

# INTRODUCTION: DO WINNERS TAKE IT ALL?

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In a recent graphic narrative titled *Heretics! The Wondrous (and Dangerous) Beginnings of Modern Philosophy*,<sup>1</sup> Steven Nadler and Ben Nadler illustrate the seventeenth century as a period of challenges against authority and established knowledge, politics, and religion. This narrative introduces an important element to the predominant interpretation that considers the early-modern time a revolutionary era.<sup>2</sup> Attributing heretics a crucial role gives nuance to the positivistic account of seventeenth-century science and philosophy. Indeed, this latter framework fails to describe the scientific revolution in its entirety. Considering the role of outsiders, minor or marginalized scholars, and heretics provides a way to overcome these limitations and contributes to a broader attention to the context of scientific knowledge.<sup>3</sup>

In the early-modern period, scientific and cultural innovations develop from daily practice, chance encounters, and intellectual confrontations.<sup>4</sup> A passionate dedication to a specific cause importantly arises in daily practice, like testified to William Harvey's (1578-1657) prolonged experimentation to demonstrate the circulation of blood, and in encounters and confrontations, like those promoted by Marin Mersenne (1588-1648) in his boundless epistolary. These confrontations also take the shape of controversies and discussions. Indeed, when we abandon an optimistic foundational epistemology and focus on the condition of outsiders, heretics or marginalized scholars, controversies develop as an ideal repository that forms an integral component of new conceptions in science. In his work, Marcelo Dascal claims that "the reasons why [the history and philosophy of science] have been in a deadlock [...] is the fact that their dominant paradigms have overlooked the role of controversies."<sup>5</sup> Controversies are thus an indispensable means for revealing both an adequate description of fundamental details and a broad account to complete the picture of early modern science and philosophy.<sup>6</sup>

The history of medicine especially illuminates this case,<sup>7</sup> as controversies have played a relevant role in medical knowledge since the early sixteenth century, and still have an important role in medicine today.<sup>8</sup> From a historical point of view, moving from the rediscovery of Ancient texts, a great number of controversies generally arose during the Renaissance as a means to settle divergence. Controversies on the Galenic tradition,<sup>9</sup> on Vesalius' anatomy,<sup>10</sup> on theoretical medicine,<sup>11</sup> or controversies concerning either the functioning of the body, as in the case of pulse<sup>12</sup> or in the case of the lymphatic system,<sup>13</sup> or in the case of some specific diseases like syphilis,<sup>14</sup> or focusing on drug trials<sup>15</sup> and remedies,<sup>16</sup> like the correct ways to prepare therapeutics,<sup>17</sup> frequently surface in this period.

Still, while controversies importantly shape medical knowledge, their role

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remains underspecified. Two main problems develop. The first is religious. Since a clear distinction between knowledge and religion was difficult to articulate during the Renaissance, as Paracelsus made clear,<sup>18</sup> physicians were labelled as heretics depending on which religious parties they endorsed, and their theories or practices easily dismissed thereof. The second is philosophical. Early modern philosophers incorporate medicine within the view that science should be uncontroversial. Francis Bacon (1561-1626), Galileo Galilei (1564-1642), René Descartes (1596-1650), Thomas Hobbes (1588-1679), and Gottfried Wilhelm Leibniz (1646-1716) similarly claim scientific arguments settle all disputes. For both reasons, controversies are labelled as unimportant.

Although early-modern philosophers mostly consider posterity the suitable judge for their work—Descartes invokes posterity in both the *Discours de la Méthode* and the *Lettre-Préface* to the French translation of the *Principia philosophiae*—controversies and exchanges with peers lay the ground for breaking the existing bounds and innovating knowledge. Controversies were, indeed, indispensable at the epoch to clarify thoughts and reveal an important perspective to provide contingency, historical background, and internal necessity to every discipline of knowledge, medicine included.

