

## Anti-realism and Aesthetic Cognition

My general concern in this paper is to investigate the extent to which certain ideas in the philosophy of science may be put to illuminating work in aesthetics. In its most valuable instances art, like science, is a cognitive enterprise. Scientists and artists employ various modes of representation to reveal things about their objects. In light of this, I want to ask: might we learn something about artistic practice by examining how scientists are alleged to deal with their objects? I will attempt to show that we can. My claim – in specific terms – is that the anti-realist's view of scientific activity possesses the conceptual resources from which we can sketch a plausible theory of a certain form of valuable artistic activity – which I label aesthetic cognition.

### [ I ]

In the first part of the paper, I want to provide an account of scientific anti-realism as exemplified by Nancy Cartwright's views from her book *How the Laws of Physics Lie*.<sup>1</sup> Before we start, I would like to say something about my attitude to Cartwright. Firstly, I am interested in Cartwright only as an exemplar of anti-realism, and so not in the intricacies of her argument. Much

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<sup>1</sup> Nancy Cartwright, *How the Laws of Physics Lie* (Oxford: Clarendon, 1983). The account is derived from the 'Introduction', pp. 1 – 20.

is ignored. And since my knowledge of theoretical physics is at best limited, I take on trust a lot of what she has to say. I am not in a position to evaluate her claims with respect to scientific practice. Secondly, my account of anti-realism is designed to extract a highly suggestive conceptual structure for use elsewhere. It is not intended as yet another contribution to the eternal realist – anti-realist debate.

Cartwright starts with the question of the nature of explanation in physics. Explanation comes in two forms. Firstly, one can give a causal explanation of a phenomenon. In such explanations use is made of specific phenomenological laws that tell us precisely what occurs in concrete situations. Reference will be made, for example, to particular substances, entities, processes, velocities, temperature conditions, and so forth. Secondly, an explanation may be offered in relation to abstract theoretical laws which may take the form of fundamental mathematical equations. Here the phenomenon is fitted into a wider theoretical context, and by virtue of the generality of the laws employed, brought into relation with other phenomena. The classical example here is Newton's laws of motion. Cartwright cites Boltzmann's equation and the general equation of continuity as mathematical examples.

Both the realist and anti-realist will endorse the preceding account of the distinction between phenomenological and theoretical laws. And they will also agree upon how best to understand the explanatory power or success of phenomenological laws. Phenomenological laws are descriptive, they are literal representations of reality – they are true of the objects in reality. Thus

their success in providing explanations of phenomena is due to the fact that they accurately describe the causal processes that govern them.

The realist and anti-realist can agree on the phenomenological, then, but the same is not true when it comes to the theoretical. More specifically, realism and anti-realism diverge on the question of how best to understand the explanatory power of theoretical laws. How are we to account for the success of the fundamental equations of physics? The realist's answer is contained in the covering-law model of explanation, while Cartwright's anti-realist answer is provided in what she calls the simulacrum account of explanation. I will discuss each of these in turn.

We have already learnt that a phenomenon can be explained by fitting it into a general theoretical framework that brings the phenomenon into relation with fundamental theoretical laws. The covering-law model provides an account of this activity. It states: if we can show how the various phenomenological laws that are true of a phenomenon derive from a theory's fundamental laws, then we have succeeded in fitting the phenomenon into a general theory. The crucial presupposition of the covering-law model, then, is that phenomenological laws are derivations of theoretical laws. Or to put the point differently, theoretical laws cover phenomenological laws. It is this presupposition that leads us to the realist commitments of the covering-law model.

According to Cartwright, for the proponents of the covering-law model, theoretical laws cover not only phenomenological laws, but also the phenomenon itself. Theoretical laws, that is, apply directly to the phenomenon. This view involves two claims. The first concerns the nature of

the distinction between phenomenological and theoretical laws. According to the covering-law model, phenomenological laws and theoretical laws are distinct not in kind, but degree. They both apply directly to the phenomenon and explain it in relation to the processes that govern it. The only difference between the two is that phenomenological laws are specific and concrete, while theoretical laws are general and abstract. The second claim concerns the nature of the explanatory power of theoretical laws. On the covering-law view, theoretical laws provide successful explanations for precisely the same reason that phenomenological laws do. Theoretical laws are true of reality, they accurately describe the processes that govern phenomena.

