

## Psychologia – the birth of a new scientific context

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The use of the term soul was banned from the psychological vocabulary, at least since Angell's famous interdict in 1911. This paper examines the various stages of the constitution of the domain of knowledge labelled *psychologia* since the 16<sup>th</sup> century, when the term *psychologia* was coined by the Dalmatian humanist Marko Marulić (Krstić, 1964). His treatise on the subject was unfortunately lost and the term was possibly "reinvented" in the Ramist field of philosophy. The first printed occurrence was in Freigius' (1575), Snellius' (1596a, b), and Casmann's (1594) work, which is where the process of refinement of the subject area began. According to Ramists, all of the soul could be studied as a part of physics, and not only its lower components, as had been considered before that. While the great scholars of the mind, like Descartes, Leibniz, or Locke, ignored the term, *psychologia* had a clear development in the 17<sup>th</sup> and 18<sup>th</sup> century, mainly in medicine. Subsequently, Christian Wolff (1732) introduced empirical psychology in the 18<sup>th</sup> century, which is considered the very basis of the scientific psychology.

*Key words:* Psychologia, context, origin, Ramism, soul, history

When we look at an ordinary textbook of history of psychology, we read that the history of the discipline begins in the 19<sup>th</sup> century, usually with Wundt – sometimes with Fechner, seldom with Herbar; and that before that there was the long philosophical past, Bacon, Descartes, and Locke. Sometimes we find some mention of the Greek philosophy, but between Aristotle and the philosophers of the 16<sup>th</sup> century we have only the dark.

In my opinion, things are different. Beginning with the last quarter of the 16<sup>th</sup> century, psychology defines itself as a distinct field of scientific knowledge, as a branch of the physics, apt to study not only the lower parts of the soul (vegetative and sensitive), but also the higher ones (intellective soul), reserved in the scholastic tradition to metaphysics.

This happened in a specific field of the philosophical inquiry, the Ramism, with Freigius (1575). He printed the word *psychologia* as the label of this new domain of knowledge for the first time. (The work of the very first creator of the term *psychologia*, the Dalmatian Marcus Marulus, was lost, and we don't know anything about it.) Freigius' enterprise was successful mainly in medicine, but was al-

most completely ignored in philosophy by the above mentioned great scholars of the inquiry upon mind and soul, and arrived along a parallel path to the 18<sup>th</sup> century, when Christian Wolff (1732), with his *Psychologia empirica*, established the basis of the scientific psychology. The aim of this paper is to cast some light on this path which was until now almost completely ignored by the historians of our discipline.

### *The origins*

As its etymology suggests, psychology was born as the science of the soul. It is hard to know, however, what the Split humanist Marko Marulić (Marcus Marulus: 1450-1524) had in mind when he coined the term *psichiologia* around 1520 (or maybe some years earlier), because only the title of his work, *Psichiologia de ratione animae Humanae*, has reached our days (Krstić, 1964). A short biography of Marulić, with a list of his works, was written by his contemporary Franjo Božičević (Franciscus Natalis), and was published posthumously by Daniel Farlatus (1765, pp. 335-337), and more recently by M. Marcovich (see Natalis, 1957). In his list, Natalis called Marulus's treatise *Psychologia*, and specified that this was a *liber primus*. As Brožek (1999) noted, the term, probably of Byzantine origin, appears in different variations in the available lists of Marulić's works, including *Psychologia* and *Ethologia*, but the oldest versions show that *psichiologia* is most likely the

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variant that Marulić used. Some 30-40 years ago, several psychology historians engaged in a debate on the real meaning of Marulus's *psychiologia* and about his role in the development of this discipline (Brožek, 1973; Diamond, 1984; Lapointe, 1970, 1972; Massimi, 1983; Vande Kemp, 1980). In particular, Massimi hypothesized that by *ratio* Marulus intended a sort of mental hygiene, and Diamond insisted that the proper meaning of *ratio* was *nature*, as referred to in Alcuin (and we can add, in Aquinas and in Buridan).

However, resolving that Marulus' work was a treatise on the nature of the soul isn't saying much. The 16<sup>th</sup> century was full of very important treatises on the soul, e.g., the works of Melanchthon (Melant, 1558) and Vives (Vivis, 1538). What was the opinion of Marulus about the most important issues at play? About the methods to study the soul? About its partitions? What was his position among Aristotelianism and Galenism? All this is unknown (*ignoramus et ignorabimus*) and played no role in the history of ideas. Indeed, more than two centuries had to elapse after Marulus for the term *psychology* to begin to take on the meaning attributed to it today in science and philosophy.

