In early modern physiological thinking, analogies between different parts of the body played an essential role in understanding the hidden workings inside the living body. One very old and widely used example of this style of reasoning is the analogy between blood and milk. The aim of this article is to investigate this analogy in two ways: first, by describing how the analogy was embodied in medical practices for dealing with women’s generative capacities. Second, historicisation of the analogy will serve as a guide to understanding changing conceptions of blood and milk formation within the emerging fields of experimental physiology. The epistemic tool of the blood-milk analogy, it will be argued, managed to survive the shift from a humoral to a hydraulic body concept but acquired an interesting new meaning. Within a hydromechanical theory of nutrition, blood came to be more explicitly equated with ‘red milk’, while ‘milk’ was set in a new relation to ‘white chyle’.

Introduction. Body, matter and analogy

‘If we would define or describe what Milk is, it seemeth to be nothing but white blood’, wrote the English physician and naturalist Thomas Moffett (1553–1604) in his dietetic rules for a healthy body.¹ ‘If one examines blood somewhat more closely, one will detect that it is almost nothing but milk […] milk, just slightly coloured’, Dutch physician Cornelis Bontekoe (1647–1685) pointed out in his popular book on Life, Health, Illness and Death from 1685.² Far more than just metaphorical views on two eminent

¹ Moffett Thomas, Healths Improvement. Or, Rules Comprizing and Discovering the Nature, Method, and Manner of Preparing all sorts of food used in this nation, corrected and enlarged by Christopher Bennet (London, Newcomb for Samuel Thomson: 1655) 119–120 (Orig. written ca. 1595).
² ‘Wenn man nun das Blut was näher untersuchet | so wird man befinden | daß es bey nahe schier nichts denn Milch ist […] Milch | ein wenig gefärbet’. Bontekoe Cornelis, Kurtze Abhandlung von dem Menschlichen Leben/ Gesundheit/ Kranckheit und Tod/ In Drey
body substances, these references to milk as ‘white blood’ and to blood as ‘red milk’ were part of a heritage from the ancients that was handed down to modern physiology until the turn of the nineteenth century. Nurtured and fostered through philosophical debates as well as daily routines in medicine and everyday life, comparing the two fluids was a common practice. These two phrases expressed longstanding and widespread assumptions about generative and nutritive processes inside a humoral body.

Historians recently have argued that the ‘humoral body’ was the fundamental conception of the self in the Early Modern period. In the words of Gail Kern Paster, ‘whenever the early modern subject became aware of her or his body [...] the body in question was always a humoral entity’. Yet humoral, as has been shown by these studies, referred not only to the canonical four humours of Galenic physiology: blood, phlegm, yellow bile, and black bile (and, concomitantly, the awareness of the four elements or qualities hot, cold, wet, and dry). The experience of the humoral body included many other fluids. Together with the solid parts they formed a humid and vaporous body, in which organs played a subordinated role.

Placing emphasis on the fluidity of the body had epistemic consequences. Whether the sensory mode of knowing oneself, the definition of health or the medical diagnosis and pharmacological treatment of the sick person, all knowledge patterns and bodily practices were based on the idea that the human constitution could be known from the fluids. Permeability was also observed in the solid parts of the body, which most often were evaluated as fundamental parts of a continuous flow system. Organs as a collection of containers for liquids accomplished the specific task of the delicate balancing of fluids that was indispensable for mental and physical health. With natural evacuations on the one side and artificial manipulations like blood letting, reduced diet, or overindulgence in food on the other, the humoral body constantly changed its shape. The term ‘humoral’ was thus employed with a wide range of meanings. It could signify material states, qualities, or individual dispositions that


4 The practical examination of urine was one of the most important tools of early modern medical diagnosis. Cf. Stolberg M., Die Harnschau. Eine Kultur- und Alltagsgeschichte (Cologne etc.: 2009).