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Humours and their Legacy in Early Buddhist Medicine
Revisiting the Indo-European Foundation of Medical Conceptions in the Pāli Canon

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Résumé de l'article

In this paper, I analyze the Buddhist humoral theory primarily presented in the suttas of the Pāli Canon through a comparative study with other medical theories developed within the Indo-European tradition, specifically Hippocratic and Āyurvedic medicine. The aim is to trace possible historical developments of a humoral conception that originates from an Indo-European duality between fire and water, with these elements serving as the original core of humoral theory. The text therefore offers a detailed examination of the mechanisms of the three humours in the medical theory as articulated in the Pāli Canon, and draws parallels with Āyurveda and, where possible, with Greek medicine. In Hippocratic medicine, the fundamental elements πῦρ and ὕδωρ are possibly recognized as remnants of an ancient Indo-European binary concept, a concept also preserved in Āyurvedic theory through the universal principles of Agni and Soma, which classify the properties of foods and characteristics of diseases. Can we find similar traces of such a classification in Buddhist humours? By exploring this question, we aim to outline in greater depth the role of humors in the Pāli suttas, enriching our understanding of the archaic medical theory that these suttas bear witness to.

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INTRODUCTION

This study presents reflections on humoral theory within Indian medical traditions, specifically examining its treatment in Pāli Buddhist texts. Where possible, I outline comparative lines of inquiry that allow for a broader contextualization and potential explanation of this theory.[1]

Āyurvedic medicine is frequently regarded by some as the epistemological basis for Buddhist medical traditions, while others sustain that early Buddhist sources prove at least that some fundamental medical notions were already in possession of the Buddhist tradition, so much so that the Pāli canon can be considered as the first literary source to attest certain notions later also recognized in Āyurveda,[2] with Tibetan medicine being the most well-known example, often depicted as essentially Āyurvedic medicine adapted to Buddhist needs. However, several elements of the Indian medical tradition appear first in Pāli literature rather than in Āyurvedic texts. Notable examples include the theory of

1 Although the comparative investigation is primarily aimed at proposing a better understanding of similar systems as found in the Pāli texts, the main intent of this paper is to expose some issues inherent in the humoral theory in the Pāli texts and not to propose a definitive genesis of it. This study is part of a broader research initiative focused on the examination of medicine and therapeutic concepts within Pāli Buddhism. Recognizing that medicine plays a fundamental role in various Buddhist traditions of East and Southeast Asia, a previous work explored the potential epistemological foundations or preconditions necessary for the development of medical thought (Divino 2023).

2 Johnston-Saint 1929; Vallauri 1954; Larson 1987; Kitagawa 1989; Zysk 1993*a*; 1995; 1998; Wujastyk 2016; Cerulli 2021; Wujastyk 2022.

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the three humours and certain concepts of disease, particularly those involving humoral imbalances. Although this early attestation by Buddhists does not necessarily prove their authorship, it undoubtedly reflects the profound interest Buddhist thought has shown in medical conceptions since its origins (Chattopadhyaya 1978).

Many scholars acknowledge that Buddhism has demonstrated a distinctive attitude and interest in medicine and therapeutic practices from its inception. In *Asceticism and Healing in Ancient India*, Zysk (1998) dedicates several pages to noting that the Greeks' initial observations of Indian ascetics included their notable medical inclination. Indeed, these Greek testimonies serve as valuable evidence of the relationship between ascetic practices and medical knowledge.[3]

According to Greek sources, the traditions of itinerant ascetics were already well versed in medical arts and remedies (*φάρμακα*), such as ointments (*ἐπίχριστα*) and poultices (*κατάπλασματα*). Additionally, strong evidence suggests that the Greeks, alongside other ascetic traditions, encountered a form of popular Buddhism following the expansion of Alexander the Great. The account of Megasthenes bears witness to this extraordinary encounter (Stoneman 2021). In his *Indica* (Ἰνδικά), Megasthenes mentions several philosophers (*φιλόσοφοι*), dividing them into various categories. The most prominent names are *σαρμᾶνες* (also appearing as *γαρμᾶνες* or *γαρμᾶνας* due to a copying error in Strabo) and *βραχμᾶνες*. Notoriously, the appellation *samaṇa* (Sanskrit: *śramaṇa*) is the term by which Buddhists referred to themselves, and this usage subsequently extended to other ascetic traditions.

Quoting Megasthenes, Strabo identifies two main types of *σαρμᾶνες*: the forest-dwellers (*ὑλοβίοι*), who wore tree-bark garments and abstained from sex and alcohol (*ἀφροδισίων χωρὶς καὶ οἴνου*, in *Γεωγραφικά* 15.1.60), and the physicians (*ἰατρικόί*), who were concerned with the human being (*τὸν ἄνρωπον φιλοσόφους*). These physicians led lives similar to ascetics—frugal but not forest dwelling. They subsisted on rice and barley obtained through alms (begging) and were occasionally hosted by households that welcomed them.

> While the Brahmans live on fruits and abstain from meat, devote many hours to worship, observe silence and fasting, the Samanaioi are described as living in an 'order' (*εἰς τὸ τάγμα ἐγγράφεσθαι*) and living outside the cities in houses and precincts built for them by the king (*οἴκους καὶ τεμένη ὑπὸ τοῦ βασιλέως οἰκοδομηθέντα*); they are summoned to meals by a bell, at which each has his own bowl, and they end their lives by suicide by fire. This all sounds very Buddhist except for the routine use of death by fire.[4]

3 Bronkhorst 1998; 2001; Olivelle 2006; Olson 2015; Aralere 2016; Bronkhorst 2020.

4 Stoneman 2019: 328.

The forest-dwellers, however, are still considered philosophers, as they engaged with rulers through messengers who inquired about the origins of things and offered prayers to the divine on behalf of the rulers (*τοῖς δὲ βασιλεῦσι συνεῖναι δι᾽ ἀγγέλων πυν ανομένοις περὶ τῶν αἰτίων καὶ δι᾽ ἐκείνων εραπεύουσι καὶ λιτανεύουσι τὸ εῖον*, cf. Strabo's *Γεωγραφικά* 15.1.59–60). The medical practice of the ascetic physicians (*ἰατρικόι*) has intrigued scholars, fostering exploration of the connections between Buddhism and the roots of Indian medical thought.[5]

Notably, women were also accepted among the *ἰατρικόι*, although they too abstained from sexual relations (*συμφιλοσοφεῖν δ' ἐνίοις καὶ γυναῖκας ἀπεχομένας καὶ αὐτὰς ἀφροδισίων*). Their primary interest appears to have been *εὐσέβεια*, though Megasthenes' precise meaning is uncertain. However, the Thirteenth Rock Edict from Kandahar, issued by King Aśoka, used the term *εὐσέβεια* to translate *dhamma* (or *dhaṃ-ma* as rendered sometimes in the Brāhmī inscriptions: 𑀥𑀁𑀫),[6] a term of considerable importance in the Buddhist world.[7]

Other Greek mentions of the *samaṇa*s include Clement of Alexandria (in *Στρώματα* 1.15.71, verses 3–5), who refers to them as *σαμαναίοι*, specifically traditions observed among the Bactrians (*σαμαναῖοι βάκτρων*). He also notes that "among the Indians, there are gymnosophists, and other barbarian philosophers" (*ἰνδῶν τε οἱ γυμνοσοφισταί, ἄλλοι γε φιλόσοφοι βάρβαροι*). The term *γυμνοσοφισταί* is thought to refer to Jainists, who to this day have a sect that practices nudity (*digambara*). However, it remains unclear whether the *γυμνοσοφισταί* are part of the *σαμαναίοι* or independent from them.

Certainly, the abandonment of clothing is a clear marker of ascetic behaviour. Another significant passage from Clement of Alexandria is the following: "There are among the Indians those who worship Boútta as a god due to his great sanctity" (*εἰσὶ δὲ τῶν ἰνδῶν οἱ τοῖς βούττα πει όμενοι παραγγέλμασιν. ὃν δι' ὑπερβολὴν σεμνότητος ὡς εὸν τετιμήκασι*, cf. *Στρώματα* 15). This is likely the first mention in Western language of the epithet of the Buddha.