It was only in 1732 that the Leibnizian philosopher Christian Wolff published his *Psychologia empirica*, an essay that is generally considered to be the starting point for understanding the discipline in its modern sense. Before Wolff, however, the term *Psychologia* was used several times in written texts. It could be said the term was reinvented, because it appeared for the first time in 1575 and was used several times in the following years, always in a specific area, that of the Ramist philosophers in Germany (cf. Freedman, 1993; and, for a recent list of references, see P. Sharratt, 2000). They were called so because they were followers of the humanist Petrus Ramus (Pierre de la Ramée), an opponent of scholastic Aristotelianism, and a critic of Aristotle himself (he was named Aristotelomastix, the Aristotle's whip), killed during the massacre of St. Bartholomew at the hands of an assassin. It was in this milieu that this domain of knowledge was born. In this respect, it is interesting to note that R. Goclenius, one of the first users of the term *psychologia*, left it in his *Lexicon* after his desertion from Ramism, and his return to Aristotle (Goclenius, 1613; Mengal, 2000).

The Ramists were characterised by their attention to education, their focus on *studium humanitatis*, with an explicit commitment to civic and political life, away from the ivory towers of the Scholastics and the Aristotelians. One of the most articulate responses to Ramism was that of the Paduan Aristotelian Jacobus Zabarella, which will be briefly discussed below. Zabarella did not condemn Ramism in full and a priori, but tried to incorporate its more valid components in his system, while making a clear distinction between teaching and research methods, which even earned him the appreciation of his opponents (for instance, Zabarella, 1578, see Mikkeli, 1992). He is mainly remembered as one of the most acute commentators of Aristotle's *De Anima*, and a touchstone by which to compare Ramism.

The historians of ideas divide the Ramists into pure Ramists, such as Freigius and Snellius; semi-Ramists, such as Goclenius and Casmann; and Philippe-Ramists, such as Melanchthon. Since these philosophers are the very early adopters of the term *psychology*, an indigenous origin of the expression can be argued, different from the Byzantine one of the Dalmatian Marulus - and there is reason to believe that the creation of the term should be credited to Petrus Ramus, or at least to someone in the small circle of scholars closest to him. For a long time Melanchthon (1558) was believed to have been the inventor of the term, and to have given this title to a lecture or lesson. This assumption no longer enjoys any credit, since there is no trace of such a conference. This erroneous attribution was made by Volkmann (1884) and was then endorsed and widely promoted by Eucken (1879).

Apparently, however, the first printed appearance of the term was made by Joannes Thomas Freigius (Johan Thomas Freig), who used it for the first time in 1575, in the "Catalogus locum communium", prefixed to his *Ciceronianus*, in the sixth division ("Arts", the first of which is "Philosophy"), locus 12, including the subdivisions of "Physics" (Meteorology with "Metallica", "Historia plantarum et animalium", "Medicine"). Sir William Hamilton (1859, p. 96 ff.) had already reported this attribution. Hamilton found Freigius's quotation in *Ars sciendi*, attributed to Theophilus Gale, although Thomas Gowan was its real author (1681).

Freigius possibly ignored Marulus' work, which is never quoted in the Ramist texts. And it is quite possible that he reinvented anew the word *psychologia*. Remember that in this period many neologisms were created, often with the root *psyché*: *psychogonia*, *psychomachia*, *psychopedia*, *psychopannichia*, and so on (see Vidal, 2011, p. 26 ff.).

A year later, Freigius (1576) once again put the *psychologia* among the philosophy divisions (in fact, knowledge), as outlined in Figure 1. It should be noted that even here, according to Freigius, psychology is not a part of metaphysics, as many scholars would think, but of physics, according to a more modern interpretation. Notice that until Freigius only the lower parts of the soul (vegetative and sensitive) were considered possible subject matters of the physics, while the intellectual part had to be studied exclusively by metaphysics. This was so in the Aristotelian tradition from Aquinas and Buridan on (cf. Aquinas, 2000; Sobol, 1984).