Cartwright states that the covering-law model of theoretical explanation is a bad model. It is bad principally because it misconstrues the way that theoretical explanation actually works in scientific practice. Cartwright observes that it is usual in physics to give alternative theoretical treatments of the same phenomenon. In different treatments, distinct laws and equations are employed that bring out some aspects of the phenomenon at the expense of others. Different treatments serve different theoretical functions.

The crucial point is that there will be a number of distinct theoretical treatments that will provide successful explanations of the same thing. This means that theoretical explanatory success cannot be due to descriptive accuracy. If it were based on descriptive accuracy, then there would be only one theory that successfully explains a phenomenon. As Cartwright assures us, this is simply not the case.

Things look different with the explanatory power of phenomenological laws. Here explanatory success means getting the causal story right, and

there is only one right causal story. A causal account is held to be descriptively accurate and true until a better one comes along to displace it.

For the anti-realist, then, theoretical explanatory power is distinct in kind from phenomenological explanatory power. The realist proponents of the covering-law model have falsely lumped the theoretical together with the phenomenological. The success of theoretical laws has nothing to do with descriptive accuracy as conceived by the realist. What it does have to do with Cartwright expounds in her simulacrum account of explanation.

### [ III ]

Cartwright's view is that the theoretical – unlike the phenomenological – is not tied directly to reality. Rather, the theoretical is tied to reality by way of a model. Models mediate between theory and world. In an attempt to capture the workings of actual explanatory practice, Cartwright provides an account of model construction, and of the relationship between law and model, as well as model and reality.

The function of a model as such is to fit a phenomenon into a theory. So, for Cartwright, a model will be constructed along the following lines. Firstly, an account is given that attempts to provide all information about the phenomenon that is considered relevant. This first account – which Cartwright calls an unprepared description – is not constrained by the mathematical requirements of the theory. Secondly, the account is prepared. Here the phenomenon is informally presented in a way that will bring it into the theory. This second account is the prepared description. Thirdly, and finally, the

prepared description is formally matched with – or brought under the constraints of – the theory's mathematical requirements. In this final step, a model has been constructed.

A model, then, is the result of a kind of balancing act between, as Cartwright notes, two antagonistic needs. A model must be, on the one hand, descriptively adequate to the facts of the phenomenon, and, on the other hand, structured by the laws and equations of a theory. Cartwright claims that it is generally the case in model construction that the requirements of theory will override descriptive adequacy. But at the same time, of course, for the model to succeed in fitting a particular phenomenon into a theory, it must bear a relation to the phenomenon.

But what is the relation between model and phenomenon, and also between theoretical law and model? The answer lies in the simulacrum account. For Cartwright, a simulacrum is something having merely the form or appearance of a certain thing, without possessing its substance or proper qualities. And the role that the concept plays in her theory is revealed in the following passage:

On the simulacrum account, to explain a phenomenon is to construct a model which fits the phenomenon into a theory. The fundamental laws of the theory are true of the objects in the model ... But the objects of the model have only 'the form or appearance of things' and, in a very strong sense, not their 'substance or proper qualities.'<sup>2</sup>

The relation between model and reality, then, is to be understood in terms of the concept of simulacrum. The objects of the model – that is, the entities,

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<sup>2</sup> Ibid., p. 17.

features, and processes to which it makes reference – are simulacra of real things. They are insubstantial appearances of reality. The relation between theoretical law and model, on the other hand, is one of description. Laws are true of the objects in the model, they represent them in literal terms.

Let us summarise the distinction between realism and anti-realism. The realist claims that theoretical laws literally represent real objects, while the anti-realist claims that laws represent objects of a model that are themselves simulacra of reality. Alternatively, we can say that, for the realist, laws directly represent the form of a thing along with its substance and proper qualities, but, for the anti-realist, laws indirectly represent a thing's form but without its substance or proper qualities.

The laws of physics, then, are not lies as such. That is Cartwright being provocative. Their relation to reality is indirect and non-literal. Thus, the thought, put as straightforwardly as possible, is that the realist's view of the relation between law and world is over-simple and hence wrong, while the anti-realist's view captures the subtlety of the representative relationship between law and world far better.

### [ III ]

In the second part of the paper, I want to examine whether Cartwright's anti-realism can be applied in the sphere of aesthetics. I will begin by briefly sketching the particular view of art at stake, and the prima facie plausible reasons for thinking that anti-realism can be profitably employed in the philosophy of art.

