

Life, Mind, and Soul in the *Philosophia Naturalis* of János Apáczai Csere

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DURING 1658 and 1659, the young Transylvanian scholar János Apáczai Csere (1625–1659) enters into a polemic against Henricus Regius, by writing a *disputatio* (*De mente humana*) and a textbook of philosophy (*Philosophia Naturalis*), concerning the problem of the human mind. Although both Regius and Apáczai are Cartesians, especially in the domain of natural philosophy, their metaphysical views are in conflict. Focusing on the problem of life and on the problem of mind-body interaction, this article shows that János Apáczai Csere develops a third path in Cartesian metaphysics, different from that of Descartes himself and from that of Regius, his renegade disciple. The first part of the article presents the problem of life and mind-body interaction as developed by Descartes and Regius. The second part focuses on the life of Apáczai and his unedited manuscript *Philosophia*

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naturalis. In the third part, the article presents Apáczai conception of life and soul and his answer to the problem of mind-body interaction.

Life, Mind, and Soul in Descartes and Regius

IN *ON the Trinity* 10.10.14, Augustine of Hippo formulates the doubt argument in which he spells out the main characteristics of the human soul, the first, and probably the most important, being that the soul is the principle of life: “Who would doubt that he lives, remembers, understands, wills, thinks, knows, and judges? For even if he doubts, he lives” (Matthews 2002, 55). Only at a secondary level the soul is also the principle of thinking. From Augustine’s point of view, one cannot doubt if he is not alive, life being a spiritual vital principle inseparable from the soul. The equivalence between life and soul is not a particularity of Augustine, but rather the way soul was thought of by all thinkers before Descartes.¹

When Descartes employs the doubt argument in his *Discourse* and *Meditations*, one sees that the only feature of the soul is thinking, with the total elimination of life, which is reduced in other parts of his work to an organic, even mechanistic, phenomenon:

I noticed that, while I wanted thus to think that everything was false, it necessarily had to be the case that I, who was thinking this, was something. And noticing that this truth—I think, therefore I am—was so firm and so assured that all the most extravagant suppositions of the skeptics were incapable of shaking it, I judged that I could accept it without scruple as the first principle of the philosophy I was seeking. (Discourse, AT VI 32; RA 60–61)²

But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, wills, refuses, and that also imagines and senses. (Meditations, AT VII 28; RA 110)

On the one hand, when Descartes eliminates life from the definition of soul, he makes it explicit that the soul is precisely a mind, an intellect or a thinking thing, and nothing more and nothing less than that: “I am therefore precisely nothing but a thinking thing; that is, a mind, or intellect, or understanding, or reason—words of whose meanings I was previously ignorant. Yet I am a true thing and am truly existing; but what kind of thing? I have said it already: a thinking thing” (AT VII 27; RA 109).

On the other hand, Descartes is eager to show that all animals, including the human body without a soul, are nothing but mechanical machines capable of self-movement. For example, he writes to Mersenne on 30 August 1640 that a bird is just such a machine even though it cannot be constructed by men: “It may well be made a machine that supports itself in the air like a bird, *metaphysically speaking*; since the birds themselves, at least in my opinion, are such machines; but not *physically* or *morally speaking* because there would take so subtle springs, and all together so strong, that they could not be manufactured by men” (AT III 163–164).

If the soul, eternal or not, is no longer the principle of life, and, therefore, life is no longer a spiritual vital principle that animates and informs the body, what is then this phenomenon we call life and what are its characteristics? Descartes’s answer is straightforward: life is a certain fire without light in the heart:

God formed the body of a man exactly like one of ours, as much in the outward shape of its members as in the internal arrangement of its organs, without composing it out of any material but the type I had described, and without putting into it, at the start, any rational soul, or anything else to serve there as a vegetative or sensitive soul, but merely kindled in the man’s heart one of those fires without light which I had already explained and which I did not at all conceive to be of a nature other than what heats hay when it has been stored before it is dry, or which makes new wines boil when they are left to ferment after crushing. For on examining the functions that could, as a consequence, be in this body, I found there precisely all those things that can be in us without our thinking about them, and hence, without our soul’s contributing to them, that is to say, that part distinct from the body of which it has been said previously that its nature is only to think. And these are all the same features in which one can say that animals lacking reason resemble us. (Discourse, AT VI 46; RA 67)

Descartes is not the first to say that life is a certain heat in the heart but he denies the view of some others that this fire is different from a mechanical movement of very subtle material particles and that the soul contributes to this fire: “Descartes agrees with many of his predecessors in holding that the principle of life is heat, the heat of the heart . . . But Descartes admits those claims only if they can be interpreted mechanically: ideally, in terms of the laws of motion, but practically, by way of comparisons with nonliving systems whose mechanical nature he takes to be obvious” (des Chene 2001, 29).

The soul being “without life,” the immortality of the soul ceases to be an eternal life, which was one of the main tenets of Christianity, but comes to be the

preservation by God of the thinking substance after the disappearance of bodily life. That is because the soul does not live, neither before nor after death, but he only thinks, and this thinking can be preserved eternally by God. Henricus Regius, the renegade disciple of Descartes, argues for this point in *Philosophia naturalis* and condemns equating the soul's eternal preservation with immortality as a vulgar way of speaking: "Hence, we understand that, the human body being ruined by deadly diseases and the man being quenched by death, nevertheless the mind lasts persistent and incorruptible, which others name immortal" (Regius 1654, 345).

In Descartes's view man seems to be conceived as exhibiting two irreducible clusters of properties: those of the soul/mind and those of extension/body. Life is a mode of extension, being a certain functioning of organized matter. Life is thus the capacity of a body to move autonomously, nourish and reproduce. Apart from these essential properties, there are other certain properties usually associated with life that Descartes attributes only to the lifeless human soul: sensibility,³ language⁴ and universally-appropriate behavior.⁵ None of these latter properties can be reduced to the functioning of organized matter, as life can, therefore these should be conceived as properties of the thinking substance, or they should be part of the cluster of immaterial properties, while life is part of the cluster of matter's properties.

