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*Editorial*

## **A Plea for Picturistics: Why Do We still not Understand Pictures?**

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The paper by Jan Koenderink and Andrea van Doorn (2024) that is the focus of this special issue begins with a linguistic reference. The Dutch words “tafer-eel” and “einder”, we are told, convey subtle concepts that have no simple English equivalent. But they find expression in the imaginary scenes or stages created by artists that seem to extend into spatial infinity despite being bound by the painted surface. As viewers, we witness these volumetric scenes, or “happenings” while simultaneously witnessing the flatness of the surfaces on which they are depicted. How does this work?

It is interesting that a paper about depth and space in pictures should begin with a lesson in language. Given its central place in human culture and cognition, it is not surprising that a vast and venerable discipline exists called linguistics with countless sub-disciplines and offshoots. Also not surprising is that linguistic semantics and terminology should play a role in the discourse on pictorial art and in discussing pictures more generally. Whatever we want to say about pictorial experiences must be conveyed in written and spoken words.

Given that pictures are now at least as central to our lives as words, it is surprising that there is no specific discipline of ‘picturistics’ staffed by ‘picturists’ who specialise in the study of depictions, their origins, their grammar, their societal function, and their cognitive apprehension. Instead, we have a tradition in which scholars from all corners of the sciences and

humanities—vision scientists, philosophers, psychologists, computer scientists, art historians and others—have investigated the nature of pictures, and especially the depiction of depth and space. Prominent examples of continuing relevance include Ernst Gombrich, Maurice Pirenne, Richard Wollheim, Margaret Hagen, James Gibson, Richard Gregory, Margaret Livingstone, Nelson Goodman, and Martin Kemp. Fascinating and important as these contributions have been, they do not amount to a collective research programme or body of established theory of the kind provided by linguistics; our understanding of pictures remains rather sparse.

The paper by Koenderink and Van Doorn published here follows in the stream of recent scholarship in picturistics. As others have done before, it applies knowledge from diverse contemporary sources and draws deeply on history. There are, however, at least two ways in which it departs from previous scholarship and makes an original contribution. First, is in the way it lays the conceptual groundwork for a larger research programme by clarifying key definitions, concepts, and relations. Second, is in the way it challenges some widely held preconceptions about the nature of picture perception, particularly as it has been understood scientifically. Both contributions are buttressed by the uncommonly artistic perspective that they apply to the problem, which is surprisingly often disregarded by those from the sciences and humanities.

On the surface, nothing could be simpler than the fact that we can depict space and look at the resulting picture to see what it ‘contains’. It takes no more than a few lines suitably arranged on a flat surface to evoke a volumetric object that apparently recedes from the picture plane. Yet, as Koenderink and van Doorn’s paper authoritatively demonstrates, this apparently simple fact, when closely inspected, explodes into a tangle of deep conceptual problems.

For one thing, we can distinguish—as the authors do—several kinds of space that must interact to produce the full visual experience. These include physical space, which is normally Euclidean, visual space, which belongs to the viewer, and pictorial space which belongs—at least notionally—to the picture itself. Within the viewer’s orbit lie the visual field and the field of view, which are aspects of visual space having different optical, physiological, and phenomenological properties, again discussed by the authors. When we add that each of these spaces can have its own geometry, and indeed can be usefully described with any number of different geometries, and that these different geometries can co-exist in the same visual experience, we begin to appreciate just how complex picture making and picture perception are.

The fact that the authors need to set out these fundamental aspects of pictorial experience in their paper is a reminder that we are still far from a general theory of pictures of the kind that exists, for example, in linguistics for written and spoken language. The logic of picture making and viewing is still being

worked out; we lack a basic taxonomy of its operative parts, there is no consistent terminology; there are no agreed methods of classifying different kinds of pictures or how they might be analysed. Hence, the lack of a mature or coherent research programme.