Demonstration that all of the soul can be a subject matter of the physics can be found in the treatise on physics which Freigius wrote in 1579. Of the 36 books that make it up, the 27<sup>th</sup> is precisely called *De psychologia* (pp. 761-771). Here the reader is faced with an actual scientific treatise on the soul, primarily defined as "nihil aliud principium vitae quam in corpore natural". There are three "differences" in the living, the natural, the sentient, and the intelligent, and three species of soul, which take the name of the differences. It is not clear whether they are different souls or three

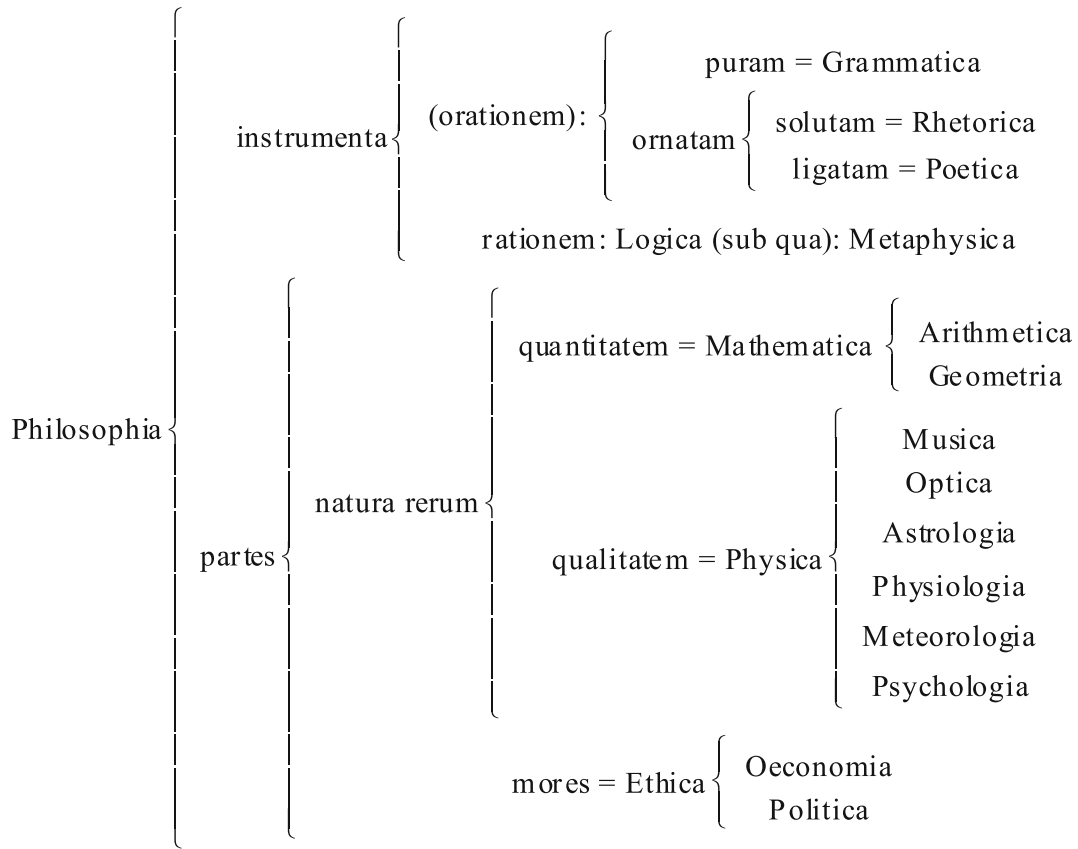


Figure 1. Instruments and parts of philosophy according to Freigius (1576).

“natures” of the same soul. However, Freigius shows the subject, location, and organs of each of these functions.

Thus, in the natural soul (vegetative - pp. 761-765), which is “first of all”, there is a triple faculty: procreative, nursing, and enhancer (Auctrix). There are three functions, namely Reproduction, Nutrition, and Growth. As regards the objects, “Reproductive work is to rise the seed of the species.... Nutritional whole matter is in the food, to whom is directed in depth, and to the substance of the body into which is turned.... Accretion...works...around the solid parts of the body<sup>1</sup>”. As far as the *organ* is concerned, the instrument of the soul is the natural body in its entirety. Finally, the liver is the *site* in animals, and its veins are the channels and ducts.