However, there are reasons to believe that the relationships between Indian and Greek medicine extend beyond the cultural exchanges that began with Alexander the Great's conquests; rather, they may date back to earlier parallels that can potentially be explained by common elements in the two philosophical traditions. Specifically, one aspect of Indian medical theory, first documented in Buddhist sources, bears a resemblance to Greek medicine. The chronological question requires clarification of its own. Indeed, while there are some mentions

5 Zysk 1998: 32–33.

6 See for instance, the Topra Kalan pillar, "𑀥𑀁𑀫𑁂 𑀲𑀸𑀥𑀽 𑀓𑀺𑀬𑀁 𑀘𑀼 𑀥𑀁𑀫𑁂 𑀢𑀺 𑀅𑀧𑀸𑀲𑀺𑀦𑀯𑁂 𑀩𑀳𑀼 𑀓𑀬𑀸𑀦𑁂 𑀤𑀬𑀸 𑀤𑀸𑀦𑁂 𑀲𑀘𑁂 𑀲𑁄𑀘𑀬𑁂" (*dhaṃme sādhū kiyaṃ chu dhaṃme ti apāsinave bahu kayāne dayā dāne sache sochaye*): "(to practise) morality is meritorious; but what does morality include? (It includes) few sins, many virtuous deeds, compassion, liberality, truthfulness (and) purity," see Hultzsch 1925: 119–121.

7 Maniscalco 2018.

of the Greeks in the Pāli Canon under the terms *yona*, *yavāna*, or *yonakā*, it must be stated that the stratified nature of the Pāli Canon allows us, with a certain degree of certainty, to recognize these as later insertions. The canon is not a monolithic block, and within it, one can identify elements that are both much earlier and much later than Alexander the Great's arrival in Greece. However, the objection claiming that the medical content, in particular, is of Greek inspiration does not hold for two reasons.

Firstly, the Greeks themselves acknowledge in their accounts that established medical traditions already existed in India at the time of their arrival. Secondly, as already mentioned, the Pāli Canon exhibits stratifications undoubtedly much earlier than the Greeks' arrival. Additionally, the Buddhists' engagement with the Vedic tradition, which is even more archaic, and specifically their use of certain content either metaphorically or even in a citational form from the Vedic tradition, suggests that the antiquity of certain passages in the canon is well defensible.[8]

8 On the specific matter of dating, I have addressed this in a work that also touches on the topic of symbolic language, particularly concerning the imagery of fire and water as it transitions from the Vedic to the Buddhist world (Divino 2024). This has much to say about the medical issues I will address in this paper. Broadly speaking, in that work, I argue that certain sections of the canon can be firmly dated to before the fourth century BCE. An exemplary academic work deserving of attention in this regard has been written by Sujato and Brahmali. In their comprehensive study, one finds an exhaustive compilation of arguments supporting the notion that early Buddhist philosophy can be considered an authentic and original creation. Specifically, regarding the Pāli Canon, the historical authenticity and plausibility of the discourses, as well as the socio-cultural landscape of ancient India in which the Buddha presumably lived, are convincingly demonstrated. This academic effort is remarkable for its thorough documentation of every claim, meticulously referenced through an extensive bibliography. However, there is a significant chronological disparity. Sujato and Brahmali adhere to the so-called "short chronology," placing the Buddha's life in the period 448–368 BCE. This dating faces academic dissent, as two rival chronologies compete for attention: the "extended chronology" (623–543 BCE) and the "revised extended chronology" (or "corrected") (566–486 BCE). Sujato and Brahmali (2014: 13) explicitly endorse the short chronology, apparently for reasons not entirely concealed by caution. While I do not fully agree, we can agree that the foundations of their work are solid. Based on the work of Bechert (1991) and others, another interpretation has also gained credibility, dating the Buddha's birth to around 480 BCE and placing his *parinibbāna* approximately 80 years later, likely just before 400 BCE. Bechert proposed that the historical Buddha lived later than the traditional long chronology accepted by Theravāda countries (see the extended chronology). Bechert's suggestion can be considered as a short chronology based on a critical review of historical and archaeological sources, as well as epigraphic and literary references emerging from the ancient Indian context. This chronology is based, among other things, on the fact that Emperor Aśoka, who ruled the Indian subcontinent in the third century BCE, left edicts that refer to the time elapsed since the Buddha's *parinibbāna*. Alternative interpretations of these edicts, combined with discrepancies among Buddhist tradi-

In an earlier study, I outlined some of the main features of the Buddhist interest in medicine and medical-therapeutic reasoning found in the Pāli canon, contrasting it to the later, more complex conceptions evident in works written in Pāli, such as the *Bhesajjamañjūsā* (BhM).[9] These later texts show clear Āyurvedic influences, although there are significant differences between them. The importance of the BhM lies not only in being the first medical treatise written entirely in Pāli, but also in providing an overview of thirteenth-century Buddhist medical thought. While it is widely acknowledged that the BhM is predominantly influenced by Āyurvedic content, it is also true that Liyanaratne's work to identify its origins remains incomplete.[10]

In this study, I aim to return to the Pāli canon, focusing on questions concerning the possible origins of certain medical conceptions—chief among them, the theory of the three humours. I will revisit some of the claims made by Zysk in his influential works on Indian medicine, where he distinguishes between magical-religious and empirical-rational medicine, dividing the intellectual landscape of India between the Vedic tradition and the Buddhist or proto-Āyurvedic tradition.[11] My hypothesis is that, while there is evidence of a degree of innovation in the Buddhist medical concepts, which cannot be clearly traced to Vedic or Indo-European origins, certain elements traditionally attributed to the "empirical-rational" tradition may have Indo-European roots. This is not intended to entirely deconstruct Zysk's classification, but rather to shed light on a more intricate cultural matrix of influences and reinterpretations in the evolution of medical thought. Specifically, at least two of the three classical humours mentioned in Pāli medicine (*pitta* and *semha*) may trace back to earlier Indo-European conceptions. The third humour, although potentially influenced by external ideas, not being entirely foreign to this tradition.

The medical or proto-medical concepts in the Pāli canon are thus the result of astute innovation, building on ideas already present in the Vedic tradition, which were simply reorganized in a more rigorous form. This view also challenges the notion of an irreconcilable conflict between Buddhism and the Vedic

tions, have led Bechert to consider a short chronology more plausible. In a thoughtful review of the evidence presented by Bechert and the other contributors to these volumes, Cousins (1996) concluded that "we should no doubt speak of a date for the Buddha's Mahāparinibbāna of c. 400 BCE—I choose the round number deliberately to indicate that the margins are rather loose."

9 Divino 2023.

10 Furthermore, given that many studies acknowledge that early Buddhist thought demonstrates an awareness of a developed medical theory in Pāli literature predating the earliest Āyurvedic texts, it would be overly simplistic to regard the *BhM* as merely a translation of Āyurvedic medical concepts into Pāli. Such a view neglects the possibility that pre-existing medical theories, possibly rooted in Buddhist traditions predating Āyurvedic literature, may have shaped the reception of those very Āyurvedic treatises that influenced the *Bhesajjamañjūsā*'s later developments.

11 Zysk 1998: 21.

world, suggesting that this relationship may not be as antagonistic or clear-cut as previously thought. It is possible that Buddhism adapted and built on Vedic ideas for some of its distinctive proto-medical theories, including humoral theory and anatomy.[12]

To further investigate these parallels, I will engage in a comparative textual analysis between the Indian and Greek traditions, seeking to uncover these similarities and reassess the broader relationship between Buddhism and the Indo-European heritage. I would like to point out at this stage that the comparison with Greek medical literature, as well as the comparison with Āyurvedic literature, is purely for the purpose of broadening the potential for understanding Buddhist medical literature, but has no intention of demonstrating one genetic origin rather than another as its main intent. The fundamental purpose of this paper is neither to incontrovertibly prove that there is a discontinuity between the Vedic and Buddhist traditions, nor that all similarities between Buddhist and Greek medical notions should be attributed to a common Indo-European origin. Certainly, given the shared (and undeniable) premises, it is also possible that subsequent similarities arose through a fortuitous case of convergence. What, in my opinion, is not demonstrable—but should be addressed in another paper—is that there is an influence from the Greek world on the Buddhist one, or vice versa.