Beasts and man-like machines move autonomously, react to stimuli, can utter sounds, even words, and exhibit some behaviors appropriate to certain circumstances. Beasts also nourish and reproduce. They are alive but lack reason, or mind, or soul. All those characteristics are also expressed by humans "when our mind has been diverted" (AT VI 413; RA 84), when the body is not governed by the soul. When the body is so governed, the living body becomes a rational being. The nature of this government, of this interaction between living body and thinking, will become the most difficult problem Descartes has to solve. He will have to show—a problem that ultimately remained unsatisfactory addressed—that although mind and body are really distinct, they are also substantially united so that an action of the body and the corresponding passion of the soul, as well as an action of the soul and the corresponding passion of the body, are one and the same event. Otherwise, the relation of soul to the body will be that of a sailor to his ship and man will be, as Regius put it in a disputation from 1641,⁶ an *ens per accidens*: "By means of these sensations of pain, hunger, thirst, and so on, nature also teaches that I am present in my body not merely in the way a sailor is present in a ship, but that I am most tightly joined and, so to speak, commingled with it, so much so that I and the body constitute one single thing" (*Meditations*, AT VII 81; RA 136).

As Vlad Alexandrescu shows (Alexandrescu 2013), this inability of Descartes to clarify the way in which the mind was able to make an impression on the body determines Regius to challenge the Cartesian doctrine on the metaphysical matters of soul, mind, and life, and precipitates their separation. Regius was one of the first professors to teach Cartesian philosophy in The Netherlands immediately after the publication of the *Discourse* in 1638. Subsequently, they became friends and Descartes supported Regius in correcting and defending the latter's disputations at Utrecht University. Descartes even formulated a public defense of Regius against Voetius in the *Epistle to Dinet* (see esp. AT VII 582 sqq.) published in the second edition of the *Meditations* (1642). Nevertheless, in 1645 they parted ways when Regius sent to Descartes the manuscript of *Fundamenta Physices* (Regius 1646) where Regius presented his metaphysical ideas regarding the soul, with which Descartes strongly disagreed. Their disagreement is complex and manifested itself on different occasions that would culminate with the public disavowal of Regius by Descartes in *Note in programma quodam* and in the Letter-Preface to the French edition of the *Principia*. While Descartes's conception was spelled out at this time, Regius's ideas would continue to develop until reaching their final form in the *Philosophia naturalis* (Regius 1661).

The principal work of Regius that I shall analyze here is the *Philosophia naturalis* from 1654, the book that brought about Apaczai's response in *De mente humana* and his own *Philosophia naturalis*. Regius's 1654 *Philosophia naturalis* is the second edition of the *Fundamenta Physices* from 1646. In 1645 Regius sent to Descartes the manuscript of the *Fundamenta Physices* whose last chapter, *De homine*, extremely disappointed Descartes since it contained metaphysical remarks that contradicted the Cartesian conception. Regius operated some modifications in order to accommodate Descartes's criticism and published the book in 1646. Nevertheless, Descartes repudiated Regius in his Letter-Preface to the French edition of the *Principia* (1647) because some important metaphysical ideas, incompatible with the Cartesian conception, still remained in the published edition. In 1648 an anonymous placard with the title *Explicatio mentis humane* determined Descartes to write a bitter attack on Regius in *Note in programma quodam*. Although the *Explicatio* was latter claimed by a student of Regius, Petrus van Wassenaer, Regius responded to the *Note* by defending the *Explicatio* with a *Brevis explicatio mentis humane sive anime rationalis*. When Regius published his *Philosophia naturalis* in 1654, as a second, enlarged edition of the *Fundamenta Physices*, he expanded chapter XII, *De homine*, into a fifth book, *De Homine*. Here he added the propositions eliminated as a concession to Descartes and the propositions from the *Brevis explicatio mentis humane sive anime rationalis*. Moreover, to show his opposition to the Cartesian conception, in

the 1661 edition of the *Philosophia naturalis* Regius openly denies the Cartesian *cogito*: “Hence, it becomes clear that the sense is the principle of every thought and of all other thinking actions: And besides the principle of all knowledge or the first thought is not the *Cogito*, still less the *Cogito, ergo sum*, for these are just general concepts” (Regius 1661, 399).

The negation of the *Cogito* can be traced back to the problem of sensibility, the fact the human beings possess, when they have a sensation, a qualitative aspect of each sensation, which in contemporary metaphysics is known as *qualia*. These qualitative aspects pertained, in an Aristotelian schema, to the sensitive soul and to animal life. When, in the *Discourse*, Descartes denied such qualitative aspects to animals, he was immediately admonished by Fromondus who said that “I do not think that such noble operations [sight, hearing, etc.] can arise from such ignoble and dull causes [such as heat]” (AT I 403). The problem, as in the case of Regius, is how can the mechanical motions in the body produce the qualitative sensations in the soul? The same basic problem is encountered in the case of human passions and of human voluntary actions. It seems that initially Regius thought of a qualitative difference between brutes and machines to which Descartes readily objects:

On page 66 you seem to make a greater difference between living and lifeless things than there is between a clock or other automaton on the one hand, and a key or sword or other non-self-moving appliance on the other. I do not agree. Since “self-moving” is a category with respect to all machines that move of their own accord, which excludes others that are not self-moving, so “life” may be taken as a category which includes the forms of all living things. (AT III 566; CSMK 214)

After renouncing this position, as is evident from the denial of any such difference in the *Fundamenta Physices*, and therefore being unable, inside the Cartesian schema, to account for the qualitative aspects of perception from the qualitatively different character of life, Regius takes the opposite view that soul is, to a certain extent, material.