The *sentient soul* (pp. 765-768), “which presides to the animals”, has faculties with a dual “power, one for knowledge, the other for movement”. The first is either external or internal, and in it there is the ability to see, hear, and so

on. In the latter there is the “power to discriminate, to fixate and to save” and it also dual, both internal and external; “in it there is the power to desire and to live”. This soul, then, has two functions, “cognition or apprehension and motion”. The first function pertains to the external and internal senses. In the case of the first, colours and sounds are perceived through the air by earthly animals which “walk or crawl, but also aquatic ones”. However, there are senses such as taste and touch that require direct contact<sup>2</sup>. “Inner senses are Discretion, Fiction and Memory. Discretion distinguishes between simple indivisible images. Fiction...is directed towards such images, ...from them produces new forms... Memory, excited by the senses, embraces and contains them”<sup>3</sup>. With regard to the other power, Motus, it is also either internal or external. If it is internal, it is Animal or Vital: “The Animal (in Greek ὀρμή or desire) is a movement

2 “qui non nisi sibi coniuncta sentiunt”.

3 Interiore sensus sunt Discretio, Fictio, Memoria. Discretio...simplicia et individua simulachra discernit. Fictio...simulachra illa obvertit:... ex illis quoque novas formas effingit...Memoria, suscepta e sensibus simulachra amplectitur et continet

1 Procreationis opus est stirps surgens semine.... Nutritionis materia tota est in alimento, in quam penitus incumbit & in corporis substantiam convertit.... Accretio...negotiat...circa corporis partes solidas.

and an interior activity, which it is required that is good and useful"<sup>4</sup>. Appetite is threefold, "Natural, Sensitive, Rational...and the vital movement corresponds to the inspiration and the expiration of the heart"<sup>5</sup>. External motion consists of walking, swimming, crawling, and flying. The *object* is made up of "the external things, that are around us", but also of "images (*fantasmata*) imprinted and permanent in the brain to the memory", or objects of greed, and so on and so forth. As far as *organs* are concerned, these are the sense organs, except for the sense of touch, which relies on the entire body. The brain is the *sitè*, where sensory information arrives through the relevant channels, the nerves and the arteries. Thus "the vital spirits from the hearth through the carotides are sent to the cerebral ventricles".

Finally, there is the *intelligent soul* (pp. 769-772). Its faculties are given by the "power of 1. Receiving... 2. Acting... 3. Composing... 4. Judging... 5. Thinking... 6. Contemplating... 8. Working"<sup>6</sup>. The functions are "1. Apprehension... 2. Composition... 3. Estimation... 4. Reasoning... 5. Contemplation... 6. Consultation, prudence, will"<sup>7</sup>. The *subjects* of the intelligent soul "are the images...that are saved by the senses, as understandable and good or bad". The intelligent soul does not have an *organ*.

This discussion is hardly original. There is a clear influence of the Platonic tripartition and a careful reading of Aristotle. In Freigius, contrary to what is the case in Casmann (1594), there is not even an attempt to discuss the views debated at the time between Ramists and anti-Ramists. The importance of the work lies somewhere else, namely in the clear goal to place psychology among the natural sciences.

It is fair to stress that this was not the vision that Ramus had of physics. Ramus was a great supporter of the teaching of physics, together with the other "quadrivium" arts (arithmetic, geometry, and astronomy), that had fallen into neglect. Nevertheless, in his view, in physics there was no room for *psychology* or whichever name could be given to this branch of knowledge (see Ramus, 1565).

### *The diffusion of the term*

Thus, the term psychology began to circulate. In 1582 Noël Taillepied, a Franciscan monk (and a fierce opponent of Ramism), used it as the title of an incredible hodgepodge on

the apparitions of spirits, which, even if taking into account the fact that the thoughts about the comet by Pierre Bayle would have to wait exactly a century, must be considered completely inadequate. Taillepied understood "psychology" as the science of spirits like ghosts, which had nothing to do with the subsequent development of this discipline.

In 1590 the work by Rudolf Göckel (Rodolphus Goclenius) appeared, still indicated by different texts as the source of the term *psychology*. This work is actually a collection of different contributions (Goclenius is the editor), all unified under the title *Psychology*, significantly in Greek despite the text being in Latin. The 12 contributors are distinguished theologians, philosophers, and physicians, including Goclenius himself (pp. 299-302). Except for the long chapter of the Marburger lawyer Hermannus Vultejus (pp. 1-47), which mainly discusses the concept of the soul in Plato's *Timaeus*, the contributions are all theological, with particular attention to the problem of the origin of the soul, and of little interest, therefore, for subsequent developments in the domain.