The hypothesis of convergence stemming from common premises is, in my opinion, the most reasonable. Nevertheless, the main goal of this article is to analyze the humoral theory in the Pāli canon, highlighting possible similarities with other humoral theories in the Āyurvedic or Hippocratic worlds, solely for the purpose of better understanding certain dynamics present in the Pāli canon itself, and not necessarily to demonstrate or assert any relationship of filiation between these texts. Such a relationship, as far as I am concerned, could be coincidental or due to common origins. However, proving this particular aspect is not the intent of the paper, which has a purely comparative value. What it discusses, it does so in relation to the Pāli canon, where, indeed, we can observe a peculiar structuring of humoral theory that should be considered interesting for the historian of medicine, as it can contribute a piece to the study of the history of medical conceptions in India.

1 HUMORS: BETWEEN PHYSIOLOGY AND ONTOLOGY

The theory of humours is a foundational concept of Āyurvedic medicine, but it is also first attested in Buddhist sources. Indeed, the early Buddhist literature "is the first moment in documented Indian history that these medical categories and explanations are combined in a clearly systematic manner".[13] This

12 Zysk 1986.

13 Wujastyk 2016: 38.

early integration of humours with disease etiology and anatomical ideas (Zysk 1998: 34–37) constitutes the most common set of "medical" notions. Furthermore, some references in the Pāli canon explore the relationship between humours and organs, although they are infrequent.

The hypothesis of a possible Indo-European origin for humoral theory was first proposed by Kirfel (1951) and further explored by Wujastyk (2004), later revisited by Köhle (2016) and more recently by Angermeier (2021). All the authors approached the topic differently. In the most recent article, Angermeier does not openly defend an Indo-European hypothesis insofar as the Agni/Soma dualism is reinterpreted as secondary to that of the three humours. My intention is neither to refute nor to adhere to this hypothesis but to see how the Buddhists might have developed their own humoral theory and how it is articulated in the Pāli canon. As we shall see, some humours are clearly identifiable as having a fiery nature, but from a physical perspective, two out of three actually seem to be exclusively fluid-liquid in nature, while *vāta* seems to stand apart.[14] Wujastyk's argument emphasizes the Vedic significance of the figures Agni and Soma. Agni, the deification of fire, holds vast importance in Vedic ritualism, and more broadly within the Indo-European tradition.[15] Soma appears both as a deity and as a term for a sacred beverage, symbolizing the powers of the ancient seers who composed the Vedas as well as the plant from which this beverage is derived. In fact, it is reasonable to assume that the original usage of the term was exclusively for the plant, with its meaning later extended to the beverage.[16] This duality, which already opens up numerous research avenues that I shall attempt to critically examine, points to an important dichotomy between an igneous, fiery power represented by Agni and an aqueous, liquid one symbolized by Soma, suggesting a foundational dichotomous principle underpinning Indo-European ontology. Wujastyk argues that this fire–water dualism could be a basic ontological principle within the Vedic world. Agni and Soma, viewed as universal principles, are not only indicative of particular philosophical-religious

14 The texts therefore prompt us to reflect further on the issue: the idea of an influence of a Vedic and dichotomous conception between Agni and Soma is, in my opinion, not to be entirely discarded, for the reasons expressed in research on the archaic symbolism of Buddhism (Divino 2024), which would find references to the concepts of primordial Water and Fire not only as having a Vedic origin but also as indicative of their reflection on these themes. On the other hand, their humoral theory seems to employ the elements to describe physiological functions, but not the physical natures of the humours, which, as already mentioned, are solely of a liquid or gaseous type. Moreover, it should be added that in Pāli medical theory, the distinction between the function of elements in a physiological context and the intervention of humours is quite peculiar: the two aspects are both distinct and interacting, as we will see later.

15 Shende 1965; W. N. Brown 1968; Varenne 1977.

16 Wasson 1971; Sharma 1996; Thompson 2003; Clark 2017.

notions but also of medical ones. Drawing on Frauwallner's work, Wujastyk suggests that the Agni/Soma dualism could underlie worldviews that Frauwallner identifies as "The Fire Doctrine" and "The Water Doctrine." However, a reading of the Upaniṣads reveals a third concept, a "Doctrine of Breath" (see also Škof 2021). The significance of the Agni/Soma duality as ontological principles has influenced doctrines outside of Buddhism. For example, in Sāṃkhya thought, elements such as the three *guṇa*s—and perhaps even the apparent dualism between *puruṣa* and *prakṛti*—may trace back to this Vedic dichotomy of fire and water.[17] This Vedic duality likely influenced the development of an ontology of fundamental elements (fire and water primarily, with air and earth added later), forming the basis for all worldly phenomena, including—and this is where the medical relevance emerges—the constitution of the body, its physiology, and thus its fundamental functioning. In the case of Sāṃkhya, much has been said about how this primordial ontology would have influenced the construction of the *guṇa* theory.[18] However, the importance of the fire/water duality invites us to reconsider this ontological theory beyond its philosophical implications.

MEDICAL ONTOLOGIES IN COMPARISON

If Wujastyk is correct in considering this a universal principle, we should expect to find this rationale applied in other contexts. However, caution is needed to avoid imposing modern distinctions on these texts. A sharp division between philosophy and medicine is not present in the thinking of these authors, who clearly viewed reflection on the constitution of worldly things—which we might interpret as ontology—as also embodying the principles governing the human body. Let us proceed, then, to examine the elements that support this theory. Wujastyk examines Chapter 42 of the *Suśrutasaṃhitā* (SS), describing the six savours (*rasa*) present in all medicines and foods to the three humours, suggesting that certain tastes increase or decrease specific humours. Notably, bile is described as fiery (*āgneya*), while phlegm is characterized as watery (*saumya*, i.e., derived from Soma). The text also notes that some believe "the Whole natural world (*jagat*) is essentially characterised by fieriness and wateriness, *agni* and *soma*, so the flavours too can be categorised as fiery or watery".[19] Another important connection, which I will return to later, concerns the relationship between the windy humour and *ātman*. The pneumatic nature of the self and the importance of breath or air as an archetype that is used as the base principle of the third humour. Based on the grouping of savours, we also encounter two other principles: "cooling" (*śīta*) and "heating" (*uṣman*), which describe properties

17 Divino 2024: 72–81.

18 Przyluski 1930; Johnston 1937; van Buitenen 1956; 1957*a*,*b*.

19 Wujastyk 2004: 351.

attributable to Soma and Agni, respectively.[20] According to Angermeier (2021), these are also the primary aspects of the primordial humoral duality. As Enache (2019: 194–195) points out, this dualism serves as the foundation of Hippocrates' medical theories for similar reasons. According to the SS 1.42.7 the whole world has a twofold nature: fiery and watery (*agnīṣomīyatvāj jagato*). The text notes the dualistic aspect of this ontology: "*therefore*, the substances are **twofold**, watery and fiery" (*asā* ***dvividhāḥ*** *saumyā āgneyāś ca*). Hippocrates, in Περὶ Διαίτης (1.3), makes use of a similar formula: everything is 'dual' (δυοῖν), and the nature of this duality is constituted by fire (πυρὸς) and water (ὕδατος).