For Regius, even after the death of the body, the soul should continue to inhabit at least a small part of matter:

However, [the soul] being a modal existence of the body, and subject to divisibility, together with the body, it seems that its unity is destroyed. But, even if I pass over other solutions, it [the soul] can exist in the smallest atom of the common sense or in a corpuscle naturally indivisible because of its smallness and its solidity, in order for it to be immune to all natural divisibility, to which would be subjected together with the body, as some perhaps fear. (Regius 1654, 345–346)

In such an interpretation, soul becomes material or “organic” since it cannot exist without matter. For Regius, the soul is strictly dependent upon matter since none of its operations can be performed without material instantiation: “Human mind . . . is organic or in need of bodily organs” (Regius 1654, 342). Regius conceives the soul not just as a substance, like Descartes, but as a genus which encompasses three species: the substantial soul, the attributive soul, and the modal soul: “Mind can be either substance; or some mode of corporeal substance; or some attribute. Mind or the thinking faculty is considered as a genus which can include in itself different species: of which one is a substance therefore [the mind] is called substantial; other is an attribute, therefore [it is called] attributive; and the third is indeed a mode, therefore [it is called] modal” (Regius 1654, 335–336).

Moreover, because Regius does not accept innate ideas, as he thinks that all ideas come from the senses,⁷ he affirms that the substantial soul cannot be proved rationally. Only the Bible and the divine revelation assure us that there is a substantial soul. Rationally, i.e. within a strict philosophical point of view that does not involve theology, one can only demonstrate that there is only the soul in its modal and attributive aspects. Therefore, Regius solves the Cartesian problem of the union between soul and body by stating that the soul acts on the body and the body acts on the soul because the soul is just a mode or an attribute of the body and the events that take place in the body have their counterparts in the soul.

János Apáczai Csere and the *Philosophia Naturalis* Manuscript

JÁNOS APÁCZAI Csere⁸ was born in 1625 in Apácza in the Principality of Transylvania (1541–1711). In 1636–1637, he begins his studies at the Reformed College of Cluj (Collegio Claudiopolitano Reformaturum) and continues them in the capital of the principality, Alba Iulia, from 1643 to 1648. In 1622 the Transylvanian prince Gabriel Bethlen had founded an academic college in Alba Iulia where he brought some important scholars from Germany: Johann Heinrich Alsted, Johann Heinrich Bisterfeld and Johannes Piscator. Under these famous scholars and having access to some of the most important books of the period, Apáczai continues his studies of philosophy and theology. As George Rákóczi I, the prince of Transylvania, was offering stipends for Transylvanian students to continue their studies at Protestant universities in England, The Netherlands, and Germany,⁹ Bisterfeld recommends Apáczai

for a scholarship in The Netherlands. Thus, on 22 July 1648, Apáczai enrolls at Franeker University.

In September 1648 he moves to Leiden University, where he has the first contacts with Cartesian philosophy through Johannes de Raey (1622–1702) and Adriaan Heereboord (1613–1661), both declared Cartesians, and through other friends and correspondents of Descartes, like Jacob Golius (1596–1667), Claude Saumaise (1588–1653), and Daniel Heinsius (1580–1655). At the time of his arrival, the main works of Descartes are readily available in Latin (*Meditationes de prima philosophia*: the first edition from 1641 and the second expanded edition from 1642; *Principia philosophiæ* from 1644 and the Latin edition of the *Discourse*, *Specimina philosophiæ*, from 1644) as well as Regius's *Fundamenta physices*. At the beginning of that year, 1648, the split between Regius and Descartes became a public affair through the publication of the *Note in programma quodam* and the *Brevis explicatio mentis humane sive animæ rationalis*. As Apáczai embarked on a Cartesian path of philosophizing, as would be evident from his works, he could not be unaware of those writings and the problems they raised.

After nearly seven months at Leiden, around the Easter of 1649, Apáczai takes up residence in Utrecht under the supervision of Gisbertus Voetius to complete a doctorate in theology. While working under Voetius, the bitter opponent of Descartes, he also studies the new Cartesian physics taught by Regius at Utrecht University. In March 1650 Apáczai defends a theological thesis of Voetius, during a *disputatio sub preside*, *Disputatio theologica continens introductionem at philologiam sacram*. In the following year, on 22 April 1651, he becomes the first Doctor in Theology at the newly established Harderwijk University with the thesis *Disputatio theologica inauguralis de primi homini apostasia*. In the same year he marries a wealthy woman from Utrecht, Aletta van der Maet, and begins to work on his *magnum opus*, the *Magyar Encyclopædia*. In the meantime, he probably seeks a chair as professor at Utrecht University. Nevertheless, his Dutch career is interrupted in 1652 when Prince George Rákóczi II asks Apáczai, through a letter from the Bishop of Transylvania, to return as a professor in Alba Iulia. Thus, in August 1653 Apáczai and his wife arrive in Transylvania and in November he delivers his inaugural speech, *De studio sapientiæ*, as professor of Poetry, Eloquence, Doctrine, Hebrew and Greek languages.

In 1655, the *Magyar Encyclopædia*¹⁰ is finally published in Utrecht and his fame increases. However, the fate of Apáczai worsens as Bisterfield, his master and protector at Alba Iulia, dies, and his Presbyterian faith is used to denigrate him before the authorities. Thus, on 24 September 1655 Isaac Basire, professor of Divinity at Alba Iulia and the former chaplain of Charles I of England, the king executed on 30 January 1649, accuses Apáczai of promoting the Presbyterian/Puritan idea of tyrannicide, the right of the people to depose or kill

an unjust ruler. The accusation is made at a public gathering, before Prince George Rákóczi II, who was reluctant, unlike his mother, in regard to Puritan ideas. As a consequence, Apáczai is discharged from his academic position. At the intervention of Zsuzsanna Lorántffy, the prince's mother, Apáczai becomes master of the Reformed College of Cluj and on 20 November 1656 he gives his inaugural discourse, *De summa scholarum necessitate*. The main activity of Apáczai after moving to Cluj was the development of the college as well as a general reformation of the educational system in Transylvania.¹¹

In 1658, after reading Regius's *Philosophia naturalis* of 1654, Apáczai writes *De mente humana*, a disputation held by one of his students, Matthias Fogarasi, in which he criticizes the idea of the soul as a mode of the body and its consequences, quoting from Regius and identifying mistakes in Regius's argumentation. *De mente humana* consists of thirteen theses (11 pages) that prove the human mind is a substance really distinct from the body, followed by some corollaries, *Corollaria Respondentis* (4 pages), on rational philosophy, moral philosophy, natural philosophy, and supernatural philosophy, written by Fogarasi. In the last year of his life, 1659, Apáczai draws up the *Philosophia naturalis*, his main work on philosophy. In the last day of that year Apáczai dies at only 34 years, probably of pneumonia.

