acquired by one body as a result of the action of another body on it. This rejects the Aristotelian idea that motion is the actualization of a potentiality, where the latter is understood teleologically. Even so, Hobbes's all-important notion of *conatus* betrays a residual element of the Aristotelian notion of a natural appetite. Since nature is reduced to motion, and local motion at that, Hobbes rejects the traditional distinction between substance and form as conceived by Aristotle. What were Aristotelian forms allied to the matter of objects become phantasmata in the minds of perceivers, brought about by the effects of the motions of those bodies on our sense organs. But, as Leijenhorst explains, even this can be regarded as the culmination of a long-developing trend in late Aristotelianism that, while not exactly rejecting hylomorphism, nonetheless downplayed the form side of the distinction and concentrated on the substance/body side. In this light, Hobbes's view, which retains many aspects of traditional definitions—for example, of body (*corpus*) and prime matter (*materia prima*)—can be seen as a reinterpretation of the traditional distinction.

More generally, it is clear from Leijenhorst's work that Hobbes was entirely happy to employ, in one form or other, materials from the Aristotelian tradition, whether from Aristotle himself or from Hobbes's late Aristotelian contemporaries and near-predecessors, even if those materials were used to construct an edifice that is startlingly non-Aristotelian in important respects. Leijenhorst's final line asserts, "To the modern reader, Hobbes' natural philosophy appears more like a hybrid than like a revolution" (p. 222). Even if matters have not always appeared thus, they ought to now, thanks to *The Mechanisation of Aristotelianism,* a book that should be read by all serious scholars of Hobbes's philosophy of nature.

ALEXANDER BIRD

José Montesinos; Carlos Solís (Editors). *Largo campo di filosofare*. (Eurosymposium Galileo 2001, 19–23 February 2001, Tenerife, Canary Islands, Spain.) 985 pp., illus., figs., index. La Orotava, Spain: Fundación Canaria Orotava de Historia de la Ciencia, 2001.

This is indeed a mighty volume: almost a thousand pages, fifty-four essays, many of them substantial contributions to the never-ending tide of Galileo-related scholarship. Four languages are represented: English and Italian (seventeen papers each), French and Spanish (ten papers each). (The German scholars involved chose to write in English.) The papers are grouped in three parts. Part 1 treats Galileo's science, with sections on mathematics and natural philosophy (nine papers), on mechanics (ten papers), and on cosmology and the laws of motion (nine papers). Part 2 is on Galileo and the Church, with sections on the "Galileo Affair" (six papers), Galileo and theology (six papers), and recent "revisions" (three papers; it is not clear why those are not incorporated under the "Galileo Affair"). Part 3 presents eleven papers on Galileo and European culture. The book is beautifully produced—a credit to the editors, who must have devoted enormous effort to bringing together the proceedings of "Eurosymposium Galileo 2001," held in Tenerife under the auspices of the Foundation for the History of Science of the Canary Islands.

Like all symposium proceedings, the papers here are of uneven quality. But on the whole the quality of the collection is well above the norm for volumes of this kind. Nearly every European scholar who is actively engaged in Galileo research seems to be represented; Americans are less in evidence. Many of the studies present detailed and original historical scholarship and will, no doubt, themselves spark new efforts in time to come.

It is impossible in the space of a brief review to do justice to such a profusion. And to single out just a handful of the fifty-four essays would be invidious. Instead, it seems worthwhile to reflect on the "Galileo phenomenon" itself, so well illustrated by this rich collection of essays. In the history of science, I dare say, there is no one else who comes close to inspiring such a huge volume of writing, both scholarly and popular, year after year.

He came at a time when enormous subterranean shifts were happening in Europe in matters intellectual, religious, social, and artistic. His life and his writings reflect those shifts as well as, or perhaps even better than, those of any other. They not only reflect them; they played a significant part in bringing those shifts about. The distribution of essays in this volume brings out, on the one hand, the fundamental role Galileo played in the history of science itself. He forged a new ideal of what natural science could achieve, weaving together mathematics, specially designed instrumentation that would forever transcend the limits of the human senses and of the ancient science bound by those limits, and idealizations both conceptual and instrumental. He never quite grasped how this novel mix would undermine the traditional ideal of demonstration and enforce a view of what the human

knower could hope to achieve, at once more modest in the certitude it could claim but far more extended in space, time, and scale than anything his predecessors could have envisioned. His mechanics was a kinematics only; an adequate dynamics lay further down the road. Turning the telescope to the skies was bound to transform cosmology; Galileo had the good fortune (for that is what it was) to be the first in line; and he was someone who well knew how to make use of such an opportunity. The Copernican shift of center from earth to sun was still only a whisper among scholars until Galileo in his great *Dialogo* brought it straight to the center of the European imagination.