> *kecid āhuḥ agnīṣomīyatvāj jagato asā dvividhāḥ saumyā āgneyāś ca madhuratiktakaṣāyāḥ saumyāḥ*
>
> *kaṭvamlalavaṇā āgneyāḥ tatra madhurāmlalavaṇāḥ snigdhā gauravaś ca, kaṭutiktakaṣāyā rūkṣā laghavaś ca, saumyāḥ, āgneyā uṣmā.*
>
> "Some say that because of the world is of the nature of fieriness and wateriness, so tastes are twofold: watery and fiery.
>
> Sweet, bitter and astringent are watery flavours; pungent, sour and salty are fiery. The watery savours are cooling, the fiery ones are heating".[21]
>
> *συνίσταται μὲν οὖν τὰ ζῷα τά τε ἄλλα πάντα καὶ ὁ ἄνθρωπος ἀπὸ δυοῖν, διαφόροιν μὲν τὴν δύναμιν, συμφόροιν δὲ τὴν χρῆσιν, πυρὸς καὶ ὕδατος.*
>
> "Every living being, including man, is composed of two [elements], fire and water, which differ in power but cooperate in their activity".[22]

The resemblances do not end here (see Table 1). Hippocrates evokes another concept that recurs throughout his medical theory: δύναμις "power, force, ability." Fire and water are "different in power" (διαφόροιν μὲν τὴν δύναμιν), but in their use they "cooperate," or "work **together**" (***συμφόροιν*** δὲ τὴν χρῆσιν). This concept of δύναμις might reveal another similarity with Indian medical doctrine. For instance, speaking of the efficacy of certain drugs, SS 1.40.5 utilizes the term *vīrya* ("potency"). Two distinct kinds of potencies can be discerned, as the nature of the world is dual: watery and fiery (*tac ca vīryaṃ dvividham uṣṇaṃ śītaṃca agnīṣomīyatvāj jagataḥ*). Wujastyk (2004: n. 14) notes the presence of the same *agni*/*soma* dualism in the *Carakasaṃhitā* (CS), associated with the types of fevers, although this structure is not as developed as in the SS.

Another point of convergence can be found in Chapter 1.4 of the aforementioned Περὶ Διαίτης. Just as Indian medicine recognizes that *agni* and *soma* are

20 Wujastyk 2004: 352.

21 Translation in Wujastyk 2004: 351–352.

22 Translation in Enache 2019: 174.

Table 1: Elemental resemblances.

Element, proto-humour	*agni* / *πῦρ*	*soma* / *ὕδωρ*
Properties, qualities and characteristics	Heating (*uṣman*), Hot and dry (*θερμὸν καὶ τὸ ξηρόν*).	Cooling (*śīta*), Cold and moist (*ψυχρὸν καὶ τὸ ὑγρόν*).
Functions	Digestion (*jatharāgni*),[a] dynamization or motion (*δύναται, κινῆσαι*).[b]	Nutritive fluid (*rasa*),[c] energy (*ojas*),[d] Nourishment (*θρέψαι*).

[a] Wujastyk 2004: 359, "digestive fire."
[b] This specific function can also be connected to the windy humour in the Āyurveda, albeit in that system it is seen as a cold humour.
[c] Wujastyk 2004: 355.
[d] Wujastyk 2004: 360.

distinguished by their fundamental properties—heat in the former case and coldness in the latter—Hippocrates adheres to a similar view. He asserts that "of the two [elements], the following [characteristics] are attributed: fire is hot and dry, water is cold and moist" (*τούτων δὲ πρόσκειται ἑκατέρῳ τάδε· τῷ μὲν πυρὶ τὸ θερμὸν καὶ τὸ ξηρόν, τῷ δὲ ὕδατι τὸ ψυχρὸν καὶ τὸ ὑγρόν*). I shall return later to the significance of this classification.

The interpretation offered in the SS regarding this dual nature of all things—particularly with regard to human health and the reasoning that should guide the selection of food and medicine to maintain health—might be construed as a later construction, whereby the authors of the SS sought legitimacy through reference to the Vedic tradition. The two systems seem to converge on similar conclusions because they begin from common premises. Indeed, this appears to be the most plausible hypothesis, given the noted similarities, and it circumvents the contentious issue of dating the SS, a debate in which I do not wish to engage here.

Nevertheless, the hypothesis of a unidirectional influence must also be discarded. This reading, while captivating, recalls Beckwith's interpretation in the late 1970s, when he identified striking similarities between Hippocratic medical ethics and those found in the *rGyud-bZhi*.[23] At the time, Beckwith favoured the hypothesis of direct influence from the Greeks, and there are in fact clear similarities between the two medical systems, particularly, as McGrath emphasizes, regarding medical ethics.[24] However, McGrath argues that this was unlikely,

23 Beckwith 1979.
24 McGrath 2017: 212–224.

seeking to explain these similarities by other means, specifically internal developments within Indo-Tibetan Buddhist medical thought.[25] If shared premises lead to similar conclusions, the most credible hypothesis urges us to seek out the common elements between the two examples I have presented here. The resemblances are not limited to humoral theory, of which more will be said shortly, but also extend to the interpretation of the relationships between humours and health as well as between humours and the environment. Indeed, humours appear to be far from an abstract principle or law governing the functioning of the human organism. Rather, they are concrete elements that contribute to specific functions within the human body, emphasizing the importance of considering the interaction between humours, food, and climate. These two factors—food and temperature—represent yet another similarity between the two medical systems. Hippocrates insists that his perspective should not lead to an understanding of the human being as a mere *σύστασις*, where the intervention of humours contributes to the systemic functioning of a healthy body. Rather, the humours are a *δύναμις*, each pertaining to its specific potentiality.[26] In Hippocratic medicine, these two powers (*τὴν μὲν οὖν δύναμιν αὐτῶν ἔχει ἑκάτερον τοιήνδε*, *Περὶ Διαίτης* 1.3), distributed between fire and water, are articulated as follows:

Fire *τὸ μὲν γὰρ πῦρ δύναται πάντα διὰ παντὸς κινῆσαι* "The capacity to move everything under all circumstances"

Water *τὸ δὲ ὕδωρ πάντα διὰ παντὸς θρέψαι* "The capacity to nourish everything under all circumstances"[27]

Fire and Water may "differ in power," but they are "complementary in action" (*διαφόροιν μὲν τὴν δύναμιν*, *συμφόροιν δὲ τὴν χρῆσιν*). The *Suśrutasaṃhitā* views food as a combination of the five elements and classifies it into four categories (SS 1.14.3). Hippocrates, admittedly, speaks more specifically of nutritive capacity, although it should also be noted that the distinction between "motion" and "nutrition" is quite subtle in the Hippocratic corpus, but not necessarily in the

25 These conclusions were presented by McGrath at the conference "The Healer-King Curing the Three Poisons, while the Master Navigator Overcomes the Nine Misfortunes" (International Conference on Buddhism and Medicine from an Interdisciplinary and Global Historical Perspective), held at the University of Cambridge from August 30 to September 1, 2024, and organized by the GLORISUN Global Buddhist Network. I specifically refer to his presentation on August 31, titled "The Professional Ethics of Buddhist Medicine: Instituting the Bodhisattva Physician in Tibet," for which I also had the opportunity to read the provisional pre-circulated paper. The publication of these materials is presumably forthcoming; however, some of their content can already be found in his previously cited 2017 PhD dissertation.

26 Enache 2019: 176; Schluderer 2018: 33.

27 It must be noted that the idea of nourishment (in Greek *τρέφω*) also conveys a sense of "growth" or "increasement." However, it is unclear if this concept, as it is used by Hippocrates, is comparable to that of *ojas* in Āyurvedic medicine.

Āyurveda where, for example, wind is mostly connected with motion. In the SS, fire is primarily involved in the digestive process.[28] The digestive fire (*tejobhūtaḥ sāraḥ*) transforms food into nutritious fluid (*rasa*). Nevertheless, as the chapter continues, it becomes clear that "in spite of this nutritive essence having been called hot earlier, it is now classed as watery, *saumya* substance".[29] As with Hippocrates, the fire/water distinction does not reflect a sharp dichotomy. After all, distinguishing between dynamic force and nutritive substance is already challenging: Is the latter a coarser substance, while the former is a principle? Whatever the nature of this distinction, it is evident that these two "elements," however they may be termed, still have much to tell us.