There is only one manuscript of the *Philosophia naturalis*, unedited, copied by András Porcsalmi, Apáczai's former professor and colleague at the Reformed College of Cluj. The manuscript is bound in a *colligatum* of 972 pages. The works bound together in the *colligatum* are: *Aphorisma Physici* by Johann Heinrich Bisterfeld (pages 13–78; unfinished manuscript); *Philosophia naturalis* by Sebastian Basson (pages 105–110; unfinished manuscript); *Fundamenta Physices* by Henricus Regius (pages 139–469; the published book from 1646); *Philosophia naturalis* by János Apáczai Csere (pages 471–678; manuscript); *Arithmetica* by Petrus Ramus (pages 689–760; manuscript); *Brevis res corporeas cognoscendi hypotyposis* (pages 769–787; manuscript); *De Creatione* by Johann Heinrich Bisterfeld (pages 941–942; unfinished manuscript).

The *Philosophia naturalis*¹² written by Apáczai in 1659 is copied by Porcsalmi between 1660 and 1661.¹³ The manuscript has 204 pages numbered 1 to 204 and a title page. It contains four books: *Liber I: De Philosophia in genere* (pages 1–14); *Liber II: De Arithmetica* (page 14); *Liber III: De Geometria* (page 14); *Liber IV: De Physiologia* (pages 15–204). The main part of the manuscript covers natural philosophy (189 pages) and it is not known if the mathematical books were missing from the original manuscript or they were omitted by Porcsalmi, since on the page 14 one can read: "Consult Petrus Ramus's Arithmetica." Porcsalmi made a number of annotations, mainly references to Regius's *Fundamenta* and Apáczai's *Encyclopædia*. The annotations do not seem to be Apáczai's

own because the references are to the *Fundamenta*, the book bound before Apáczai's *Philosophia naturalis*, while the quotes taken from Regius's *Philosophia naturalis* are not referenced. Like the *Encyclopædia*, the *Philosophia naturalis* is mainly an academic manual which aims to offer a comprehensive examination of natural philosophy. The book begins, like Descartes's *Principia* but unlike scholastic or Regius's works, with the metaphysical part where he discusses the nature and the principles of philosophy in Cartesian manner (*Caput I: De Definitione et Natura Philosophiæ* and *Caput II: De Principiis Philosophandi*), establishing through methodical doubt the first principle of knowledge: "Cogito ergo sum," the existence of God and of the material world as well as the distinction between mind and body. In the third chapter, *De Mente humana eiusq[ue] operationibus*, he describes the human mind as the thinking substance with its main components, intellect and will. He discusses the clarity and distinctness of ideas, eternal truths, free will, intellect, science, etc. Then he proceeds to establish the system of natural philosophy in the next five chapters: *De Philosophia partitione*, *De Philos[ophiæ] natural[is] definitione*, *De Rerum corporeas principiis*, *De Philosophiæ naturalis distributione*, and *De Mathesi in genere*. The second and the third books, which concern arithmetic and geometry, are only mentioned by title on page 14.

The rest of the work is concerned with natural philosophy, *Liber IV: De Physiologia*, being based mainly on Regius's *Fundamenta Physices* and *Philosophia naturalis* and on Descartes's *Principia* and *Passiones*. The analysis of the material world begins with general considerations on physics: *Cap[ut] I: De Physica definitione et distributione*. Then he proceeds to analyze the universe, the creation and the movement of the stars, the constellations and the Sun: *Cap[ut] II: De Rebus coelestibus, et in specie de Stelis (ut vocant) Fixis*. In the next four chapters, *De Coelo*, *De Planetis et Cometis*, *De Sphæra Coelestis et ejus Circulis*, *De Corpore cælestium apparentiis ratione Circulorum, itemque domiciliis et Planetarum dignitatibus*, Apáczai describes the planets and their movement, and gives astrological and astronomical definitions. Chapter VII, *De Elementis vulgo dictis*, analyses the primary elements, air, water, earth, and fire, according to Cartesian and Regius's principles that all of them are composed of material particles that differ only by their magnitudes, figures and movements, and offers meteorological explanations. The meteorological explanations continue in an *Appendix, De Distributione terra secundum longitudinem et latitudinem: itemque Zonis, Climatibus et Parallelis*, with climatological and geographical information. Here, he inserts a table of 188 towns with their latitudes and longitudes, and describes the climatological zones and their properties. For some images, *Sphæra recta*, *Sphæra obliqua*, and *Sphæra parallela*, which should illustrate the disposition of geographical zones, Porcsalmi leaves blank spaces, probably for a later completion of the drawings.

The next chapter, *Cap[ut] VIII: De Corporum generatione, corruptione, et qualitatibus*, deals with the composition and formation of bodies and the material causes of heat, gravity, color, etc. Meteorological phenomena such as exhalations, vapors, winds, clouds, rainbows, parhelions, storms, are treated in the chapter IX, *De Meteoris*.

After the discussion of the inanimate world, in chapters X, XI and XII, *De Animatis et Animalibus in genere, De Partibus Animalium* and *De Actionibus Animalium*, Apáczai moves on to plants and animals, explaining their material constitution, their anatomy and physiology, nourishment, nerves, circulatory system, principal organs and parts, animal movements, etc. Here, he describes the heart and the vital material, fire without light, the pineal gland or *Conarion* and its function in animals, the process of producing heat, blood and animal spirits through nutrition. Discussing the animal sensibility and spontaneous motion in *Cap[ut] XIII: De Sensus perceptionibus et motu animalium spontaneo*, Apáczai describes in Cartesian manner all the sensible behavior and voluntary movements of animals, demonstrating that no soul is required to account for their complexity. The next chapter, *Cap[ut] XIV: De Hominis Mente, ejusque passionibus*, which will be extensively analyzed in the last part of this paper, demonstrates the substantial character of the human soul, its relation with the body and its passions. Chapter XV, *De Corporis humani elegantia, proportione, temperamentis, Physiognomia, hominisque distributione a loco colore, magnitudine, moribus, lingua, religione, etc.*, offers some anthropological considerations concerning physiognomy, chiromancy, different languages, the main religions, etc.