Such controversies are not to be intended in the sense of scholastic disputations, which however persist in academic curricula even after the seventeenth century, but in the modern sense that develops from the humanist culture.<sup>19</sup> The latter do not merely repeat an accepted theory, as it occurs in academic disputes. Controversies reveal the constitutive factors of a given knowledge, present relations between theories, and help focus on the correct formulation of questions, interpretations, methodologies, and results. Within controversies, one may provide a fitting explanation and systematize knowledge within a precise framework.<sup>20</sup> In this sense, controversies help develop knowledge and frame theories within their contexts and networks.

Despite having the fame of a solitary philosopher,<sup>21</sup> Descartes provides several suitable examples about controversies. In his epistolary controversies with Isaac Beeckman (1588-1637) and Gisbertus Voetius (1589-1676), Descartes clarifies his positions for what concerns specific topics of his own philosophy.<sup>22</sup> Something similar occurs in Descartes' physiological controversy against Harvey. While Descartes shares Harvey's conception of the blood circulation, he however provides a different interpretation of the heartbeat.<sup>23</sup> According to Thomas Fuchs, Descartes adds a mechanical feature to Harvey's vital interpretation of circulation,<sup>24</sup> securing Harvey's theory within a suitable vehicle for the reception of this discovery in the seventeenth century.<sup>25</sup> This was the case of the Leuven physicians, who firstly opposed Descartes but then shared the Harveian discovery. Still, in his interpretation, Descartes inverts the processes of diastole and systole in order to accustom the circulation of blood to his mechanical physiology. His theory is incorrect and, despite advocating the circulation of blood, in his controversy with Harvey, Descartes obviously loses.<sup>26</sup>

However, Descartes has played a fundamental role in disseminating that medical knowledge. This case shows the importance of acknowledging the open nature of controversies. According to Marcelo Dascal, controversies cannot be

reduced to contrasting positions alone—that would merely reduce controversies to the presumptions of the two parts, and contenders would resolve the controversy by taking advantage of the other. By contrast, a sort of epistemic or cognitive contribution usually exceeds the lives of the opponents and exceeds the differentiation between winners and losers.<sup>27</sup> Besides the positions held by adversaries, controversies have a multifaceted condition: they reorient research and produce understanding through the discussions they trigger. Therefore, in intellectual controversies, the result is far less important, and the differentiation between losers and winners a mere contingency.

As a result, the case of losers, heretics, and outsiders acquires a more prominent position. Far from rehabilitating the role endorsed by marginalized or minor scholars, controversies as such appear essential for an exhaustive insight of the history of sciences and medicine. These working categories reveal a suitable condition, since winners do not take it all.

In this special issue, the goal of each author has been to concentrate on controversies, especially shedding light on the case of losers, heretics or radical thinkers, and outsiders. While the traditional narration of the history of ideas and science usually glorifies winners, the papers collected in this issue aim to focus on those people who advocate either the wrong cause for religious reasons, or controversial causes from scientific, philosophical, or ethical points of views.

This issue is divided in two sections. In the first, the authors focus on the history of medicine from the Renaissance to the twentieth century, while in the second, the authors concentrate on Descartes' philosophy and Cartesianism.

Alessandra Celati opens the first section with an analysis of three Italian heretical physicians, Girolamo Massari (1480/5-1564), Guglielmo Grataroli (1516-1568), and Teofilo Panarelli (mid 1530-1572), who spent their lives in the Veneto, but were obliged to flee to Basel because of their religious views. Connecting the religious discourse and scientific conceptions of the sixteenth century, Celati analyzes in detail the lives of the three physicians, reconstructing their cultural networks, and ultimately shaping the contribution of outsiders and heretics to the rise of the new science.

In the same line, Katalin Pataki addresses the topic of monasteries and medical provision in the eighteenth century, focusing on the case of Hungary. In her paper, Pataki presents the intersections between religion, medicine (pharmacology), and politics in three main case studies, the Franciscans of Keszethely, the Capuchins of Hatvan, and the Paulin monks of Lepoglava. Yet, ambiguities surface: these itinerant monks crossed the borders between charity and commercial, professional and popular, and were banned as quacks. This results in the attempt to transform or institutionalize pharmacology under the rules of marketplace, state control, and the new pastoral policies of the Church.