The concept of "potency" in Indian medicine is extremely relevant. The passage in SS 1.42.7 we previously examined is almost identical to the one in BhM 2.12–3. This chapter also focuses on potency (*viriya*) in relation to humours and other substances. The text in 2.10 states that *viriya* is eightfold: cold, unctuous, heavy, soft, light, rough, hot, and intense.[30] However, BhM 2.13 remarks that "according to some teachers" (almost the same formulation as in SS 1.42.7: *kecid āhuḥ*...)[31] the real nature of potency is indeed *twofold*:

> *uṇhaṃ sītaṃ dvidhā 'vāññe vadanti viriyaṃ budhā tatth' uṇhaṃ bhamagelañña-sedadāhāsu pācanaṃ taṇhaṃ semhāniladdhaṃsaṃ karoti sisiraṃ pana hilādaṃ jīvanaṃ thambhaṃ rattapittappasādanaṃ*
>
> Some teachers say that potency is twofold: hot and cold. Of [the two of] them, hot [potency] creates giddiness, lassitude, perspiration, burning sensation, quick digestion, abnormal thirst, and the destruction of Water and Air. As for cold [potency], it creates well-being, life force, stiffness, and purification of blood and Fire.[32]

This passage is extremely relevant, as it demonstrates a clear focus on this (alleged) ancient theory. Although Liyanaratne's translation (which I always refer to when I report the BhM) here mentions "Water and Air," the original text in Pāli speaks of *semhāni*, i.e., "bile," in the case of "Water" and of course *pitta* in the case of "Fire." It is therefore necessary to keep in mind Liyanaratne's translation choice on the BhM and always refer to the original. We can be certain that this

28 There are some factors that aid digestive fire. For instance, BhM 6.12 acknowledges that "hot water stimulates digestive fire" (*dīpanaṃ pācanaṃ*...), whereas cold water "destroys illness" and helps against "vomit, fainting, fatigue, giddiness, visceral hæmorrhage, abnormal thirst, fever, poison, burning sensation, and intoxication" (*sīt' ambu hanti gelañña̱ṃ chaddimucchāsamabbhame pittasoṇitataṇh' uṇha-visadāhamadaccaye*, BhM 6.11).

29 Wujastyk 2004: 355.

30 *vadanti viriyaṃ sītaṃ siniddhañ-ca guruṃ muduṃ laghuṃ lūkh' uṇhatikhiṇaṃ tad evaṃ matam aṭṭhadhā*

31 See also Meulenbeld 1987: 10–13.

32 BhM 2.13–14.

section was drawn from Āyurvedic literature, as the author of BhM 2.11 explicitly references Caraka: "Caraka said: if some action is produced [by drugs], all [such actions] are produced by potency. For nothing [i.e., no drug] devoid of potency produces actions" (***carako*** *āha viriyaṃ kiriyā yā karīyati, kiñci nāviriyaṃ īhe sā sabbā viriyāhitā*). Also, the inclusion of "blood" could point towards the SS, where it is often considered the fourth humour. Nonetheless, in the BhM, blood is not counted as such.

2 THE IMPORTANCE OF THE TWO ORIGINAL HUMOURS

The significance of these two archetypes in Hippocratic medicine has not gone unnoticed, with scholars observing that long before Hippocrates these two elements were invoked to articulate humoral theory.[33] This observation suggests the existence of a proto-medical tradition predating Hippocrates, based on two original humours. Wujastyk advances a similar hypothesis for Indian medicine, concluding that "the Indian and Greek two-humour theories may have a common origin, either Indo-European or possibly Indo-Iranian".[34] Given the correlation Indian medicine draws between the two humours, this foundational theory would identify bile (fire) and phlegm (water) as the primordial principles. There are hypotheses regarding the correspondence between these humours and specific physiological functions, which I shall examine further in due course.

Hippocratic medicine identifies four humours, whereas both Buddhist literature and Āyurveda refer to only three (although in Pāli Buddhist literature, bile and phlegm are found in lists from which *vāta* is frequently omitted). The difference in the number of humours can likely be attributed to similar premises leading to analogous, but not necessarily identical, conclusions. Furthermore, Hippocrates identifies two types of bile (*χολή*), one black (*μέλαινα*) and one yellow (*ξανθὴ*).[35] Phlegm (*φλέγμα*) remains singular, but the fourth humour is not wind but rather blood (*αἷμα*). To further complicate matters, blood also appears in Indian humoral lists under the term *śoṇita*, although its inclusion is quite controversial, as noted by Zysk, who also considers its comparability with Greek medicine.[36] For now, we will focus on the points of convergence, setting aside, for the moment, air-wind and blood, which will be addressed later. The possible connection between humoral theory and the medical understanding documented

33 Kirfel 1951; Jouanna 2012; Hankinson 2016; Schluderer 2018; Enache 2019; Mirrione 2021.

34 Wujastyk 2004: 366.

35 Cf. Περὶ Φύσιος Ἀνθρώπου 1.4: "The human body contains within itself blood, phlegm, yellow bile, and black bile; these are the elements that constitute its nature and that generate both health and disease within it" (*τὸ δὲ σῶμα τοῦ ἀνθρώπου ἔχει ἐν ἑωυτῷ αἷμα καὶ φλέγμα καὶ χολὴν ξανθήν τε καὶ μέλαιναν, καὶ ταῦτ ἐστὶν αὐτέῳ ἡ φύσις τοῦ σώματος, καὶ διὰ ταῦτα ἀλγέει καὶ ὑγιαίνει*).

36 Zysk 2021: 10.

in the Pāli canon warrants critical examination. If such a connection exists, it would be evident in the relationships between the humours and the external environment, which is also governed by "elemental" principles. In Āyurvedic literature, the five great elements are explicitly connected to human physiology and also exist in the "external" world, forming a relationship between macrocosm and microcosm.[37] A similar concept can be found in *Majjhimanikāya* (MN) 28, related to the *cattāro mahābhūtāni* and the fact that they can be found 'internally' (in the body, constituting the various parts of it such as fluids and organs) and 'externally.' The analysis of the Pāli canon reveals that this connection was already recognized, although not always explicitly stated, except for certain passages, where it appears to be implicit. The elemental nature of the humours, as well as other "medical" notions in the Pāli canon, would be more comprehensible if contextualized as part of an uninterrupted continuity stemming from the Vedic literature.

BUDDHIST CONCEPTION OF THE HUMOURS

According to BhM 1.19, the humours contribute to sustaining the body by fulfilling a dual role: They promote health when balanced yet become pathogenic when imbalanced. The BhM explicitly refers to these humours as *dosa* (Sanskrit: *doṣa*), while in the Pāli canon, they are mentioned without being identified by a specific name. The verse from BhM 1.19 reads as follows:

> *dosadhātumalā mūlaṃ sadā dehappavattane rogānaṃ pātubhāve ca tesaṃ lakkhaṇam uccate*
>
> The humours, bodily elements, and waste matter are always the root responsible for the maintenance of the body and the emergence of diseases. Here are their characteristics.