After the comprehensive analysis of man and the human soul, Apáczai proceeds to the zoological descriptions of different kinds of animals: *Cap[ut] XVI: De Bruto in genere deque Quadrupedibus inde Reptilibus*, *Cap[ut] XVII: De Avibus*, *Cap[ut] XVIII: De Piscibus*, and plants: *Cap[ut] XIX: De Stirpibus et Arboribus*, *Cap[ut] XX: De Fruticibus*, *Cap[ut] XXI: De Herbis*. Finally, Apáczai deals with non-living matter, offering descriptions of various metals: *Cap[ut] XXII: De Non-vivis et in specie De Metallis*, various stones: *Cap[ut] XXIII: De Gemmis*, and chemical substances such as salts, sulphur, bitumen, etc.: *Cap[ut] XXIV: De Friabilibus*. In the *Appendix Ad Doctrinam de Stirpibus et Metallis*, he gives long lists of plants and minerals that can be used as medicines. The manuscript ends with the description of the magnetic properties of lodestone and the Earth: *Totius Philosophiæ Coronis: De Magnete*.

Life in Apáczai's *Philosophia Naturalis*

IN THE Latin preface to the *Magyar Encyclopaedia* Apáczai mentions the authors that he follows, revealing not only the comprehensive character of his work but also the importance of Descartes and Regius to this endeavor:

These are the authors, according to various matters, that I followed: Descartes in Metaphysics; Ramus and Ames in Logics; Ramus, Snell and Schonerus in Arithmetics; only Ramus in Geometry; . . . Descartes and Regius in general Physics; Copernicus, Descartes, Regius, Phocylides, Alsted, and Scribonius in Astronomy; Alsted in Geography, Hydrography and Musics; Descartes, Regius, Scribonius in Meteors; Scribonius and Regius in Anthropology; only Regius in Medicine; Regius, Scribonius, Alsted in Zoography; Scribonius, Regius, and Alsted in Metals; Scribonius and Regius in Botanic; Alsted, Ametius and Mesius in Mechanics; Fennerus, Amesius, Althusius, etc. in Ethics, Economics, Politics, Law, Theology. (Apáczai 1655, 17–19)

In *Philosophia naturalis*, the main themes are the same and are treated in the same manner, using and sometimes mentioning the same authors. One of the main differences is that Apáczai is more accurate in the metaphysical part and criticizes Regius by attacking the fifth book, “De Homine,” from the latter’s 1654 work *Philosophia naturalis*. In the marginalia, which are probably not Apáczai’s but added by Porcsalmi, the most referred works are those of Descartes,¹⁴ the *Magyar Encyclopaedia*, and, the most important, Regius’s *Fundamenta Physices*.¹⁵

The main chapters that I shall analyze in this part of my paper are those concerning the human mind: *Liber I. Cap[ut] III. De Mente humana eiusque operationibus* (“Human mind and its operations”, pp. 5–9) and *Liber IV. Cap[ut] XIV. De Hominis Mente, ejusque passionibus* (“Human mind and its passions,” pp. 125–145). Apáczai begins his study of natural philosophy by establishing that philosophy is the knowledge of all things by their first causes and that this knowledge can be attained through the Cartesian method¹⁶ as it appears in the second part of the *Discourse* (AT VI 18–19), stating that many truths, previously unknown, are thus discovered by the human mind. In the second chapter, *De Principiis Philosophandi*, Apáczai proceeds to a Cartesian doubt argument from which he deduces that the first principle of all philosophy is “I think therefore I am.”¹⁷ And because this *ego* is imperfect and contingent and its existence must depend on something more perfect and necessary, one arrives at the idea of a necessary existing being, infinitely perfect, which cannot deceive, “which we call God” (“quod nos vocamur Deum”). And because God cannot deceive us, everything we perceive clearly and distinctly exists, such as the possibility of a sensible world.

After the existence of the human mind, God and external world is rationally established, Apáczai provides a more comprehensive analysis of human mind: “Thus, clearly knowing the existence of both the pure immaterial mind and God and the pure material body, . . . the nature and the actions of human mind will be further explained” (Apáczai 1660, 5). From the beginning of this third chapter it is evident that Apáczai takes the Cartesian position of complete immateriality of the human soul, against Regius’s corporeal nature of the soul. Nevertheless, in the next paragraph, Apáczai gives his own definition of the human mind that shows an essential relation of interaction between mind and body: “Thus, the mind of men is the spirit of the body designed to govern it.”¹⁸ With this definition Apáczai distances himself both from Descartes, who, except from saying that mind and body are really distinct but intimately united, could not provide an explanation for their interaction, and from Regius, who would say that the mind is a mode of the body, an internal principle or faculty similar to motion.¹⁹ The soul in Apáczai’s view has a destiny or is so designed (*destinatus*) as to rule a human body. It is made as such by the Creator and the specific character of this ruling (*regendo*) will be spelled out in the fourteenth chapter of the fourth book that deals with what man is. Apáczai continues, by closely following the first part of Descartes’s *Principia*, with the analysis of thinking, intellect’s perceptions and will’s determinations, clear and distinct ideas, free will, etc. In the tenth paragraph he affirms the existence of the eternal truth, simple notions or ideas of which we are immediately conscious. Here, he rejects Regius’s claim that all ideas come from senses: “Where that ordinary [idea]: *Nothing is in the intellect that was not first in the senses*, evidently is false.”²⁰ After this preliminary analysis of human mind, which creates the epistemic basis for natural philosophy, in the chapter *De Hominis Mente, ejusque passionibus* (“Human mind and its passions,” pp. 125–145) Apáczai establishes his new metaphysical view about man and human mind.