Paola Panciroli deals with the origins of homeopathy, the new medical system developed by Samuel Hahnemann (1755-1843).<sup>28</sup> In her paper, Panciroli analyses Hahnemann's attraction to mental illness and to the foundation of psychiatric hospitals. Panciroli highlights the case of the Middletown Homeopathic Hospital in particular, presenting the merits and innovations of homeopathy in the case of mental

illness, but also the shortcomings and intrinsic limitations homeopathy shares with orthodox medicine.

Fabio Zampieri ends this section with the case of Achille De Giovanni's (1838-1916) constitutional medicine. In a period of long transition for Western medicine, together with homeopathy and Darwinian medicine, this approach significantly characterized the first half of the twentieth-century medical knowledge. De Giovanni opposed the theory of external causation for diseases, and claimed the importance of constitutional factors. Still, although constitutional studies grounded scientific racism and justified eugenics (which were advocated or established not only under German Nazism and Italian Fascism, but also in other countries like Great Britain and the U.S.), De Giovanni's approach was not unimportant, as he acknowledged heredity with a crucial role in the transmission of predispositions to disease. Shedding light on a *loser* like De Giovanni, Zampieri reveals the validity and importance of his ideas.

Giulia Mingucci opens the second section with a discussion of the mind-body composition in Descartes. Mingucci acknowledges Descartes' attempt to use his knowledge of Scholastic philosophy as a means to render his own criticism effective. In a letter to Mersenne, Descartes indeed claims his effort to make his new philosophy understandable for scholars educated within the academic system. However, Mingucci claims that Descartes' 'parricide' against Aristotle develops within Aristotelian philosophy, therefore revealing the complex nature of Descartes' controversy against traditional philosophy.

Siegrid Agostini publishes for the first time the entire letter Dom Robert Desgabets (1610-1678) sent to Claude Clerselier (1614-1684) about Géraud de Cordemoy's (1626-1684) atomism. This letter is an important piece in the controversy concerning the legacy of Cartesian philosophy. In her paper, Agostini explores how much Cordemoy's atomism represents a shift from Cartesian orthodoxy towards unorthodoxy: Cordemoy provides an example of a Cartesian going against the stream or, more specifically, a Cartesian outsider?

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## References

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<sup>2</sup> Kuhn, Th.S., *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962). This text has had a huge reception and influence and it is not my duty to analyze. Cf. Richards, R.J., Daston, L., (eds.), *Kuhn's Structure of Scientific Revolutions at Fifty: Reflections on a Science Classic* (Chicago and London: University of Chicago Press, 2016). See also Cohen, I.B., *Revolution in Science* (Cambridge: Harvard UP, 1985). Barker, P., Ariew, R., (eds.), *Revolution and Continuity: Essays in the History and Philosophy of Early Modern Science* (Washington: Catholic

University of America Press, 1991). Floris Cohen, H., *The Scientific Revolution: A Historiographical Inquiry* (Chicago: The University of Chicago Press, 1994). Shapin, S., *The Scientific Revolution* (Chicago: The University of Chicago Press, 1996). Osler, M.J., (ed.), *Rethinking the Scientific Revolution* (Cambridge: Cambridge UP, 2000).

<sup>3</sup> For an interesting reconstruction on the importance of the context and ‘minor’ scholars in the history of ideas, see Secretan, C., Antoine-Mahut, D., (eds.), *Les Pays-Bas aux XVIIe et XVIIIe siècles. Nouveaux regards* (Paris: Honoré Champion, 2015). See also the recent special issue edited by Hiro Hirai and Rienk Vermij on “The Marginalization of Astrology”, *Early Science and Medicine* 22/5-6 (2017): 405-516.

<sup>4</sup> Blok, A., *Radical Innovators: The Blessing of Adversity in Science and the Arts, 1500-2000* (Cambridge: Polity Press, 2017).

<sup>5</sup> Dascal, M., “The Study of Controversies and the Theory and History of Science”, *Science in Context* 11 (1998): 147-154. For a different interpretation, see Goodwin, W., “Structure and Scientific Controversies”, *Topoi* 32 (2013): 101-110.