In 1597, Goclenius published a new edition of this book, with added contributions by Johannes Jacobus Colerus (Johann Jacob Koller); the posthumous ones by Julius Caesar Scaliger (Julius Bordon, pp. 164-165), an Aristotelian suspected of heresy, who, as opposed to Melanchthon, had strongly supported the Aristotelian concept of entelechy; and by Girolamo Savonarola (pp. 166-168), who almost exactly a century earlier (1498) had been "hanged and burned alive" in Piazza della Signoria in Florence (*ferrarensis monachus ornatus martyrdom*, as Goclenius presents him). All three contributions deny that the soul comes from the seed, but claim its origin directly from God.

A year later, two works appeared, hitherto neglected by historians of the discipline, which included the word *psychology* in their titles. The first is of a medical doctor, Johann Ludwig Havenreuter (Johannes Ludovicus Havvenreuterius, 1591), who had already contributed to Goclenius's text (1590, pp. 293-298), including a comment on Aristotle's *De Anima* and a broad debate on possible medical applications. With regard to the second, by Melchior Laubanus (1591), then rector of Brig, unfortunately the author of this article could only see the title, *Psychologia thesibus* (?), probably mutilated. However, given Laubanus's production, mainly of homiletics, as well as poetry, it is easy to imagine that they were religious theses, in the spirit of *Disputationes* (see below).

In 1594 and 1596 these were followed by the work in two volumes by Otto Casmann, Goclenius's pupil, who was perhaps better known for the diffusion of the word *anthropology* (actually invented in 1501 by Magnus Hundt). For Casmann, anthropology is the "doctrina humanæ naturæ" (Casmann, 1590, p. 1). Man is said to be a "μικροκοσμος" ("microcosmos"), a being composed of spirit, the logical and perpetual soul, and an organic body, hypostatically united.

4 Animalis (Græcis ὀρμη seu appetitio) est motus et interior agitatio, qua quod bonum et utile est quaeritur

5 Naturalis, Sentiens, Rationalis... Vitalis motus est cum in cordis inspiratione & expiratione.

6 vis I. Accipiendi...II. Agendi...III. Componendi...IV. Iudicandi...V. Ratiocinatrix...VI. Contemplandi...VIII. Pactica seu agens"

7 "1. Apprehensio...2. Compositio...3. Existimatio...4. Ratiocinatio...5. Contemplatio...6. Consultatio, prudentia, voluntas...7. Memoria & recordatio

Anthropology is divided into *psychologia* and *somatologia*, the first dealing with the soul, the second with the body. The text of 1594 almost exclusively concerns psychology. The first chapter discusses the controversy over the shape of man (pp. 2-21). The second, “De anima hominis”, states that “Psychologia est prior pars Anthropologie, quæ docet naturam humani spiritus seu animæ logicæ per eiusdem facultates” (p. 22). Then, the third chapter addresses the issue of human faculties (pp. 61-88). These introductory chapters are essentially metaphysical and theological discussions - Casmann takes sides with Melancton in the dispute that opposed him to Scaliger (“Aristotelis inflammatus Love” - p. 60), one of the authors whom Goclenius included in the second volume of his *Ψυχολογία* (Psychology), as mentioned above. Nevertheless, the polemic against Scaliger, and generally against an exasperated Aristotelianism, will often recur in the volume (other terms of reference were the Spanish doctor Franciscus Vallesius, but especially the already mentioned James Zabarella - it should also be noted that Zabarella’s comments on Aristotle’s *De Anima* were published posthumously after the publication of Casmann’s book: Zabarella, 1605).

It is from the fourth chapter on that the actual “scientific” discussion of the soul begins. The discussion dwells on the logic faculties of the simple (Casmann, 1594, p. 88 ff.) and compound intellect (p. 109 ff.), the will (p. 129 ff.), the language (“facultas sermocinatrix” (p. 140 ff.), the nursing faculty (hunger and thirst, p. 219 ff.), the enhancer (p. 267 ff.), appetitive and retentive faculties (p. 281 ff.), the sense in general (p. 287 ff.), and finally the special senses (touch, p. 311 ff., taste, p. 320 ff., smell, p. 353 ff., the two “nobler” senses view, p. 325 ff., and hearing, p. 345 ff., the common – internal - sense, p. 359 ff.), fantasy (“vis & imaginatrix fantastica,” p. 371 ff.), memory (p. 373 ff.), appetite (which is “vis movendi”) and its consequences (p. 403 ff.), the affections and their consequences (p. 411 ff.), the motion of the body (“locomotiva & progressio”, p. 422-423), and sleep (and insomnia, p. 423 ff.). There are also long passages related to issues of mainly physiological (and pathophysiological) order, such as generation and conception, the formation of the foetus, birth, digestion, respiration, and the pulse (“micatio”). Due its systematisation, the care with which Casmann verifies and discusses the sources of literature, its effort to anchor the operations of this discipline, Casmann’s text, which is far from being original, should really be considered the founding text of scientific psychology, although it is published well before the revolution that would follow in the next century, the spirit of which would be caught by Christian Wolff (1732).