The main change operated by Apáczai is his view on human life: while the life of brutes is material, human life is spiritual. For Descartes and Regius, life is an organic, mechanical phenomenon of all living creatures, from plants to men. On the one hand, Apáczai accepts that the life of the animals is nothing but “that bodily action through which the alimentary juices (*succus alimentarius*), prepared and distributed in the entire body, unite with [bodily] substance.”²¹ Apáczai mentions that only in this circumstance (*hic*), i.e. in the case of brutes, life is material. Human life, on the other hand, depends entirely on the substantial soul since no bodily action can be performed without it: “Because of this composition [of soul and body], . . . necessarily and so closely united to each other, neither the soul without the body can produce any operation, which it is accustomed to performing, nor the human body as such, without the soul, can function, *nor even live a single moment*.”²²

Contrary to the body of animals, which can live and perform actions without a soul, man cannot do that, since the human body necessitates a soul for all its actions. The human body, although constructed as an autonomous machine, is not an automaton since it cannot move by itself. Moreover, the soul, although it is a perfect substance, has always an appetite (*semper appetant*) for the union with a body, probably because its living power cannot be expressed otherwise: “In truth, by the decree of the Supreme Being, [the soul] always strives for the union with the body.”²³ In the eighth paragraph, Apáczai points out the actions of the soul that can be performed without a body, i.e. purely spiritual actions, and those that are performed through bodily organs (*per organa operatur*): “the soul, in its most pure and most perfect operations ([intellectual] perception, will and judgement of which [see] book I) is completely inorganic; while in imagination, memory and sensibility, it operates through organs.”²⁴

This conception contradicts the views of Descartes and Regius, for whom the body can function autonomously, without the soul’s cooperation, since it is an automaton. Descartes engenders the possibility of living men without souls in part V of the *Discourse* (AT VI 56–57) since he offers the criteria to distinguish them from “real” human beings. Apáczai’s shift in the conception about human life solves the problem of mind-body interaction because any action of the living body is performed directly by the living force of the soul. Human perceptions and passions, *pace* Descartes, are always spiritual since they are acts of a spiritual life. Consequently, no further explanation is needed for the apparition of qualitative aspects of human actions or for the mind’s power to act on the body. For Apáczai, the simplest act of perception, like seeing a color, is a spiritual phenomenon. This act is still performed mechanistically, in the sense that the entire mechanism of perception from the sense organs to the brain is involved, as with Descartes and Regius, but the qualitative aspect of the perception is there from the beginning since every act of a living human is informed by the soul. The color’s mechanical information does not have to travel to the pineal gland, as with Descartes, in order to be conscientiously perceived as a certain qualitative color.

In order to propose his view on human spiritual life, Apáczai takes into consideration, from the beginning and unlike Descartes and Regius, man as a substantial unity. Descartes begins from the soul and demonstrates its real distinction from the body in such a manner that, after establishing the possibility of a material world, it becomes most difficult to argue for a substantial union between an autonomous soul and an equally autonomous body. Regius, on the contrary, begins with the body and its actions, advancing progressively, in such a manner that the operations of the mind seem to be properties of the body. As a consequence, for Regius, the substantial soul of the Scriptures remains a meta-

physical entity devoid of all properties since all thinking actions are organic and performed by the body. Apáczai describes man as a composite animal (*Compositum animal*), a unity that exhibit two attributes: “Man is a truly composed animal in which two attributes are ordinarily found, each of which can be distinctly understood without the other: by which the brute is far more perfect and divine. By attribute is understood the clear essence of every immutable thing that, by its very Nature, it is not a mode capable of change.”²²⁵

Mind and body are thus attributes of man, understood as a substantial unity, and not modes or attributes of each other that can be modified by the other. Moreover, both the soul and the body are distinct substances by themselves and can be understood without the other. After the above paragraph, Apáczai affirms that “Man is the animal gifted with a mind,”²²⁶ a formula that he takes from Regius (Regius 1654, 334). The following five paragraphs are theses III–VII from the disputation *De mente humana*, in which Apáczai criticizes Regius’s conception. After stating the spiritual character of human life, Apáczai proceeds in the next sixteen paragraphs with the analysis of human passions, in Cartesian manner, without the need to explain the basis of their interaction.

Another argument for the spiritual character of human life appears in the second thesis of *De mente humana*, which is not reiterated in the *Philosophia naturalis*, where Apáczai presents a description of human soul as it is codified in different languages, namely in Hebrew, Greek and Latin. Here again, life appears as a central characteristic of the human soul: “Soul, called ψυχή in Greek and *nephes* in Hebrew, signifies the principle by which we live; spirit or intellect, called πνεῦμα in Greek and *ruach* in Hebrew, is, in truth, that by which we understand; finally mind, νοῦς in Greek, *da’ath* in Hebrew, is called that by which we contemplate the divine things.”²²⁷

These characteristics of soul that Apáczai extracts from etymology are probably influenced by the passages of Scripture in which the Apostle Paul also describes the characteristics of man and the human soul: “The natural [ψυχικός] person has no room for the gifts of God’s Spirit . . . The spiritual [πνευματικός] person, on the other hand, can assess the value of everything . . . For: who has ever known the mind (νοῦν) of the Lord? Who has ever been his adviser? But we are those who have the mind (νοῦν) of Christ” (I Cor. 2: 14–16). As a former professor of Theology and of Greek language, Apáczai could not have been unaware of these passages and their metaphysical implication, that the human soul is both life and spirit, both a living power and a thinking power. Although he does not bring scriptural arguments in his philosophical work, Apáczai is careful not to contradict the Bible. Through his solution to the metaphysical problem of mind-body interaction, he was able to save one of the main tenets of Christian-

ity, that of the soul as a principle of life, and thus to provide the arguments for the possible existence of an eternal life, which Descartes and Regius denied by transforming it into a mere eternal preservation of thinking.