This verse can be compared to the model in *Saṃyuttanikāya* (SN) 36.21, which is famously the earliest attestation of humoral theory in Indian texts and has been the subject of various studies.[38] This verse is also mentioned in a very similar manner in other suttas, such as *Aṅguttaranikāya* (AN) 10.60:

> *pittaṃ semhañca vāto ca,*
> *sannipātā utūni ca;*
> *visamaṃ opakkamikaṃ,*
> *kammavipākena aṭṭhami.*

37 Larson 1987: 248.

38 Zysk 1998; Wujastyk 2016; Salguero 2017; Zysk 2021; Salguero 2022*a*,*b*.

> Bile, phlegm, and wind, their colligation, and the weather, neglect of oneself, overexertion,[39] and the consequence of kamma is the eighth [cause].[40]
>
> *pittasamuṭṭhānā ābādhā semhasamuṭṭhānā ābādhā vātasamuṭṭhānā ābādhā sannipātikā ābādhā utupariṇāmajā ābādhā visamaparihārajā ābādhā opakkamikā ābādhā kammavipākajā ābādhā sītaṃ uṇhaṃ jighacchā pipāsā uccāro passāvo.*
>
> Afflictions arising from disorders of bile, phlegm, wind, or their colligation. Afflictions caused by changes in the weather, by neglect of oneself, by overexertion, or as a result of past actions. Cold, heat, hunger, thirst, defecation, and urination.[41]

As can be observed, these two suttas are very similar. Both discuss the onset of pathological conditions, but while SN 36.21 speaks of *samuṭṭhānā* (origins), AN 10.60 explicitly mentions *ābādhā*, a synonym for *roga* (disease), although with the specific connotation of disorder. In the preceding verses, AN 10.60 lists a series of diseases marked by the suffix *-roga* (*cakkhurogo, sotarogo, ghānarogo, jivhārogo, kāyarogo*…), thus confirming the context in which humoral pathogenicity is referenced. It is also worth noting the similarity between these two suttas regarding the multiple causes of illness, not only related to the humours, which compels us to consider their resemblance to BhM 1.19. As mentioned earlier, this formula is fairly popular, repeated in other suttas such as AN 4.87 and 5.104. BhM 18.2 acknowledges that disease can be defined as the "unbalance of the humours," although this definition is clearly translated from the *Aṣṭāṅgahṛdayasaṃhitā*, as Liyanaratne (BhM: 313) notes. However, a similar statement based on the same principle appears in BhM 1.90: "Balanced humours help the maintenance of the body; those which are unbalanced create affliction" (*pavattiyā ye vapuno samā tut e yeva dosā visamā vadhāya*…). Thus there are diseases caused by

39 For the terms *visama* and *opakkamika* I referred to the PTS dictionary: "unevenness, badness, misconduct, disagreeableness" in the case of *visama* (p. 639 & p. 98 vol. VIII), and "characterising a sensation of pain: attacking suddenly, spasmodic, acute" (p. 167 & p. 168 vol. II) for *opakkamika*. However, I consider the latter as "self-induced" pain, thus over-exertion, because of its derivation from *upa*+$\sqrt{}$*kam*. This is also the translational choice of Sujato (2018: 227). However, I acknowledge that this could be interpreted also as any kind of pain induced by violence, including external "assaults" (see translation of SN 36.21 in Bodhi 2000: 1279 – he also uses "carelessness" to translate *visama*). Nonetheless, I advocate for Sujato's translation as I believe that in this specific case the text is talking precisely about overexertion, in combination with *visama* or self-neglect, the pair would be talking about problems linked to an incorrect use of certain behaviours, and would therefore precede in this sense even more logically the last motivation which is *kamma*.

40 SN 36.21.

41 AN 10.60.

an increase (*vuddhe hi*..., 1.91) in humours as well as by their union or colligation (*saṃsaggasannipātesu*..., 1.113), and therapies should be administered accordingly. Depending on the preponderance of each humour in the body, different temperaments can be recognized (1.126–137). The peculiarity of these suttas is, of course, the presence of colligation (*sannipātikā*), which is an important "technical" medical term.[42] Moreover, elements related to environmental factors, such as climatic variations, temperature fluctuations, and nutritional imbalances (extreme hunger or thirst), also relate to clinical concerns. The similarity of this verse with BhM 1.19 in this regard is interesting, although the verse uses more general expressions, such as *dosadhātumalā mūlaṃ sadā dehappavattane*. Another specific discourse in which the Buddha elaborates the theory of the three humours is found in AN 10.108. There are, however, numerous other suttas in which the humours are mentioned, although not always all three of them. I shall therefore proceed with as systematic an analysis of these suttas as possible, which may still conceal valuable insights on the subject. Upon revisiting AN 10.108, several fundamental points concerning the medical conception emerge. First and foremost, this discourse pertains to physicians (*tikicchakā*), a detail that should already signal a technical orientation toward the medical profession. The physician as a technician, an expert in diseases, is a theme I have discussed on other occasions and will revisit here in relation to the figure of the ascetic in early Buddhism.[43] Later, I will address the reasons behind this articulation of a figure, which may or may not be linked to the role of the ascetic. In the sutta, the Buddha unequivocally acknowledges the legitimacy of this role as well as the legitimacy of medicines, in this case purgatives, which physicians use to combat illnesses (*atthetaṃ*... *virecanaṃ 'netaṃ natthī'ti vadāmi*). He also acknowledges the "superiority" of noble medicine (*ariyaṃ virecanaṃ*), which has the advantage of being infallible (*yaṃ virecanaṃ sampajjatiyeva no vipajjati*). Many of the therapeutic metaphors in early Buddhism are constructed around the conceptual framework of the infallibility of the Buddha's "medicine," which is, of course, his doctrine. Medicine is employed primarily in a symbolic way: The condition of dukkha is an existential malaise, likened to a disease, just as the four noble truths are likened to a therapeutic path, and the Buddha to a physician. Beyond the metaphors, these discourses also provide an opportunity to reconstruct part of the figure of the physician that the authors had in mind. The therapy provided by physicians is valid but not infallible. Medicines "sometimes work, sometimes fail" (*virecanaṃ sampajjatipi vipajjatipi*). What do these medicines treat? There are eight fundamental causes of disease, referred to as *ābādhānaṃ* ("afflictions," "troubles," "diseases," "sicknesses," "illnesses"), which can be clearly grouped into two sets of four, presented at the conclusion

42 Wujastyk 2016: 38.

43 Divino 2022.

of the well-known sutta in SN 36.21. The first group, humour-related diseases, involves "disorders of bile, phlegm, and wind" (*pittasamuṭṭhānānampi... semhasamuṭṭhānānampi... vātasamuṭṭhānānampi ābādhānaṃ paṭighātāya*), the three humours presented here, along with a fourth cause, colligation (*sannipātā*). The use of such technical terminology "suggests that he was consciously referring to a form of medicine that had a theoretical underpinning".[44] Specifically, *sannipātā* is a humoral condition that is also mentioned in Āyurvedic treatises. Of the four non-humoral conditions—which, I would hypothesize, still influence the humours for reasons I will explain shortly—we find a list that, lacking context, could seem purely Hippocratic: weather (*utūni*), self-neglect (*visamaṃ*, a term which also evokes disharmony or imbalance), excess (*opakkamikaṃ*, a term more technically related to self-inflicted pain or violence, trauma of exogenous origin), and finally, *kamma*. The last category appears more distinctly Indian in nature. However, the acknowledgement of the validity of these eight causes of disease is also found in this sutta, when the Buddha addresses Sīvaka, noting that "in the world" (*lokassapi kho*) these notions are "considered to be true" (*saccasammataṃ*). In AN 5.104, the finest ascetics are described as being in good health and not suffering from the aforementioned conditions (the eight causes of illness). These lists are repeated on numerous occasions, such as in AN 4.87, whereas in other texts, like AN 10.108, only the three humours are mentioned as causes of illness, and they are used metaphorically to describe an affliction from which one must be "purged." An example of this metaphor is "For one with right knowledge, wrong knowledge is purged" (*sammāñāṇissa... micchāñāṇaṃ virittaṃ hoti*). A similar metaphor appears in the discourse on emetics (AN 10.109), referring to the emetic effect of medicine. As in the previous case, what is erroneous is "vomited" due to the beneficial effect of the Buddha's "philosophical medicine" (*micchāñāṇaṃ vantaṃ hoti*).[45] In the Greek context, the three humours each have a distinct categorical identity, as indicated by the term *χυμός* ("juice," or also "flavour" or "sap"). In the Pāli canon, however, the humours are merely listed, never explicitly referred to as "humours." In fact, their classification may differ. The term *dosa* (Sanskrit: *doṣa*) does not appear in the Pāli canon but is a clear retroformation from Sanskrit. In Āyurvedic texts, *dosa* describe the humours, and it is re-employed in Pāli in treatises evidently influenced by Āyurveda (e.g., BhM). The term *doṣa* can be traced to the Proto-Indo-European root **deu̯-*, with a reconstructed meaning of "to fall" or "to lag." Hence, it can be connected to the Old English *tȳrian* or *tēorian* (modern "tire") as well as the Greek δεύομαι ("to lack").[46]

