When Art History Meets Information Theory, or on Media Theory outside Media Theory

Simone Natale

Loughborough University

Reading Ernst H. Gombrich's *Art and Illusion*, a classic in art history, I was captivated by the following lines:

> Styles, like language, differ in the sequence of articulation and in the number of
> questions they allow the artist to ask; and so complex is the information that reaches us
> from the visible world that no picture will ever embody it all. This is not due to the
> subjectivity of vision but to its richness. Where the artist has to copy a human product
> he can, of course, produce a facsimile which is indistinguishable from the original. The
> forger of banknotes succeeds only too well in effacing its personality and the
> limitations of a period style. (Gombrich 90)

I wondered if Gombrich was applying Claude Shannon's information theory to the visual arts. For Shannon, the amount of information in a message depends on how much uncertainty it involves: the result of a fair die, for instance, entails more uncertainty, and therefore more information, than a loaded one. This has important consequences for mediated communication: in a telegraphic message that starts with the letter "Y," the uncertainty (and thus, the amount of

information) of the second and third letter is lower because of the probability that they will be an "E" and an "S." Transposed to the world of figurative arts, Gombrich appears to suggest in the quote above, style could also be seen as the reduction of uncertainty: limiting the amounts of choices that the artist has to do to produce their work, it also limits the amount of information provided by an image. On one extreme, therefore, is the complexity of the information that reaches us from the visible world, while on the other extreme Gombrich placed highly formalized images such as a banknote—a form or representation that minimizes the amount of uncertainty and thus of information.

That this was precisely what Gombrich had in mind became evident pages later, when the great art historian explicitly mentioned information theory and its general conclusion "that the greater the probability of a symbol's occurrence in any given situation, the smaller will be its information content" (Gombrich 205). This hint from Shannon's mathematical approach to communication helped Gombrich develop his theory of illusion, according to which a viewer projects a range of expectations on an image. In Gombrich's views, the illusion is not just a product of the characteristics instilled in the viewer's perception and psychology, but also emerges from the visual conventions that stimulates viewers to project meaning onto an image. The capacity to recognize this moon, for instance, has little to do with how the moon appears. It has much more to do with the fact that the viewer knows what the drawing of a moon looks like, and thus makes the right guess—instead of thinking, for instance, that the drawing portrays a cheese or a piece of fruit. Thus, visual habits and the implicit knowledge of style orient recognition much more than any correspondence between the drawing and the "natural" appearance of the moon.

The little discovery not only confirmed my belief that *Art and Illusion* is, though unbeknownst to most media theorists, a masterpiece of media theory. It reminded me that studying media requires to open the perspective to the widest possible spectrum: from art history all the way to information theory. Nobody more than Gombrich helped me envision the deep implications of information theory for what concerns our relationship with media. It made me aware that information theory also works as an incitation to consider the active role of audiences and users in projecting meaning, and that such acts of projection are always embedded in historically-situated conventions and expectations. I had learned about information theory by reading works in human-machine communication and computer science, yet I needed a book on art history to realize the full extent to which Shannon's theory applies to life in the highly mediated world in which we live.

In an academic globe where the number of publications and journals grows every year, one might wonder if a new journal can provide a true contribution to the debate. I believe that the power of *MAST*'s proposal and its promise reside in the eclectic exploration that the journal programmatically situates at the intersection of theory and practice, creation and research, humanities and social sciences—and also, I take license to add, art history and information theory, as suggested by the inclusion of the "aesthetics of glitch, error, and noise in media art" among the journal's themes of interest (*MAST* 2020). The interdisciplinary endeavor in which this new project emerges is the only possible framework for media studies: a discipline that is constitutionally at the crossroads between approaches and perspectives that at first glance appear different and even antithetic from each other.

As Marshall McLuhan (1964) pointed out, for the scholar of media every little aspect in the mosaic of contemporary life is charged with meaning and life. What I find most exciting in

this new project is how it promises to advance this same spirit by studying media without

setting rigid boundaries to what "media" means. As not only Gombrich, but many

contemporary media scholars and artists (some of which also contributed to this opening issue)

continue to teach me, remaining alert to the media theories that come from "outside" media

theory is not just a possibility but a need for anyone who aspires to better understand media,

communication and ultimately, the world.

Works Cited

Gombrich, Ernst Hans. *Art and Illusion: A Study in the Psychology of Pictorial Representation*.

     Phaidon, 1977.

"MAST: The Journal of Media Art Study and Theory." mast-journal.org.

Accessed 25 Feb. 2020.

McLuhan, Marshall. *Understanding Media: The Extensions of Man*. McGraw-Hill, 1964.