book doesn't say whether these standards are fixed by the context of creation, or of evaluation, or something else.

Referential uses of pictures, the subject of chapter 4, are distinguished from the attributive uses discussed above, following Keith S. Donellan's (1966) classic reading of definite descriptions. Referential uses function to deliver an object, rather than a description of an object, to the thought expressed, as when I hold up the picture of a famous athlete and say, "this is the person who will

win!" In referential uses, a familiar name would suit the communicative needs of interlocutors just as well (56). Ceremonial portraits, like a photograph of the president on the post office wall, are supposed to be examples (76).

The content of referential uses of pictures is purely singular, but this content is derived from the standard pictorial content, in context. The denotation of a picture is that object which uniquely satisfies the picture's descriptive pictorial content in the context of production; in referential uses the denoted object becomes the content expressed by the picture. Kulvicki calls the resulting singular content *dthat content*, because the mechanism by which it is secured is analogous to the result of subsuming descriptive pictorial content to a Kaplanian "dthat" operator (Kaplan 1989: 521). In fact, referential and attributives uses may be associated with different parts of the same picture. These split-use pictures can express full propositions on their own steam, as the descriptive pictorial content is predicated of the referential content. Photos in a family vacation scrapbook are supposed to be examples: the parts of the picture that depict the family members simply contribute those particular individuals, while the remaining parts predicate of those individuals that they have visited the depicted scenes (48, 66).

Chapter 5 outlines an innovative account of iconography, the art-historical practice of using visual tropes to indicate a figure from religion or mythology. In traditional European painting, for example, a woman in red and blue robes with a child customarily represented the Virgin Mary, no matter the specific appearance of her face. According to Kulvicki, the content of an *iconographic use* of a picture is the individual represented, and not the attributes used to represent them. To express this individual, a purely descriptive pictorial content is first assigned in the usual way; then iconographic conventions are engaged which map attribute complexes (e.g., blue and red robes) to individuals (e.g., Mary). These mappings work much like a lexicon, and the attribute complexes like words, save that they are composed of content-level constituents, not syntactic ones (94). Kulvicki argues that the same kind of analysis can be carried over to the use of computer icons, and to the representation of comic-book characters (95).

There is much else to be found in this short but densely packed book. Kulvicki builds on the core themes of pictorial meaning with excursions into metaphorical uses of pictures in chapter 6, the semantics of maps and photographs in chapter 7, and the question of what is distinctive about nonlinguistic representation in chapter 8.

In the remainder I want to critique three strands in Kulvicki's discussion that touch upon the parallels between pictorial and linguistic meaning.

All three, I think, are interestingly controversial, and highlight the adventurous spirit of Kulvicki's book.[1]

First, Kulvicki proposes that bare-bones content is the pictorial counterpart of Kaplanian character, and fleshed-out content that of Kaplanian content (Kaplan 1989: 505–7). Here I focus on attributive uses of pictures, as Kulvicki draws the analogy differently for other uses. The idea is that bare-bones content, like character, is the context-invariant core of meaning, whereas fleshed-out pictorial content depends on bare-bones content plus context, just as linguistic content depends on character plus context.

The problem is that linguistic character is at root a kind of fixed rule that selects a parametric element of the context and delivers a content. Thus the character of the first-person pronoun "I" selects the speaker of the context, and returns that individual as its content. To know the character is to know how to move from context to content. But the route from bare-bones content to fleshed-out content is governed by open-ended rationality, depending as it does on what is recognizable and appropriate. Bare-bones content doesn't deliver a rule so much as a skeletal constraint, and the role of context isn't to supply a parameter but a cascade of pragmatic inference.

This is not deny a role for indexicality in pictures. Even without demonstrative-like characters, picture parts might work like unbound variables, assigned their reference in context (Abusch 2012; Greenberg 2019), or like perceptual pointers whose reference is fixed by causal chains anchored in the environment (Pylyshyn 2007).