Although the term *dosa* is used in Pāli in other contexts, it is a case of homophony. One should not confuse the humoral *dosa* (< *doṣa*) with the *dosa* that

44 Wujastyk 2016: 38.

45 More literally, "wrong knowledge is vomited."

46 See EDG: 322, sub δέω.

pertains to the system of the *akusala-mūla* (< *dvéṣa*, "hatred"). Thus, the Buddha never speaks in the sutta about "diseases caused by the three humours" nor does he mention "humours" in general, instead referring to "diseases caused by bile, phlegm, and wind." Interestingly, even in Greek thought, humours were not strictly indicated by the term χυμός and may have had alternative designations. Greek humoral theory has recently been traced to a possible elemental origin. Hankinson highlights the similarities between the elements of classical theory and the qualities associated with the four humours: hot, cold, wet, and dry.[47] Wujastyk hypothesizes that this same dichotomy is an organizing principle in the Ṛgvedic cosmology.[48] Among Greek thinkers, it was common to attempt to identify an elemental *ἀρχή* as the first principle, from which others derive. In Thales, it is water; in Heraclitus, it is fire; and the order of succession differs depending on which element is posited as the *ἀρχή*, the most significant principle. However, the elements discussed are always the same: fire, water, air, and earth. Even in a theory such as that of Anaximander, which abstracts the first principle into an undefined (*ἄπειρον*), the elements of nature still play a determining role in shaping the phenomenology of worldly things.[49] The correlation between humours and external factors such as heat, cold, or humidity seems self-evident, yet Hippocratic medicine presents an empirical observation of the phenomenon. In and of itself, variation in temperature is insufficient to affect a person's health. Rather, a range of factors must influence the humours, which, in themselves, are nothing more than "substances whose properties are empirically detectable, generally as types of flavour".[50] Within this framework, correlations can be observed as the humours respond to specific conditions that stimulate them, such as temperature or diet. These factors, which carry humours themselves, are digested and subsequently influence the balance of those already present in the body. For example, in the first book of the Περί Παθών, several interesting points are made. First, it is noted that all diseases "arise from bile and phlegm," with no mention of any other humour. The onset of such diseases is due to the imbalance of these two humours alone. Various types of imbalances are described, including those caused by excessive moisture, excessive dryness, excessive heat, or excessive cold. As noted, food contributes to this alteration and should therefore be carefully considered, as should physical exertion, wounds, odors, sounds, sight, and sexual activity. These, along heat and cold, when "applied to the body at the wrong time, in the wrong manner, in excessive or insufficient amounts, or with excessive force or weakness, can cause problems."[51]

47 Hankinson 2016: 22.
48 Wujastyk 2016: 40.
49 Stella and Divino 2023.
50 Hankinson 2016: 24.
51 *ταῦτ' οὖν ἐπίσταιτο ἄν τις μάλιστα εἰδὼς καὶ ἐπιηδεύων τάδε· νοσήματα τοῖσιν ἀνθρώποις ἅπαντα γίνεται ὑπὸ χολῆς καὶ φλέγματος· ἡ δὲ χολὴ καὶ τὸ φλέγμα τὰς νούσους παρέχει ὅταν ἐν τῷ σώματι ὑπερυγραίνηται ἢ ὑπερ-*

At this point, I will analyze a couple of suttas that may offer an alternative perspective on the issue. These references are relatively sporadic, so we cannot assert with certainty that they reflect a systematic doctrine. Nonetheless, they remain significant for two main reasons: First, they provide evidence of an "organic" nature attributed to two particular humours, bile and phlegm; second, they suggest the possibility of a close correlation between humours, foods, and specific body parts, within a network of relationships that hints at a more comprehensive theory—although only indirectly attested in the canon.

BILE AND PHLEGM IN THE (BUDDHIST) BODY

Regarding the "organic" nature of bile and phlegm, the hypothesis is that the canon already presents an explicit correlation between bile and gastric juices as well as between phlegm and the mucous membranes. Both of these humours appear in lists of bodily fluids, and in other suttas, it is explicitly stated that bile and phlegm can be vomited, as occurs with gastric juices or expectorated mucus in cases of illness. I will show these occurrences below. In AN 10.60, we find an exemplary case where humours are mentioned as a group of three in the context of bodily afflictions (*bahudukkho kho ayaṃ kāyo bahuādīnavo... kāye vividhā ābādhā uppajjanti*). However, slightly earlier in the same discourse, where bile and phlegm appear alongside wind and colligation as causes of the body's vulnerabilities, a series of body parts is enumerated. These parts are organized by categories, seemingly progressing from the most to the least solid. The list begins with hair, nails, teeth, and bones and concludes with synovial fluid and urine. Within the group of elements that are incontestably liquid or of a semi-fluid nature, we find bile and phlegm.

> *katamā cānanda, asubhasaññā? idhānanda, bhikkhu imameva kāyaṃ uddhaṃ pādatalā adho kesamatthakā tacapariyantaṃ pūraṃ nānāppakārassa asucino paccavekkhati: 'atthi imasmiṃ kāye kesā lomā nakhā dantā taco, maṃsaṃ nhāru aṭṭhi aṭṭhimiñjaṃ vakkaṃ, hadayaṃ yakanaṃ kilomakaṃ pihakaṃ papphāsaṃ, antaṃ antaguṇaṃ udariyaṃ karīsaṃ,* ***pittaṃ semhaṃ*** *pubbo lohitaṃ sedo medo, assu vasā kheḷo siṅghāṇikā lasikā muttan'ti.*
>
> What, then, O Ānanda, is the perception of ugliness? It arises when a mendicant examines their own body, from the soles of the feet upward to the tip of the hair, enclosed in skin and filled with all manner of impurities. The body contains hair, body hair, nails, teeth,

ξηραίνηται ἢ ὑπερθερμαίνηται ἢ ὑπερψύχηται· πάσχει δὲ ταῦτα τὸ φλέγμα καὶ ἡ χολὴ καὶ ἀπὸ σίτων καὶ ποτῶν, καὶ ἀπὸ πόνων καὶ τρωμάτων, καὶ ἀπὸ ὀσμῆς καὶ ἀκοῆς καὶ ὄψιος καὶ λαγνείης, καὶ ἀπὸ τοῦ θερμοῦ τε καὶ ψυχροῦ· πάσχει δέ, ὅταν τούτων ἕκαστα τῶν εἰρημένων ἢ μὴ ἐν τῷ δέοντι προσφέρηται τῷ σώματι, ἢ μὴ τὰ εἰωθότα, ἢ πλείω τε καὶ ἰσχυρότερα, ἢ ἐλάσσω τε καὶ ἀσθενέστερα·

> skin, flesh, sinews, bones, bone marrow, kidneys, heart, liver, diaphragm, spleen, lungs, intestines, mesentery, undigested food, excrement, **bile**, **phlegm**, pus, blood, sweat, fat, tears, grease, saliva, snot, synovial fluid, and urine.
>
> *cakkhurogo sotarogo ghānarogo jivhārogo kāyarogo sīsarogo kaṇṇarogo mukharogo dantarogo oṭṭharogo kāso sāso pināso ḍāho jaro kucchirogo mucchā pakkhandikā sūlā visūcikā kuṭṭhaṃ gaṇḍo kilāso soso apamāro daddu kaṇḍu kacchu nakhasā vitacchikā lohitaṃ pittaṃ madhumeho aṃsā piḷakā bhagandalā* ***pittasamuṭṭhānā ābādhā semhasamuṭṭhānā ābādhā vātasamuṭṭhānā ābādhā sannipātikā ābādhā*** *utupariṇāmajā ābādhā visamaparihārajā ābādhā opakkamikā ābādhā kammavipākajā ābādhā sītaṃ uṇhaṃ jighacchā pipāsā uccāro passāvo'ti.*
>
> Diseases of the eye, inner ear, nose, tongue, body, head, outer ear, mouth, teeth, and lips. Cough, asthma, catarrh, inflammation, fever, stomach ache, fainting, dysentery, gastric pain, cholera, leprosy, boils, eczema, tuberculosis, epilepsy, herpes, itch, scabs, smallpox, scabies, hemorrhage, diabetes, piles, pimples, and ulcers. **Afflictions stemming from disorders of bile**, **phlegm**, **wind**, **or their colligation**. Afflictions caused by change in weather, by not taking care of yourself, by overexertion, or as the result of past deeds. Cold, heat, hunger, thirst, defecation, and urination'