In 1596, the work of another Ramist, Rudolphus Snellius (Rudolf Snel, 1596b) was published, with a preface by Goclenius, which would exercise an enormous influence within the Ramist field. Here psychology is, according to the combined system of Snellius and Ramus, one of the eight parts into which philosophy is divided. In the same year, Snellius published a critical essay on Melancton’s

*De Anima*, stating that, “librum de Anima esse partem *psychologiæ*, quæ est de corporibus animatis sive viventibus, quæ pars Physicæ, est postrema. Ubi enim Physicam distribuerit in Physicam corporum simplicium & compositorum, illam in Astrologiam & Physiologiam, hanc autem in Meteorologiam & Psychologiam, invenies hunc librum ultimam esse Psychologiæ partem [...] agit enim psychologia de corporibus animatis, stirpibus scilicet animalibus, illæ tantum vivunt, hæc etiam sentunt” (Snellius, 1596a, pp. 3-4). Melancton’s book (Melancton, 1558) was published about forty years earlier. This is a strong philosophical treatise, which begins with a discussion of Plato’s tripartite soul and Aristotle’s concept of entelechy. In Snellius’s book (1596a), however, except for the beginning, there is no trace of the word *psychology*. Unlike Melancton and like many Ramists, Snellius felt the need to systematize knowledge in its various branches, and to assign a defined role to psychology in this systematisation.

A considerable number of contributions were made to this point from then on. In 1600 the Leipzig physicist M. Fabianus Hippus (Fabian Hippe) under the title *Psychologia Physica* expounded the Aristotelian theory, with possible applications to medicine, as Havenreuter (1591) had done before. In 1606 a young Genoese, Fortunio Liceto (Licetus), published his *Psychologia anthropine*, which is basically a new German edition of a text previously published in Genoa, with the addition of the term *psychologia* in the title. Liceto, pioneer of embryology, but keen on the fantastic and monstrous (his most famous work is *De Monstris*, 1665), presented here hypotheses on the origin of the human soul, e.g., if at conception it may be derived from parents, and so on.

Under the title *psychology*, many *Disputationes*, which would be published throughout the seventeenth century, began to appear. Among the earliest, there is the one edited by the Rector of Szczecin and professor in Lübeck Butelius Christophorus (Christoph Butel, 1603), who had already been mentioned in many other *disputationes* (the famous one with Cardanus, 1600, on the soul of man in relation to animals).

In the seventeenth century, the term spread, although it would be almost totally ignored by philosophers that today are regarded as the most important for the study of mental processes, from Descartes to Malebranche and Hobbes and up to Locke. Obviously a complete list of all the contributions that explicitly use the term *psychology* as a label to mark the studies of the soul cannot be provided here. In 1611, Draudius was able to give the first list of references on this term. But it is interesting to note that the general treatises of philosophy, dealing with psychological issues faced by ancient authors, from Aristotle to Cicero, increasingly employed the term *psychology* (e.g., Hornius, 1655).

Attempts have also been made to create pseudo-etymologies or neologisms. Perhaps the most successful can be ascribed to the semi-Ramist Johann Heinrich Alsted (1630, T. II, L. 13, § 5), who, in pneumatology or the science of the mind, distinguished the *psychologia* (science of the soul

as separate from the body) from the *empsychologia* (joint physical science of the soul and the body). Alsted derived the term *empsychologia* (which enjoyed a short but very successful life) from the adjective *εμψυχος*, meaning “that has a soul”, which Aristotle (*De anima*, 413 a21) opposed to *αψυχος*, “inanimate”. The *empsychologia* is therefore a physical science, alongside the study of minerals (*mictologia*), plants (*phytologia*), and animals (*therologia*).