The second issue I want to focus on is Kulvicki's view that pictures refer to individuals only in virtue of those individuals uniquely satisfying a picture's descriptive contents. In philosophy of language, the theory that reference via a name is mediated by an implicit description has been challenged by Saul Kripke and others. In short: it seems that a speaker can refer to an object even when the implicit description is inaccurate or too indeterminate to be unique. Parallel arguments have been made for the pictorial case. Suppose Amelia sits for a portrait; suppose further that it is badly drawn, more nearly resembling her sister Isabel. Intuitively, it is a picture *of* Amelia all the same. It seems that a picture can be about a particular individual even when it misrepresents that individual, or fits with more than one (Lopes 1996: 93–107; Greenberg 2018: 881–86). The moral of these arguments, if they are right, is that pictorial reference is heavily dependent on causal etiology, just as linguistic reference appears to be.

Kulvicki rejects these conclusions. He suggests we avoid the problem of inaccuracy by contextually limiting the syntactic features that fix the relevant description, rendering the picture's content less determinate but accurate

1. Thanks to my 2021 UCLA seminar on nonlinguistic representation for discussion.

(34, 50–51). Since this exacerbates the problem of nonuniqueness, Kulvicki proposes to enlist implicit domain restriction, of the kind associated with natural language quantifiers, to the situation in which the picture was produced (59). Yet problems of nonuniqueness can also arise in the context of production (Greenberg 2018: 881–86). What if Amelia and Isabel sit for a portrait together, but due to bad drawing, both person-depicting parts of the image more nearly resemble Isabel? Must we conclude that Amelia is not depicted? This conclusion seems unnatural.

The final issue I wish to highlight is Kulvicki's assumption that parts of pictures function either to express purely descriptive contents (in their attributive uses) or purely referential contents (in their referential and iconographic uses), but never both. For example, when a post office portrait serves to deliver the president to the mind of the addressees, it doesn't attribute any visual features to the president (72). When iconographic blue-robed image depicts the Virgin Mary, it does not depict her as being dressed in blue robes (82). These claims put picture parts in alignment with the classical division of words into subject and predicate, assuming that they express either singular or predicative content, but never both (48–49).

Yet I find these claims about pictures counterintuitive. Doesn't the photograph, in any use, both represent the president, and depict him with a certain facial expression, attire, and pose? Doesn't the iconographic image both represent Mary and attribute to her a certain posture, lighting, and garb? Kulvicki argues that because the attributed features are used to derive the singular reference, they cannot also be attributed to that referent in content (89). But I don't see why this should be so. It is possible for picture parts to play more than one semantic role (Greenberg 2018: 867–68). It's true that such functional overlap would be a departure from the norm of linguistic representation, but this may well be one of the distinctive features of iconic representations generally (Green and Quilty-Dunn 2021: 670–71).

However these debates are settled, Kulvicki has staked out a series of vivid positions on questions which have rarely, if ever, been asked. This book offers a refreshing reorientation of the philosophy of depiction toward synthesis with contemporary theories of language and mind. Anyone wishing to makes sense of pictorial representation and the larger representational landscape will want to read this book and grapple with its ideas.

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Sanford C. Goldberg, *Conversational Pressure: Normativity in Speech Exchanges.* Oxford: Oxford University Press, 2020. ix + 255 pp.

Given our current communicative ecosystem—which is, thanks to the internet, both gargantuan and high-speed—you could be forgiven for feeling overwhelmed. In his satire of the pandemic-era internet, Bo Burnham (2021) summed up our collective exhaustion: "Is it necessary that every single person on this planet, um, expresses every single opinion that they have on every single thing that occurs all at the same time? . . . Or to ask in a slightly different way, um, can . . . can anyone shut the [expletive] up?"

Both the cover image—a crowd of speakers, heads turned unexpectedly this way and that—and the title of Sanford C. Goldberg's new book evokes this familiar, maddening cacophony. In its best moments, *Conversational Pressure* imposes order on the clamor. Goldberg aspires to limn, if only partially, exactly what we do and don't owe to those who seek to tell us things. It turns out that we generally owe them our attention and a fair hear. We don't owe them a