Part of the problem is the sheer breadth of multidisciplinary knowledge that must be integrated to understand the pictorial act, including knowledge from the science of vision and the psychology of perception, geometry and mathematics, geophysics, optics, and physics, along with the highly sophisticated knowledge that is needed from art theory, art history, and philosophy of art. Most of these fields are touched on to some degree in Koenderink and van Doorn's paper, which is one of its strengths and why it points towards an integrated research programme.

Another part of the problem is the still widely held view—particularly among scientists interested in the depiction of visual space—that the one and only 'correct' way to represent Euclidean space on a two-dimensional surface is to apply the logic and mathematics of strict linear perspective. The vehemence with which this view is often expounded has done much, in my opinion, to inhibit exploration of alternative non-linear geometries for depicting the visual world. Again, the authors touch on this view and authoritatively refute it.

But perhaps the most conceptually challenging part of the problem, and why we still lack a general scientific theory of depiction with a commensurate research programme, is that the very nature of the pictorial act is deeply paradoxical. Put another way, it seems to defy rational analysis. And although this was acknowledged some time ago by no less a figure than the perceptual psychologist Richard Gregory, there is little evidence that we have begun to confront its consequences. As Koenderink and van Doorn explicitly note, in pictures *we see something that is both flat and deep at the same time*.

This is not a mere poetic artefact or something we can easily explain away. The paradox is real and has real consequences, although they are yet to be scientifically studied. It is precisely the fact that pictures defy rational analysis that makes them—in the term used by the authors—enchanted. This is the 'magic'—a word also used by Gregory—of making and seeing pictures; the conjuring of a world full of space, time, objects, and events from almost nothing by the skilled hand of the artist, a world that comes to life in our imaginations despite the evidence of our senses.

Artists have traditionally had little trouble thinking about pictures in these terms. Testament to this comes from Lazar Lissitzky (El Lissitzky), the suprematist painter, designer, and theorist who was active in Russia and Germany in the early twentieth century and whose ideas on pictorial space take centre stage in Koenderink and van Doorn's paper. In fact, artists have wholeheartedly embraced and exploited the enchanting power of pictures—even when eschewing figuration, as was often the case with Lissitzky, or when

challenging its foundational logic, as was the case when René Magritte presented us with his pipe that is not a pipe. Paradox, contradiction, and self-reference abound in the language of art, and they do so precisely because of the way they excite our imagination—which is where, according to Koenderink and van Doorn, the magic really “happens” (Pepperell, 2019). The narrowly scientific approach to understanding picture perception is apt to miss this.

The paper by the art historian Jeroen Stumpel that is also included in this issue is offered as both a response to and a complement (and indeed a compliment!) to the paper by Koenderink and van Doorn (2024). He points out that when considered in their deepest historical context, pictures have functioned to represent objects rather than spaces, but gradually evolved to represent objects *in* spaces. He offers an alternative taxonomy of the picture, one based on the relationship, or syntax, between the object, ground, and background. Stumpel’s contribution may help to explain the origins of the conventions of pictorial space, while the paper by Koenderink and van Doorn helps to explain how those conventions work.

But Stumpel’s emphasis on depicted objects only serves to accentuate the paradoxical nature of pictures referred to above. For in the same way that when beholding a picture, we see a flat object that is also deep—as stressed by Koenderink and van Doorn, following the artistic mindset exemplified by figures like Lissitzky—we also behold depicted objects that are there and not there. The Madonna in the room, reproduced in Fig. 9 of the Koenderink and van Doorn paper, is palpably present—and even evokes a sense of beatific grace—but is equally no more than artfully arranged pigment (or more accurately here, pixels or dots of ink). The same might even be said of the prehistoric boar reproduced by Stumpel!

If the papers in this issue do not solve the problems posed by the making and viewing of pictorial art, which are many and complex, they do lay out an approach that authentically integrates art, philosophy, and science without minimising the conceptual difficulties inherent to the problem. In fact, by foregrounding those difficulties and acknowledging the central role they play in the pictorial process they are establishing a genuine framework for further and deeper understanding. They may, indeed, be sketching the ground for a future discipline of picturistics.

## References

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