

Artworlds—and Scienceworlds?

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The concept of the artworld (or artworlds) is fundamentally important in the arts because it relates to the very definition of art according to the now widely accepted institutional theory of art. Singular and plural forms of “artworld” are used, indicating that it is not a homogeneous entity but a mosaic of different groupings. The term was introduced by Arthur Danto (1924–2013), an American philosopher and art critic, and it meant the cultural context of art (1). According to Danto, the existence of artworld provides intellectual content that enriches individual artworks. The institutional theory of art was formulated by another American, George Dickie (1926–), and relates to the network of institutions that link artists, artworks, and the public (2, 3). Thus any work of art is presented to the public within the context of a particular artworld. In this perspective, the definition of what constitutes an art work goes beyond defining just the attributes, such as, in the case of a painting, its composition or color palette. The artistic quality can reside outside the art object, as is the case with conceptual art (4).

A sociologist’s view of the artworlds has been provided by Becker (4). He sees artworlds as collectives of people whose activities are necessary to create art works. In this scenario an artist performs a core work but is surrounded and supported by other members of the artworld. Artworld is a complex network of professionals and institutions contributing to making, exhibiting, and collecting art. Thus there are dealers, galleries, museums, and museum curators, as well as art historians, art theorists, and philosophers of art. The art critics play a pivotal role. Further participants are museum goers, patrons, collectors, and auctioneers. There are academic institutions and art organizations. All this is underpinned by people and institutions involved in providing resources such as media and equipment. And finally, there is the art market and cultural industries such as book publishing, or the record business. Irvine gives a good summary of the artworld membership (5) and Thornton provides insights into its different components (6).

Crucially, it is the artworld that defines what is seen as art (and thus also as nonart), interprets the works, adds value, and determines relevant reputations and hierarchies. It has mechanisms for approval such as major retrospectives and museum purchases.

The business of science is to produce pieces and systems of new knowledge; therefore, by analogy to the artworlds, we could formulate a cooperative definition of the “scienceworlds” as professional and social networks, consisting of people and institutions that enable new knowledge to be acquired.

The members would be experimental scientists, technicians, and other support personnel. The integral part would be the publishing industry, with the peer review participants overlapping with the community of researchers. Then there are those who fund research: government agencies, patrons, charities, and individual donors. Science journalists bridge the gap between scientific insiders and the wider public. All is underpinned by a number of industrial and business communities that provide equipment for experimentation and translate the findings into products. There is a complex organizational mosaic to accommodate this: academic institutions, independent research institutes, and regulatory bodies, to name only a few. Scienceworld contains multiple subworlds of different disciplines, and others devoted to a pursuit of a particular problem.

Scienceworlds decide by peer review what can be regarded as scientific knowledge. They are also the main vehicle to present science to the wider public. They create, in analogy to artworlds, hierarchies, rankings, and reputations, and possess a range of reward mechanisms. Fig. 1 illustrates perhaps the best known embodiment of scientific recognition, the Nobel Medal. The Nobel Prize was established in the will of the Swedish industrialist Alfred Nobel in 1895. Though being awarded for achievements in physics, chemistry, and physiology or medicine, and also literature and peace, the prize transcends cultural domains. The medals for Physics, Physiology and Medicine, and Literature were created by the Swedish sculptor and engraver Erik Lindberg (1873–1966) in 1901, and the Peace Prize Medal by a Norwegian sculptor, Gustav Vigeland (1869–1943) (7).

Scienceworlds have their own dynamics. Take the field of clinical lipidology as an example. Its expansion was sparked to a considerable extent by Goldstein and Brown’s discovery of the LDL receptor (8). It enlarged into the clinical realm with early NIH-sponsored studies

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Fig. 1. The Nobel Medal for Physics designed by Erik Lindberg, (above, © © The Nobel Foundation; photo: Lovisa Engblom) and the Peace Prize Medal by Gustav Vigeland (below), 1902 (© © The Nobel Foundation).

of lipid-lowering drugs (9). The National Cholesterol Education Program established in the US added a large community devoted to standardization of the relevant methodologies (10). Later, when the survival benefits of statins became known, this “world” expanded into the cardiology community (11). This shows how scienceworlds evolve and change their components in pursuit of solutions. Particular sub-worlds come to prominence, and when the problem appears to be solved, wane, shedding some and accepting new research communities. The expansion of genomics, for instance, recently changed the profile of cardiovascular research.

Why might it be valuable to think of science as a complex multilayered aggregate of scienceworlds? Because such a view provides a general perspective and thus highlights areas

that may need adjustment. It may also provide a useful picture of the dynamics of power and decision-making within the system. In determining its direction and necessary resources, science is probably more inward-oriented than the arts. For instance, most criticism of science is provided within the peer review mechanism, where it is performed by active researchers recruited from a given discipline. Considering scienceworlds in their entirety would expose at least some imbalances in the system. Such perspective would also benefit new entrants, people who decide to build their careers within these worlds. Michael Craig-Martin wrote in his recently published book, *On Being an Artist*, about the purpose of teaching: “We sought to prepare our students to survive and hopefully succeed as participants in the world of art outside, and to see

that world as theirs" (my italics) (12). That quote can certainly be transposed to science.

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References

1. Danto A. The artworld. *J Philos* 1964;61:571-84.
2. George Dickie. [http://en.wikipedia.org/wiki/George_Dickie_\(philosopher\)](http://en.wikipedia.org/wiki/George_Dickie_(philosopher)) (Accessed June 2015).
3. Hemsley E. A defence of an institutional analysis of art. *Postgrad J Aesthet* 2009;6: 24-31.
4. Becker HS. *Art worlds*. Berkeley: University of California Press; 1984.
5. Irvine M. The institutional theory of art and the artworld. <http://faculty.georgetown.edu/irvinem/visualarts/Institutional-theory-artworld.html> (Accessed June 2015).
6. Thornton S. *Seven days in the art world*. London: Granta Publications; 2009.
7. Lemmel B. The Nobel medals and the medal for the prize in economic sciences. http://www.nobelprize.org/nobel_prizes/about/medals/ (Accessed June 2015).
8. Brown MS, Goldstein JL. How LDL receptors influence cholesterol and atherosclerosis. *Sci Am* 1984;251:58-66.
9. The Lipid Research Clinics Coronary Primary Prevention Trial results. I. Reduction in the incidence of coronary heart disease. *JAMA* 1984;251:351-64.
10. Rifai N, Warnick GR, Dominiczak MH, editors. *Handbook of lipoprotein testing*, 2nd ed. Washington (DC): AACCC Press; 2000.
11. Randomised trial of cholesterol lowering in 4444 patients with coronary heart disease: the Scandinavian Simvastatin Survival Study (4S). *Lancet* 1994;344: 1383-9.
12. Craig-Martin M. *On being an artist*. London: Art Books Publishing; 2015. p 153.

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