Conclusion

THE CARTESIAN paradigmatic shift in metaphysics that postulates two really distinct substances and conceives man as a union between a lifeless thinking soul and an autonomous machine, opens the problem of the intimate union and interaction between these two autonomous entities. The problem can be still encountered in contemporary metaphysics as the problem of *qualia*. One response was that of Regius who conceives soul as a mode of the body, thus reducing the problem of interaction to a qualitatively different manifestation of bodily actions. Opposing this view, Apáczai divides the phenomenon of life into the organic life of animals and the spiritual life of human beings. His solution, based both on the traditional view of the soul and on the Cartesian metaphysics of two autonomous substances, provides a different account of human qualitative sensations, passions, mind's actions on the body, and life after death, than those of Descartes and Regius.

□

Notes

1. For a more comprehensive analysis of this argument, see Ben-Yami 2015, especially the chapter 4.2 “Life without soul, soul without life.”
2. For the quotes from Descartes I refer to Adam and Tannery 1964–1974, hereafter cited as AT, and the translations: Ariew 2000, hereafter RA, and Cottingham et al. 1991, hereafter CSMK.
3. “He [Fromondus] supposes me to think that brutes see exactly as we do, that is, in being aware of and knowing that they see . . . However, . . . I expressly showed that brutes do not see as we do when we are aware that we are seeing. Rather, they see as we do when our mind has been diverted; yet the images of external objects are painted on the retinas of our eyes, and furthermore the impressions made by these on our optic nerves may determine our members to certain movements, although we are utterly unaware of them.” (AT I 413–414; RA 84)
4. “They [beasts and man-like automata] could never use words or other signs, or put them together as we do in order to declare our thoughts to others. For one can well conceive of a machine being so made that it utters words, and even that it utters words appropriate to the bodily actions that will cause some change in its organs

- (such as, if one touches it in a certain place, it asks what one wants to say to it, or, if in another place, it cries out that one is hurting it, and the like). But it could not arrange its words differently so as to respond to the sense of all that will be said in its presence, as even the dullest men can do” (AT VI 56–57; RA 72).
5. “One would discover that they [beasts and man-like automata] were acting, not through knowledge, but only through the disposition of their organs. For while reason is a universal instrument that can be of help in all sorts of circumstances, these organs require some particular disposition for each particular action; consequently, it is for all practical purposes impossible for there to be enough different organs in a machine to make it act in all the contingencies of life in the same way as our reason makes us act” (AT VI 57; RA 72).
 6. *De questionibus aliquot illustribus*, 8 December 1641. Cf. Verbeek 1992, 16.
 7. “All these [ideas], that are not divine revelations, are sensations or originate from sensations” (“Eaque omnes, quæ non sunt ex revelatione divina, sunt sensationes vel a sensatione originem ducuntur”) (Regius 1654, 335). Even the idea of God is so constructed.
 8. Most of the information related to Apáczai’s life comes from Imre Bán’s monograph, Bán 1958.
 9. The number of students who continued their studies abroad was relatively large: János Apáczai Csere (1648–1651; Leiden, Franeker, Utrecht, and Harderwijk), Pál Keresztúri (1622–1624; Frankfurt, Leiden, and England), Pál Medgyesi (1628–1631; Frankfurt, Leiden, and England), István Szilágyi Benjamin (1639–1641; Frankfurt, Franeker, and Utrecht), János Tolnai Dali (1632–1639; Leiden, Franeker, Groningen, and England), Andras Vaczi (1644–1647; Franeker, Deventer, Leiden, Groningen, Utrecht, and England), and Ferenc Vereczi (1633–1635; Leiden, Franeker, and England); see Murdock 1996, 48.
 10. Apáczai 1655. Although on the title page the date is 1653, the book appeared only in 1655. Parts I–VIII were printed in 1653 under Apáczai’s supervision, while parts IX–XI were completed in 1655. The inaugural discourse from 1653, *De studio sapientie*, is published at the beginning of the *Magyar Enciclopædia*, bearing the date 1655. Written following the Cartesian principles of clarity and distinctness, the *Enciclopædia* aims to present in Hungarian the totality of human knowledge available at the time. The *Enciclopædia* begins with Cartesian metaphysics and epistemology (part I) and continues with Ramus’s logics and dialectics (II–III), arithmetic and geometry (IV–V), astronomy and astrology (VI), Regius’s natural philosophy that covers physics, physiology, biology, medicine, geography (VII), mechanical arts (VIII), history in the form of a chronology (IX), practical philosophy, i.e. ethics, economics, politics and pedagogy (X), and theology (XI).
 11. For Apáczai’s pedagogical writings and activity, see Radosav 2009; Murdock 1996.
 12. The title page reads as follows: “PHILOSOPHIA NATURALIS/ CL[arissimæ] IOH[anis] CHERI APACI/ S[ancti]S[simis] Th[eologiæ] Doctoris, eiusdemque et/ Philosophiæ Naturalis in Collegio Claudio-/ [po]litano Reformaturum Profes-/ soris ordinarii/ IN USUM EIUSDEM COLLEGII/ AN[N]O D[omi]ni MDCLX.”
 13. The year on the title page is 1660 while the year on the last page is 1661.

