Two Modes of Thought

Let me begin by setting out my argument as baldly as possible, better to examine its basis and its consequences. It is this. There are two modes of cognitive functioning, two modes of thought, each providing distinctive ways of ordering experience, of constructing reality. The two (though complementary) are irreducible to one another. Efforts to reduce one mode to the other or to ignore one at the expense of the other inevitably fail to capture the rich diversity of thought.

Each of the ways of knowing, moreover, has operating principles of its own and its own criteria of well-formedness. They differ radically in their procedures for verification. A good story and a well-formed argument are different natural kinds. Both can be used as means for convincing another. Yet what they convince of is fundamentally different: arguments convince one of their truth, stories of their lifelikeness. The one verifies by eventual appeal to procedures for establishing formal and empirical proof. The other establishes not truth but verisimilitude. It has been claimed that the one is a refinement of or an abstraction from the other. But this must be either false or true only in the most unenlightening way.

They function differently, as already noted, and the structure of a well-formed logical argument differs radically from that of a well-wrought story. Each, perhaps, is a specialization or transformation of simple exposition, by which statements of fact are converted into statements implying causality. But the types of causality implied in the two modes are palpably different. The term then functions differently in the
logical proposition "if x, then y" and in the narrative recit "The king died, and then the queen died." One leads to a search for universal truth conditions, the other for likely particular connections between two events—mortal grief, suicide, foul play. While it is true that the world of a story (to achieve verisimilitude) must conform to canons of logical consistency, it can use violations of such consistency as a basis of drama—as in the novels of Kafka, where nonlogical arbitrariness in the social order provides the engine of drama, or in the plays of Pirandello or Beckett, where the identity operator, a = a, is cunningly violated to create multiple perspectives. And by the same token, the arts of rhetoric include the use of dramatic instantiation as a means of clinching an argument whose basis is principally logical.

But for all that, a story (allegedly true or allegedly fictional) is judged for its goodness as a story by criteria that are of a different kind from those used to judge a logical argument as adequate or correct. We all know by now that many scientific and mathematical hypotheses start their lives as little stories or metaphors, but they reach their scientific maturity by a process of conversion into verifiability, formal or empirical, and their power at maturity does not rest upon their dramatic origins. Hypothesis creation (in contrast to hypothesis testing) remains a tantalizing mystery—so much so that sober philosophers of science, like Karl Popper, characterize science as consisting principally of the falsification of hypotheses, no matter the source whence the hypothesis has come. Perhaps Richard Rorty is right in characterizing the mainstream of Anglo-American philosophy (which, on the whole, he rejects) as preoccupied with the epistemological question of how to know truth—which he contrasts with the broader question of how we come to endow experience with meaning, which is the question that preoccupies the poet and the storyteller.

Let me quickly and lightly characterize the two modes so that I may get on more precisely with the matter. One mode, the paradigmatic or logico-scientific one, attempts to fulfill the ideal of a formal, mathematical system of description and explanation. It employs categorization or conceptualization and the operations by which categories are established, instantiated, idealized, and related one to the other to form a system. Its armamentarium of connectives includes on the formal side such ideas as conjunction and disjunction, hyperonymy and hyponymy, strict implication, and the devices by which general proposi-
visions are extracted from statements in their particular contexts. At a gross level, the logico-scientific mode (I shall call it paradigmatic hereafter) deals in general causes, and in their establishment, and makes use of procedures to assure verifiable reference and to test for empirical truth. Its language is regulated by requirements of consistency and noncontradiction. Its domain is defined not only by observables to which its basic statements relate, but also by the set of possible worlds that can be logically generated and tested against observables—that is, it is driven by principled hypotheses.

We know a very great deal about the paradigmatic mode of thinking, and there have been developed over the millennia powerful prosthetic devices for helping us carry on with its work: logic, mathematics, sciences, and automata for operating in these fields as painlessly and swiftly as possible. We also know a fair amount about how children who are weak initially at the paradigmatic mode grow up to be fairly good at it when they can be induced to use it. The imaginative application of the paradigmatic mode leads to good theory, tight analysis, logical proof, sound argument, and empirical discovery guided by reasoned hypothesis. But paradigmatic “imagination” (or intuition) is not the same as the imagination of the novelist or poet. Rather, it is the ability to see possible formal connections before one is able to prove them in any formal way.

The imaginative application of the narrative mode leads instead to good stories, gripping drama, believable (though not necessarily “true”) historical accounts. It deals in human or human-like intention and action and the vicissitudes and consequences that mark their course. It strives to put its timeless miracles into the particulars of experience, and to locate the experience in time and place. Joyce thought of the particularities of the story as epiphanies of the ordinary. The paradigmatic mode, by contrast, seeks to transcend the particular by higher and higher reaching for abstraction, and in the end disclaims in principle any explanatory value at all where the particular is concerned. There is a heartlessness to logic: one goes where one’s premises and conclusions and observations take one, give or take some of the blindnesses that even logicians are prone to. Scientists, perhaps because they rely on familiar stories to fill in the gaps of their knowledge, have a harder time in practice. But their salvation is to wash the stories away when causes can be substituted for them. Paul Ricoeur argues
that narrative is built upon concern for the human condition: stories reach sad or comic or absurd denouements, while theoretical arguments are simply conclusive or inconclusive. In contrast to our vast knowledge of how science and logical reasoning proceed, we know precious little in any formal sense about how to make good stories.

Perhaps one of the reasons for this is that story must construct two landscapes simultaneously. One is the landscape of action, where the constituents are the arguments of action: agent, intention or goal, situation, instrument, something corresponding to a "story grammar." The other landscape is the landscape of consciousness: what those involved in the action know, think, or feel, or do not know, think, or feel. The two landscapes are essential and distinct: it is the difference between Oedipus sharing Jocasta's bed before and after he learns from the messenger that she is his mother.

In this sense, psychic reality dominates narrative and any reality that exists beyond the awareness of those involved in the story is put there by the author with the object of creating dramatic effect. Indeed, it is an invention of modern novelists and playwrights to create a world made up entirely of the psychic realities of the protagonists, leaving knowledge of the "real" world in the realm of the implicit. So writers as different as Joyce and Melville share the characteristic of not "disclosing" aboriginal realities but leaving them at the horizon of the story as matters of supposition—or, as we shall see, of presupposition.

Science—particularly theoretical physics—also proceeds by constructing worlds in a comparable way, by "inventing" the facts (or world) against which the theory must be tested. But the striking difference is that, from time to time, there are moments of testing when, for example, light can be shown to be bent or neutrinos must be shown to leave marks in a cloud chamber. It may indeed be the case, as Quine has urged, that physics is 99 percent speculation and 1 percent observation. But the world making involved in its speculations is of a different order from what story making does. Physics must eventuate in predicting something that is testably right, however much it may speculate. Stories have no such need for testability. Believability in a story is of a different order than the believability of even the speculative parts of physical theory. If we apply Popper's criterion of falsifiability to a story as a test of its goodness, we are guilty of misplaced verification.