In contrast was his struggle with the Church, his unsuccessful attempts to persuade post-Reformation theologians that the passages in the Bible referring to the motion of the sun or the stability of the earth should, according to traditional theological criteria, be regarded as accommodated to the appearances with which the hearer/reader would be familiar. But the struggle proved wider than this, far wider, one supposes, than Galileo himself could have envisioned, as a theological worldview that claimed unqualified allegiance encountered a rival with altogether new resources at its disposal.

And Galileo was not limited by the norms or the ambitions of a scholar, or those of the philosophers and the theologians of his day. His was a broader world of engineers, of artists, of courtiers, a world of intrigue, of power struggle, of patronage as the condition of advancement: in short, the kind of world in which historians of science *à la mode* revel. No wonder then to find him the seemingly inexhaustible source of essays of such diversity of focus as this collection so exuberantly celebrates.

ERNAN MCMULLIN

Andrew C. Scott; David Freedberg (Editors). *Fossil Woods and Other Geological Specimens*. Documentation provided by **Fancesco Solinas**. Contributions by **Jo Taylor**. (The Paper Museum of Cassiano Dal Pozzo, Series B, 3.) 424 pp., illus., tables, apps., bibl., indexes. Turnhout, Belgium: Harvey Miller Publishers, 2000.

It can be more difficult for historians of science to find images of fossils drawn before the science of geology was established late in the seventeenth century than it is to excavate fossils from a remote outcrop, the arduous work of dedicated paleontologists notwithstanding. Such works of art are poorly catalogued, widely dispersed in museums and private collections, typically unpublished, and can be difficult to access even when located in public museums. The problem of compiling a bibliography of early drawings of fossils is compounded by the fact that well into the eighteenth century the term "fossil" referred to anything that was dug up, be it the remains of once-living things, rocks, or artifacts of human activity. All of this presents a worthy challenge because the conceptualization of fossils as the remains of once-living things and as the primary evidence for the evolution of life on earth is surely bound to the history of their visualization.

Editors Andrew C. Scott and David Freedberg and their contributing authors have met this challenge in their book *Fossil Woods and Other Geological Specimens,* one in a series of volumes of natural history holdings in the Paper Museum of Cassiano Dal Pozzo. The dust jacket proclaims that the catalogue "will be of profound interest to the scientific community," and the book comes close to delivering simply because it binds between two covers an extensive and heretofore inaccessible collection of early seventeenth-century drawings of fossil wood and other materials from the Jurassic and Tertiary of Italy. The editors confidently assert that the collection "constitutes the first truly scientific study of fossilized woods . . . [as well as] the earliest geological field drawings to place [fossils in the stratigraphic context in which they were found in outcrop]." Given the existence of other late Renaissance and Baroque *Wunderkammer* (curiosity collections of natural objects, artifacts, and artworks) in Europe that have not been published, this testable claim is an important challenge to historians of art and science.

The drawings in the Paper Museum were commissioned by a group of Galileo's friends associated with the first scientific society in Europe, the Accademia dei Lincei of Rome, and were an attempt to classify all of nature. The editors do a Herculean job of recounting the convoluted history of accumulation, dispersal, and recovery of the collection as well as of reorganizing it. The catalogue consequently assumes a contemporary orderliness that obscures the original groupings of drawings, although some of those historically important associations are retrievable from tables of cross-references in appendixes. The authors tell us that the Linceans were especially interested in objects that fell between the categories they had defined according to Aristotelian precepts. Not surprisingly, these anomalies created problems for the Linceans and thus promoted rethinking of the old taxonomy and inferences drawn from it. For example, some of the drawings have original annotations naming