In the seventeenth century and until the appearance of Wolff’s text (see below) the term *psychological* mainly appears in two areas: on the one hand, the philosophical and theological *disputationes*, and on the other, medicine. Regarding the former, due to their representativeness, only three examples will be given here. The first is an essay by Johann von Angelius Werdenhagen (1632), philosopher, politician, and prolific polygraph, on the doctrine of the great mystic Jacob Boehme, that von Werdenhagen supported, attracting many criticisms from the traditionalist circles. In fact, the term *psychology*, to be understood in the theological sense and literally as *science of the soul*, appears here only in the title, and once again, significantly, in Greek.

The second example appeared around the middle of the century, with the spiritualist Ralph Cudworth (1837), who defined psychology *vulgar*, because “the vulgarly received psychology runs thus, that in the rational soul there are two faculties, understanding and will, which understanding hath nothing of will in it, and will nothing of understanding in it. And to these two faculties are attributed the actions of intellection and volition; the understanding, say they, understandeth, and the will willeth.”

The third dates back to the beginning of the 18<sup>th</sup> century. The approach followed by John Broughton (1703), Chaplain of the Duke of Marlborough is different. In this case, the notion of psychology is undoubtedly a positive one: it is the science of the soul, regarded as immaterial and immortal, united with the body for an adequate reason. However, more than half of the long text by Broughton is a harsh polemic directed against William Coward (who is never mentioned, by the way; Estibius Psychalethes, 1702), a sceptical thinker who anticipated a number of materialistic issues, and who argued that believing that a thinking principle could be added to matter, by postponing the problem of immortality after resurrection, was compatible with religion. Coward’s text aroused harsh criticism and was condemned to be burned by the House of Commons in 1704 – which made Coward rejoice for the publicity given to his book, which he hastened to reprint. Locke (1824), too, from whom Coward claimed to have taken inspiration, spoke about the book with disdain (although he used similarly contemptuous words for the *Psychologia* by Broughton<sup>8</sup>).

8 In a letter of 9 July, 1703 to Anthony Collins, Locke wrote about Broughton’s book after reading its fifth paragraph “I think not to trouble myself to look farther into him. He has there argued very weakly against his adversary, but very strongly against himself”.

With regard to medicine, one of the numerous texts known to have been published, mentioned because of the vast impact it had, is the *Discourse* by James (Jacob) de Back, then Professor of medicine at Rotterdam. It appeared in 1653 as an appendix to Harvey’s anatomical exercises. The text was in fact written in 1648, originally in Latin (see Lake, 1966). The text begins with a definition of anthropology, which almost certainly takes Casmann into account (see above). To de Back, anthropology is the general science of man which can be divided into *psychologia*, *somatologia*, and *haematologia*, dealing respectively with soul, body, and blood. The soul is what gives impetus to every vital activity, the body puts pulse into this, and blood is the essential medium for any function. Note that for de Back anthropology is a purely physical science, and should therefore be called *physiological*, and should also include the study of diseases. It should be observed that one of Harvey’s opponents, Jean Riolan Le Jeune, would also resume Casmann’s distinction of anthropology into psychology and somatology (Riolan, 1618, p. 81).

The text is divided into three parts. The first one denies the doctrine of the vital spirits, then dominant in medicine. De Back claims that we should believe only those things that we can see with our eyes or that we can touch, and which are confirmed by reason. But if the spirits, as it was then believed, exist regardless of blood, and are made of substances such as air or mist-thin, who can ever be said to have seen them? Moreover, the examination of vessels shows that they contain only blood. The second part then deals with haematopoiesis, and the third with body heat. In fact, the problem of psychology does not appear again in the rest of the text.

#### *Wolff’s Psychologia empirica*

This is not the case in Wolff’s book (1732), which began with the following definition of this branch of knowledge: “Empirical psychology is the science that establishes the principles with the help of the experience through which one can explain everything that happens in the Soul”<sup>9</sup> (p. 1 – this is the beginning of the *Prolegomena*, of which we have a translation and commentary by Richards, 1980). After that, to define what soul is and how man can acquire knowledge of it, he said: “You must look elsewhere than in ourselves for the proof of our existence, we feel that we think, that we have ideas of things that are out of us, that they exist or not exist... This principle that we perceive as thinking, that has ideas of things that are out of us, is called Soul or Spirit” (p. 2).