<sup>6</sup> Dascal, M., Boantz, V.D., *Controversies Within the Scientific Revolution* (Amsterdam-Philadelphia: John Benjamins Publishing Company, 2011). Cf. Dascal, M., “Controverses et polémiques”, in *La science classique XVIe-XVIIIe siècles. Dictionnaire critique*, ed. M. Blay, R. Halleux (Paris: Flammarion, 1998), 26-35. Machamer, P., Pera, M., Baltas, A., (eds.), *Scientific Controversies: Philosophical and Historical Perspectives* (New York-Oxford: Oxford UP, 2000). Ferreyrolles, G., (ed.), *La polémique au XVIIe siècle* (Paris: Honoré Champion, 2006).

<sup>7</sup> Taavitsainen, I., Pahta, P., (eds.), *Medical Writing in Early Modern English* (Cambridge: Cambridge UP, 2011).

<sup>8</sup> See, for example, Ratia, M., *Texts “Con and Pro”: The Early Modern Medical Controversy over Tobacco* (Jyväskylä: Bookwell Ozy, 2011). Finkelstein, G., “Matteucci and du Bois-Reymond: a bitter rivalry”, *Archives Italiennes de Biologie*, 149 (2011): 29-37. More recently, medical controversies concern biotechical issues.

<sup>9</sup> See Lopez Piñero, J.M., Calero, F., *Las Controversias (1556) de Francisco Valles y la medicina Renacentista* (Madrid: CSIC, 1988).

<sup>10</sup> Kusukawa, S., *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany* (Chicago: University of Chicago Press, 2012), Ch. 9, 180-197.

<sup>11</sup> See the famous case of the controversy between mechanical and empirical medicine in seventeenth-century Italy, Bertoloni Meli, D., “Mechanistic Pathology and Therapy in the Medical *Assayer* of Marcello Malpighi”, *Medical History* 51/2 (2007): 165-180. Zampieri, F., *Il metodo anatomo-clinico fra meccanicismo ed empirismo: Marcello Malpighi, Antonio Maria Valsalva, Giovanni Battista Morgagni* (Roma: “L’Erma” di Bretschneider, 2016).

<sup>12</sup> Bylebyl, J.J., “Disputation and description in the Renaissance pulse controversy”, in *The Medical Renaissance of the Sixteenth Century*, ed. A. Wear, R.K. French, I.M. Lonie (Cambridge: Cambridge UP, 1985), 223-.

<sup>13</sup> Suy, R., Thomis, S., Forneau, I., “The Discovery of Lymphatic System in the Seventeenth Century”, *Acta Chirurgica Belgica* 116/4 (2016): 260-266.

<sup>14</sup> Wright, K., “The revenge of the Americas”, *Observer* 29 October 2013, now online: <https://blog.wellcome.ac.uk/2013/10/29/the-revenge-of-the-americas/>, cited 09.04.2018.

<sup>15</sup> Baldwin, M., “The Snakestone Experiments: An Early Modern Medical Debate”, *Isis* 86 (1995): 394-418. Schickore, J., “Trying Again and Again: Multiple Repetitions in Early Modern Reports of Experiments on Snake Bites”, *Early Science and Medicine* 15 (2010): 567-617.

<sup>16</sup> See Blank, A., “Sixteenth-Century Pharmacology and the Controversy between Reductionism and Emergentism”, *Perspectives on Science*, 26 (2018): 157-184.

<sup>17</sup> See the famous case of theriac, Findlen, P., *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Los Angeles: Berkeley University Press, 1994), 241-245, 266-287.

Nockels Fabbri, Ch., “Treating Medieval Plague: The Wonderful Virtues of Theriac”, *Early Science and Medicine* 12/3 (2007): 247-283. Cf. Rankin, A., “Empirics, Physicians, and Wonder Drugs in Early Modern Germany: The Case of the *Panacea Amwaldina*”, *Early Science and Medicine* 14/1 (2009): 680-710. Bellorini, C., *The World of Plants in Renaissance Tuscany: Medicine and Botany* (Farnham: Ashgate, 2016), 145. Pugliano, V., “Pharmacy, Testing, and the Language of Truth in Renaissance Italy”, *Bulletin of the History of Medicine*, 91/2 (2017): 233-273. Di Gennaro Splendore, B., “Craft, Money and Mercy: an Apothecary’s Self-Portrait in Sixteenth-Century Bologna”, *Annals of Science* 74/2 (2017): 91-107.

