

THE GROUNDS FOR CONFLICT: GRIENBERGER, GRASSI,
GALILEO, AND POSTERITY*

In 1672 John Collins asked Isaac Newton for his opinion on Giovanni Alfonso Borelli's *De motionibus naturalibus a gravitate pendentibus*. Newton replied that he esteemed Borelli "among the middle sort of Authors," then added: "I find not that he hath added any thing considerable to the science of motion but onely proved things already evidently known. Nor hath he done that without some Paralogisms . . . And some of them are not onely proved parallogistically but are also false . . . but yet he may be of good use to young students in Mechanicks." A decade and a half later, Newton had another occasion to reflect on Borelli's merit, and now he proved more complimentary, in part because Borelli served as a whip with which to lash out at Hooke. "I am told," Newton wrote Halley, that Hooke pretended "I had all from him."

This carriage towards me is very strange and undeserved, so that I cannot forbear in stating that point of justice to tell you further, that he has published Borell's Hypothesis [in the *Theoricae Mediceorum Planetarum*] in his own name and the asserting of this to himself and completing it as his own, seems to me the ground of all the stir he makes. Borell did something in it and wrote modestly, [while Hooke] has done nothing and yet written in such a way as if he knew and had sufficiently hinted all but what remained to be determined by the drudgery of calculations and observations, excusing himself from that labour by reason of his other business: whereas he should rather have excused himself by reason of his inability.¹

Belittling the "middle sort of Authors" has been the occasional pastime of great scientists – and even more than that for those who have made them their study. Alexander Koyré, for example, "endorsed" Newton's estimation of Borelli while opining, apropos the *Theoricae Mediceorum Planetarum*, that the Italian had wanted Newton's "genius" as well as his "intellectual daring," which might have allowed him to discover "in celestial phenomena a precedent for events that happen on earth."²

When the likes of Borelli barely manage to scrape by with their so-called respectable mediocrity intact, little wonder lesser mortals find themselves excluded altogether from the historical picture. Indeed, the history of science, like the history of ideas more generally, increasingly faces the challenge of resolving the seeming incongruity between contemporary reputation and the judgment of

posterity. Until now, the chroniclers of the “Scientific Revolution” have celebrated this incongruity, directly and indirectly, through their privileging of those figures who ushered in modernity. Certainly, by imposing anachronistic criteria on published works and showing unremitting intolerance for traditional (or uninspiring works) – let alone for individuals who failed to publish altogether – they have created a history emptied of those seemingly unable (or unwilling) to liberate themselves from the flotsam of the past. Such a ruthless winnowing has been the direct legacy of the founders of modern science who conceived, and deployed, a solipsistic philosophizing constructed on a denigration of tradition. The result was a spiraling elevation of novelty and originality as the *sine qua non* of the new man of science and an attendant dismantling of the classical heritage, both philosophical and literary. Understandably, those who did not fit the heroic profile – who either wavered or hoped to reconcile the old and the new – were deemed unworthy of proper investigation.

My challenge to such an approach to the history of science aims not to impute an exaggerated originality to minor figures, but rather to remove “the stigma of congenital grayness” (to borrow a phrase from Nietzsche³) that has been the lot of nearly all talented savants of the sixteenth and seventeenth centuries. In so doing, I hope to show that while their contributions to the scientific enterprise of the early modern period may be vague and amorphous, they nonetheless demand to be factored in. That they defy a simple letter in an equation does not negate their existence; it only makes our task of definition more difficult. Equally to the point, failure to recognize the dialogue between the iconic figures and the larger community distorts the complexity and singularity of the historical moment and misconstrues the magnitude and complexity of the great innovations themselves. Recently, Beverley Southgate has called for the rehabilitation of long-forgotten philosophers “who have refused to bow to the seemingly-inevitable, and who have persisted as ‘eccentrics’ in opposing the intellectual fashions of their day.”⁴ I would like to make this plea for the history of science, but with one caveat: the perceived opposition to the “seemingly-inevitable” should not be interpreted as proof of a determined effort on the part of the “eccentrics” (or in our case the “losers”) to combat new fashions. Rather, what informed these seemingly “misguided” savants was a genuine effort to make sense of a confusing range of old and novel ideas – which more often than not involved accommodating as many new ideas and discoveries as possible within the traditional framework *before* consenting to dispense with it altogether. As historians, it is incumbent on us to give full seriousness to their endeavors and alternative explanations – irrespective of how lame these may seem today – not least because of the contemporary ambiguity and incomplete evidentiary basis of the new philosophies. Nor should this scrutiny be considered a mere antiquarian exercise. The revolutionary figures took their contemporaries seriously, even when denigrating them, with not altogether negligible consequences for their mature thinking.

Nowhere is the need to remove “the stigma of congenital grayness” more immediate than with respect to those early modern Jesuit savants who, despite

their heavy involvement in the mathematical sciences and natural philosophy, have become identified with the obsolete philosophies they allegedly perpetuated in their teaching and writings and with the forces that sought to thwart the course of modernity. Though the mythology of the negligibility of the Jesuit contribution has become increasingly fractured in recent years, the nature and extent of their participation in, and contribution to, early modern scientific culture are still insufficiently recognized. This chapter, and the volume as a whole, focuses on several Jesuit savants who have hitherto been either ignored or misunderstood in an effort to establish a better context within which to evaluate their worth and accomplishments. Establishing such a context, we believe, as well as offering detailed accounts of neglected practitioners are the precondition for any reevaluation.

Elsewhere I've attempted to set out some of the ingredients for such a contextualization. These include the need to recognize that what motivated many Jesuit savants to pursue science was not altogether different from what motivated secular practitioners, and that such motivation rarely involved considerations of extending by other means the religious aims of the Order. Nevertheless, their priestly station and their perception of the propriety of single-minded pursuit of science did have important ramifications for their ability to negotiate a clerical *and* a scientific vocation. Colleagues and superiors often misunderstood (and took exception to) such activity, with the result that the constraints imposed on Jesuit practitioners from above affected, often profoundly, their teachings and publications. For all these reasons, our reading of Jesuit publications should be an exercise in reading between the lines, so to speak; conversely, lack of publication should not be equated with lack of ideas. Many creative Jesuits shunned publication precisely because they could not, or would not, appear in public under such conditions. Along similar lines, we should recognize the informal nature of much of the Jesuit contribution – be it private instruction, conversations, or epistolary exchange – and the difficulty of documenting it, let alone quantifying it. Nevertheless, if we cast our net wide enough, and bring into our historical purview the hitherto neglected traces of “obscure” Jesuit practitioners, we begin to discern the contribution of the Order to the growth and dissemination of scientific knowledge.

The fickle nature of posthumous reputation is perhaps nowhere better illustrated than in the life, and afterlife, of Christoph Grienberger (1562–1636). Born in Tyrol, Grienberger entered the Jesuit Order in 1580 and was serving as professor of mathematics in Vienna when, in 1591, he was summoned to Rome to assist Christoph Clavius. Save for two teaching assignments in Portugal (1599–1602) and Sicily (1607–10), Grienberger remained in Rome until his death, acting as Clavius' right-hand man and heir apparent before officially taking over following Clavius' death in February 1612. In sharp contrast to the scholarly attention that has been showered on Clavius, however, Grienberger has remained a shadowy and all but forgotten figure. Undoubtedly, this is a reflection on Clavius as much as on Grienberger, for the fabulously prolific Clavius epitomized

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