One may think that in this Wolff would fit Cartesianism (and Descartes, for that matter, is one of the authors, togeth-

9 *Psychologia empirica est scientia stabilendi principia per experientiam, unde ratio redditur eorum, quae in anima humana fiunt.*

er with Leibniz, whom he very frequently cited), however there are differences (see Blackwell, 1961; for a long series of references on Wolff, see Senn, 1997). First, he wrote: “we are conscious of us and of all the things that are around us and that we experience in each moment”<sup>10</sup> (Wolff, 1732, p. 9). If, for Descartes, we cannot doubt our existence, for Wolff we cannot doubt not only this, but also everything that surrounds us. Among other things, for Wolff the subject is never “ego”, but “nos”: “We exist” (p. 11). But this is the conclusion of a syllogism, where the major premise states that “quodcunque ens sui ipsius aliarumque rerum extra se sibi actu conjunctum est, illud existit”, and the minor one, “Atqui, nos nostri aliarumque rerum extra nos actu nobis conscii sumus”. Ergo, we exist (p. 12).

Interestingly, in a French description of Wolff’s ideas, which had a wide diffusion, and is in many parts almost a literal translation, *Psychologia empirica* has been translated as *experimental psychology* (Anonymous, 1756). And indeed, for Wolff, whose strong scientific background, especially in mathematics, should not be forgotten, and who was well aware of the successes that physics was experiencing, especially with Newton, experimentation, side by side with observation, was the key to physics’ empirical system – but not for psychology. From this point of view, § 456 ff. are of extreme importance: “*Observatio est experientia, quæ versatur circa facta naturæ fine nostra opera contingentia. Experimentum est experientia, quæ versatur circa facta naturæ, quæ non nisi interveniente opera nostra contingunt [...] Ars inveniendi a posteriori veritatem incognitam eruit vel ex observationibus, vel ex experimentis*” (Wolff, 1732, p. 357). Observation is typical of physicists and physicians, but above all of astronomers, and the experiment is typical of physicists, but also of all philosophy, including natural theology (p. 358). If this is the truth found a posteriori, then there is also a way to find it a priori, “for ratiocinia.” The “ars inveniendi a priori”, the *ars inveniendi* par excellence (§ 461), typical of mathematics, is linked with the art a posteriori. As best demonstrated by astronomy, the most complete knowledge can be achieved through this conjunction (p. 358).

Now, empirical psychology is to experience the contents of consciousness, and the principles that govern them. Rational psychology is the science that determines the contents of the soul *a priori*. Together, and only together, both constitute the complete science of man. In the above-mentioned syllogism, it is clear that the major premise comes from rational psychology, the minor from empirical psychology, and both are necessary for a real knowledge of the soul. It should also be noted that, for Wolff, empirical psychology draws its contents from experience, but does so by observing, not by experimenting, the lawfulness of which is not

denied in this field (as Kant would do later), but it is not explicitly stated.

### Conclusion

After Wolff, for a few decades other words were preferred to *psychology*, while the discipline retained its meaning of science of the soul. In German-speaking countries, it was *Seelenlehre* (Krüger, 1756, till Beneke, 1850; after that the term was used mostly, alas!, in the anthroposophical field) or *Seelenkunde* (Moritz, 1782), with an emphasis on experimentation in the first case, and on observation in the second one (see Hatfield, 2002; Sinatra, 2005). It was *science de l’âme* (Bonnet, 1755, 1760; Godart, 1755) in French-speaking countries.

However, after Wolff, with the takeoff of the scientific psychology of the 19<sup>th</sup> century, the soul has been seen by psychologists from three different perspectives: the first approach can be defined “eliminativist”, to use a relatively recent term. It consisted of trying to build the new science by simply getting rid of the concept of soul (“psychology without a soul”, according to Lange’s [1866] well known expression). Herbart (1816) or Lotze (1858), for example, according to the second perspective, tried to save the metaphysical sense of the soul, by reconciling and placing it side by side with scientific conceptions. The third perspective, for example that of Wundt (1863) or Lewes (1877), has maintained the concept of soul, defining it, however, in scientific terms.

However, the use of the term *soul* was banned from the psychological vocabulary at least since Angell’s famous ban, at the meeting of the American Psychological Association in 1911, when the father of functionalism argued that “the term soul has generally been applied to the supposed spiritual essence of human personality which persists after death. As such, it is connected with problems not soluble by ordinary empirical methods. Psychology, as an empirical natural science, has consequently ceased to use it as a familiar part of its terminology” (Angell, 1911, p. 46). This ban has been carefully observed ever since.

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10 Nos esse nostri rerumque aliarum extra nos constitutarum conscios quovis momento experimur.

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