<sup>18</sup> See Webster, Ch., “Paracelsus Confronts the Saints: Miracles, Healing and the Secularization of Magic”, *The Society for the Social History of Medicine* (1995): 403-421. Nummedal, T., “Alchemy and Religion in Christian Europe”, *Ambix*, 60/4 (2013): 311-322.

<sup>19</sup> See Lawn, B., *The Rise and Decline of the Scholastic ‘Quaestio disputata’: With Special Emphasis on its Use in the Teaching of Medicine and Science* (Leiden: Brill, 1993). On humanist culture mocking scholastic disputes, see Dupèbe, J., (ed.), *Michel Servet: Apologie contre Leonhart Fuchs* (Genève: Droz, 2017), Introduction, cxxvi-ii.

<sup>20</sup> Cf. Gil, F., “La controversie dans les sciences et la philosophie”, in *Controversias científicas e filosóficas*, ed. F. Gil (Lisbon: Fragmentos, 1990), 9-20.

<sup>21</sup> Cf. Baldassarri, F., “La stanza enorme. Descartes, tra vita ritirata e comunità”, *Quaderni della Ginestra* 15 (2015): 33-45.

<sup>22</sup> On the case of Descartes’ correspondence with Beeckman, see Baldassarri, F., “«[P]er experientiam scilicet vel deductionem». Descartes’ Battle for *Scientia* in the Early 1630s”, *Historia philosophica* 15 (2017): 115-133. On Descartes’ controversy with Voetius, see Verbeek, Th., *René Descartes et Marin Schoock, La Querelle d’Utrecht* (Paris: Les Impressions Nouvelles, 1988). Baldassarri, F., “Libri inutili, compendi e libri «primarii». Descartes tra lettura e scrittura della filosofia”, *Giornale critico della filosofia italiana* 12 (2016): 324-342.

<sup>23</sup> Harvey, W., *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus* (London, 1628).

<sup>24</sup> Fuchs, Th., *The Mechanization of the Heart. Harvey and Descartes* (Rochester: The University of Rochester Press, 2001). Cf. Gilson, É., “Descartes, Harvey et la scolastique” in *Études sur le rôle de la pensée médiévale dans la formation du système cartésien* (Paris: Vrin, 1930), 51-100. Petrescu, L., “Descartes on the Heartbeat: the Leuven Affair”, *Perspectives on Science* 21 (2013): 397-428.

<sup>25</sup> Cattani, A., “Were the arguments of William Harvey convincing to his contemporaries?”, in Dascal, Boantza, (2011), 171-186.

<sup>26</sup> Descartes devotes several pages of *La Description du corps humain* to reject Harvey’s theory and underpin his own interpretation of the heartbeat. See *La Description du corps humain*, II, artt. 27-8. In *Œuvres complètes de René Descartes*, ed. C. Adam, P. Tannery (Paris, Vrin, 1964-1974), vol. XI, 239-245. I have shown the philosophical differences between Harvey’s and Descartes’ interpretations in Baldassarri, F., “Harvey vs. Descartes: abduction et induction dans la découverte de la circulation”, unpublished.

<sup>27</sup> See the case of the controversy between Arnauld and Malebranche in Del Prete, A., “La passione della controversia: Antoine Arnauld and Nicolas Malebranche”, in *L’uomo, il filosofo, le passioni*, ed. C. Borghero, A. Del Prete (Firenze: Le Lettere, 2016), 209-225.

<sup>28</sup> Cf. Kuzniar, A.A., *The Birth of Homeopathy out of the Spirit of Romanticism* (Toronto-Buffalo-London: University of Toronto Press, 2017).