In the history of aesthetics, there are what may be called three classical theories of art each of which emphasise a different feature of aesthetic endeavour. They are: art as representation, as form, and as expression. The view of art presupposed here is a version of the first. In some of its most valuable forms, art is a cognitive affair – by which is meant that art reveals something, or provides us with an understanding of, the objects that it deals with by means of representation.

On this view, art has the capacity to provide understanding, but it is a form of understanding that is integral to, or realised in, a particular work. What is here labelled aesthetic cognition, then, is the activity of engaging with the integral understanding of things provided by art. This occurs in both directions: creatively by the artist, as well as experientially by the critic. The thing that art is particularly well equipped to help us to understand is human life or the ethical sphere. This is the view of art used here.

But what initial reasons are there for thinking that scientific anti-realism might shed some light on it? They are twofold. Firstly, anti-realism has an aesthetic dimension. The shift from realism to anti-realism is the shift from a mimetic conception of the scientist as holding a mirror to nature to the constructionist view of the scientist as interpreting nature. There is a lot of the artist in the anti-realist's view of the scientist. This suggests, then, that certain things that are true of the anti-realist scientist might also be true of the artist.

Secondly, Cartwright – in an unexpected reference to Aristotle's *Nicomachean Ethics* – draws a parallel between theoretical laws and general moral principles, on the one hand, and physical phenomena and everyday



moral conduct, on the other hand. This parallel provides the starting point for our account.

#### [ I V ]

The anti-realist view of aesthetic cognitivism provides us with suggestive answers to various questions that are central to aesthetics. The first concerns the nature of artistic creativity. As the scientist provides an explanation of physical phenomena, and so a deeper understanding of them, by constructing a model which fits the phenomena into a theory, so the artist provides an understanding of everyday ethical phenomena by constructing a model that places them into a general ethical perspective. Artistic creativity is to be understood, then, as the construction of models of ethical reality.

The creative process may be described in the following way. The artist will already have a certain general ethical perspective, or worldview, or may attempt imaginatively to adopt an alternative ethical viewpoint. And at the same time the artist will have a number of ideas about concrete ethical situations involving characters and actions. Artistic creation, then, is the process of fitting these particular situations into an ethical framework in the particular medium in which the artist is working. Another word for this is aesthetic cognition. And it can be practised by the critic in the interpretation of a work.

The second question to which we may apply anti-realism is: what is the concept of valuable art? The answer is that a valuable work of art is one that functions as a model of ethical reality. Put succinctly, art as ethical model.

Valuable art provides an understanding of everyday moral phenomena by placing it in the context of a general moral perspective or perspectives. In this way art can help us to understand the emotions, desires, and motivations according to which people act.

Thirdly, we can learn from anti-realism something about the representative nature of art. The general ethical principles embodied in a work of art are not true of everyday ethical reality. That is, general moral laws do not literally represent the particular patterns of desires and needs that motivate people to behave in particular ways in concrete situations. However, they are true of the fictional world of the art work as a model of ethical reality. And because the ethical phenomena embodied in a work have been placed in the context of a general ethical framework, they are not literally true of everyday moral reality. They are simulacra of that reality.

Scientific anti-realism, then, provides aesthetic cognitivism with the conceptual resources to build a theory of creativity, the nature of art, and the representative dimension of art. Clearly, a lot more needs to be done to make this more than just an attractive suggestion. In particular, we need to indulge in some fairly rigorous art criticism.

Since our discussion so far has been highly abstract, I will close by briefly attempting to illustrate the foregoing account with a genre example: tragic art. I think that it reveals something both aesthetically and ethically important to say that tragedy is a model of ethical reality. Tragedy is constituted by a pattern of suffering in which intractable and necessary forces play themselves out in the sphere of human action and interaction. These forces seem blindly to function according to the dictates of profound ethical

laws. But everyday moral reality is just not like that. Which is to say that the ethical laws of tragedy – though true of the worldview embodied in tragic art – are not literally true of human life. Nor are the tragic protagonists literally true. They resemble us, but do not mirror us. They are, in other words, our simulacra; they possess our appearance, but not our substantial qualities. But all this does not prevent tragedy from giving us a deeper understanding of human life.