14. From the paraphrases of Descartes's works it is evident that Apáczai was familiar with the Latin editions of all his principal works: Descartes 1641; Descartes 1642; Descartes 1644b; Descartes 1644a; Descartes 1650.
15. Most probably Apáczai used the *Philosophia naturalis* from 1654, of which Porcsalmi seems to be ignorant.
16. "And we discover those causes according to Descartes. . ." ("Inveniemus autem istas causas secundum Cartesium. . .") (Apáczai 1660, 1).
17. "Cogito ergo sum . . . illud est primum in tota philosophia principium" (Apáczai 1660, 3).
18. "Mens itaque hominis est spiritus corpori ejus regendo destinatus" (Apáczai 1660, 5).
19. "Cogitatio autem, sive mens humana . . . est internum illud principium sive facultas. . . ; [genus] quod menti cum facultate movendi vel quiescendi, aliisque, est commune" (Regius 1654, 334).
20. "Unde illus vulgatum: *Nihil esse in intellectu, quod non prius fuerit in sensu*, patet esse falsum" (Apáczai 1660, 6).
21. "Vita (hic) est illa corporis operatio qua succus alimentarius paratus et per universum corpus distributus substantiæ agglutinatur. Mors contra" (Apáczai 1660, 96).
22. "Hæc autem compositio . . . necessarioque et tam arcte inter se unitorum, ut nec anima sine corpore omnes, quas edere solet, operationes efficiat, nec corpus humanum, qua tale sine anima quidpiam operetur, vel etiam ad momentum vivat" (Apáczai 1660, 129).
23. "Hæc vero ex supremi entis ordinatione unionem cum corpore semper appetant" (Apáczai 1660, 126).
24. "Animam in purioribus et perfectionibus suis operationibus percipiendo volendo et judicando (de quib[us] lib[er] I) plane inorganicam esse, quamvis in imaginationibus reminiscentiæ et sensibus per organa operatur" (Apáczai 1660, 130).
25. "Compositum animal vero est Homo, in quo duo attributa reperiuntur ordinarie talia, quorum utrumque sine alio potest distincte intelligi: proindeque bruto longe perfectius et divinius. Attributum autem vocatur ipsamet cujuslibet rei immutabile plane essentia, a Natura ipsa tributa, non modus qui mutari potest" (Apáczai 1660, 125).
26. "Homo itaque est animal mente præditum" (Apáczai 1660, 125).
27. "Anima quæ Græce ψυχη Heb. *nephes* dicitur, significet principium, quo vivimus; spiritus sive animus, qui Græc. πνεύμα Heb. *ruach*, vero sit id, quo sapimus; Mens denique Græc. νόος Heb. *danyat* [sic] dicatur illud, quod divina contemplatur" (Apáczai 1658, 1).

References

- Adam, Charles and Paul Tannery, eds. 1964–1974. *Œuvres de Descartes*. Paris: Léopold Cerf, 1897–1913. 11 vols. New presentation by Bernard Rochot, Joseph Beaudé, Pierre Costabel and Alan Gabbey. Paris: Vrin.

- Alexandrescu, Vlad. 2013. "Regius and Gassendi on the Human Soul." *Intellectual History Review* 23 (4): 433–52.
- Apáczai Csere, János. 1655. *Magyar Encyclopædia*. Utrecht: Ex Officina Joannis a Waesberge.
- . 1658. *Disputatio philosophica de mente humana*. Varadini (Oradea): Apud Abrahamus Kertesz Szenciensem.
- . 1660. "Philosophia Naturalis." Cluj-Napoca. MR 2965. Library of the Romanian Academy, Cluj Branch.
- Ariew, Roger, ed. 2000. *René Descartes: Philosophical Essays and Correspondence*. Indianapolis: Hackett Publishing Company.
- Bán, Imre. 1958. *Apáczai Csere János*. Budapest: Akadémiai Kiadó.
- Ben-Yami, Hanoch. 2015. *Descartes' Philosophical Revolution: A Reassessment*. Basingstoke: Palgrave Macmillan. <http://dx.doi.org/10.1057/9781137512024>.
- Chene, Dennis des. 2001. *Spirits and Clocks: Machine and Organism in Descartes*. Ithaca & London: Cornell University Press.
- Cottingham, John, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny, trans. 1991. *The Philosophical Writings of Descartes*. Vol. 3, *The Correspondence*. Cambridge: Cambridge University Press.
- Descartes, René. 1641. *Meditationes de Prima Philosophia in qua Dei Existentia et Anima Immortalitas Demonstratur*. I. Paris: Michael Soly.
- . 1642. *Meditationes de Prima Philosophia in Quibus Dei Existentia, et Animæ Humana a Corpore distinctio, Demonstratur*. II. Amstelodami: Ludovicum Elzevirium.
- . 1644a. *Principia Philosophiæ*. Amstelodami: Ludovicum Elzevirium.
- . 1644b. *Specimina Philosophiæ: Seu Dissertatio de Methodo Recte Regendæ Rationis, & Veritatis in Scientiis Investigandæ: Dioptrice, et Meteora*. Amsterdam: Louis Elzevir.
- . 1650. *Passiones Animæ per Renatum Descartes, Gallice Ab Ipso Conscriptæ Nunc Autem in Exterorum Gratiam Latina Civitate Donatæ*. Amstelodami: Apud Ludovicum Elzevirium.
- Matthews, Gareth B., ed. 2002. *Augustine: On the Trinity*. Translated by Stephen McKenna. Cambridge: Cambridge University Press.
- Murdoch, Graeme. 1996. "International Calvinism and the Reformed Church of Hungary and Transylvania, 1613–1658." Brasenose College, Oxford.
- Radosav, Doru. 2009. "Landmarks in Higher Education in 17th Century Cluj." *Transylvanian Review* 18 (4): 21–31.
- Regius, Henricus. 1646. *Fundamenta Physices*. I. Amsterdam: Apud Ludovicum Elzevirium.
- . 1654. *Philosophia naturalis*. II. Amsterdam: Apud Ludovicum Elzevirium.
- . 1661. *Philosophia naturalis*. III. Amsterdam: Apud Ludovicum & Danielelem Elzevirium.
- Verbeek, Theo. 1992. *Descartes and the Dutch: Early Reactions to Cartesian Philosophy, 1637–1650*. Carbondale/Edwardsville, IL: Southern Illinois University Press.

Abstract

Life, Mind, and Soul in the *Philosophia Naturalis* of János Apáczai Csere

One of the main changes effected by Descartes in metaphysics was the elimination of life as the most central characteristic of the soul, and the identification of the latter with the mind. Life as a vital spiritual force is replaced with life as a material fire located in the heart. Writing in a Cartesian framework, and influenced by Regius, János Apáczai Csere reinstates the soul as the principle of life in humans, while acknowledging the strictly materialistic life of beasts.

Keywords

János Apáczai Csere, *Philosophia naturalis*, early modern philosophy, Descartes, Regius