More precisely, bile and phlegm appear immediately after excrement in the list of bodily impurities, followed by pus, blood, and other fluidic elements. Thus, while bile and phlegm may not be explicitly described as fluids, there is also no indication that they are solids; rather, they occupy an ambiguous position, situated in the list between excrement and pus. We might hypothesize that they represent a middle ground between solid and fluid. If, however, we momentarily set aside the translations of *pittaṃ* as "bile" and *semhaṃ* as "phlegm" and seek to understand what these terms may signify in this context, the most plausible hypothesis is that they refer to mucus or some substance intended to liquify the ingested food. In the list, *pitta* appears after undigested food and excrement, suggesting that it is likely related to digestion. Gastric secretions are produced by the mucous membranes lining the stomach and are involved in the digestive process. From an initially empirical medical perspective, one would most often encounter gastric secretions that are bile-like in cases of regurgitation, likely as a result of digestive problems or food poisoning. Thus, it is reasonable for bile to be placed in the same category as partially digested food and digestive waste products. As for phlegm, it likely shares a similarly mucous-like nature, akin to sputum, snot, or expectorated matter, given that, like bile, phlegm can be expelled through vomiting. In *Suttanipāta* (SNP) 1.11, which includes a list similar to the one men-

tioned above, we find the following statement: "the mouth sometimes vomits bile, sometimes phlegm" (*mukhena vamatekadā; pittaṃ semhañca vamati*). This is presented within the broader context of a meditation practice aimed at deconstructing the body through reflection on its impurities. The body is dissected and examined with a highly clinical and precise gaze. According to Zysk, it is possible that such detailed anatomical knowledge might have come from Vedic inspection of body parts of sacrificed cadavers.

> The most impressive aspect of the earliest phase of anatomical knowledge is the precision with which the lists of anatomical terms were recorded. The technique required a scientific accuracy during the execution of a fastidiously controlled religious rite. In this respect, therefore, science and religion of this early period were more closely allied than in later years. The technique further illustrates the very beginnings of scientific thought in India as exemplified in the penchant for enumeration and classification, to be formalised later in the philosophical system of Sāṃkhya (literally, "enumeration").[52]

If Buddhism is also part of this cultural heritage, it would explain why numerous suttas focus on the dissection of the body and propose meditative exercises listing all its various components (often including humours). For now, what is of interest is that SNP 1.11 also seems to exclude *vāta* from the components of the body. Furthermore, in the enumeration of organs and bodily fluids, bile and phlegm are grouped in specific locations, again suggesting their mucous-like nature. The body is not "seen as it is" (*yathābhūtaṃ na dissati*), and this meditative exercise seeks to dismantle ingrained cognitive habits, propelling the meditator into a self-image they do not ordinarily hold—one that is both disorienting and unsettling. The reason for this concealment of the body's true nature lies in its covering of flesh and skin (*tacamaṃsāvalepano, chaviyā kāyo paṭicchanno*), while its internal structure is held together by bones and sinews (*aṭṭhinahārusaṃyutto*). After describing these outer tissues (notably, there is no mention of musculature), at least three groups of internal elements are listed. The sequence appears to progress from more solid structures (organs, viscera, etc.) to fluid substances.

(1) Organs, containers of mucous and other fluids

antapūro udarapūro,
yakanapeḷassa vatthino;
hadayassa papphāsassa,
vakkassa pihakassa ca

52 Zysk 1986: 697.

It is full of intestines and stomach,
liver and bladder,
heart and lungs,
kidneys and spleen.

(2) **Adipose tissue and mucous membranes**

siṅghāṇikāya kheḷassa
sedassa ca medassa ca;
lohitassa lasikāya;
pittassa *ca vasāya ca*.
Nasal mucus and saliva,
sweat and fat,
blood and synovial fluid,
bile and grease.

(3) **Actual bodily fluids**

athassa navahi sotehi,
asucī savati sabbadā;
akkhimhā akkhigūthako,
kaṇṇamhā kaṇṇagūthako,
siṅghāṇikā ca nāsato
mukhena vamatekadā;
pittaṃ semhañca *vamati*,
kāyamhā sedajallikā.
Then, through nine streams,
impurity constantly flows.
Rheum from the eyes,
cerumen from the ears,
snot from the nostrils,
and the mouth sometimes vomits
bile and phlegm,
while sweat and other wastes ooze from the body.

The first group in the list refers to the coarser organs. Specifically, Buddhists seem inclined to mention those capable of "containing" something. The intestines and stomach, as is well known, play a role in the digestive process and are therefore "containers" of food in various stages of its assimilation. Technically, the liver is an extramural amphicrine gland, responsible for both endocrine and exocrine secretion within the abdominal cavity, located beneath the diaphragm. As the largest gland in the human body, it has diverse roles, including glycogen storage and plasma protein synthesis. There is reason to suspect that this organ was historically perceived as a producer or reservoir of blood, which, when removed from the body, secretes blood in large quantities—likely due to its role in purifying blood of xenobiotic substances. This function involves the secretion of

bile by hepatocytes. Here, I refer to bile in the context of Western biomedicine (also known as gall), and not the Buddhist concept of bile (*pitta*), which I suspect corresponds more closely to gastric juices or a similar substance. The bladder, listed after the liver, serves as the container of urine. The heart is responsible for blood circulation, and it is plausible that it was also perceived as a reservoir of blood, akin to the liver. However, I would not rule out the possibility that it was viewed as a container for *citta* or other psychic elements, given that this conception is present in Āyurvedic conceptions.[53] The lungs are likely understood as containers of air, although air is not explicitly mentioned in the sutta. Alternatively, we can also refer to other Āyurvedic conceptions that consider the lungs to fill with water after death, thus pointing towards their connection with this element.[54] The kidneys and spleen may serve analogous water/fluid-related functions, for example in connection with blood. In the second group, we have listed elements that could be associated with the mucous membranes and adipose tissue. *Siṅghāṇikāya* clearly refers to nasal mucus, while the term *kheḷa* (< *kṣveḍa*) is commonly used to denote saliva, literally meaning "spit." The Sanskrit word *kṣveḍa* is often employed to signify poison, although this is a later development. The PTS dictionary entry for *kheḷa* (p. 239 & p. 67 vol. I, ed. 1921) indicates that it is comparable to *śleṣma*, that is, phlegm. Its meanings include: "phlegm, saliva, foam; usually with *siṅghānikā*, mucus, sometimes in the sense of perspiration, sweat." Thus, not only the term specifically used for phlegm (*semha*) but also other synonymous terms fluctuate in meaning between mucus, sweat, and saliva, ultimately suggesting a general sense of glandular secretion (mucous, salivary, or sweat-producing). The term *seda* refers to sweat and is etymologically identical to other Indo-European terms used to denote sweat (cf. Sanskrit *svid, sveda*, Avestan *xvaēδa*, Greek *ἱδρώς*, and Latin *sūdor*).[55] These suttas also employs other terms that appear to be synonyms: Both *meda* and *vasā* refer to "fat," although it is worth considering whether they denote different types of

53 See CS, Sūtrasthāna 30.3–4: "ten great vessels originate in the heart and are considered fundamental," several synonyms for 'heart' are given by the scholars, suchlike *artha* and *hṛdaya*. In the heart are located the six divisions of the body (four limbs, head, and torso), internal organs, **consciousness**, motor and sensory organs, five objects of sensory perceptions, the **soul**, **mind** and the objects of **mind** (*arthe daśa mahāmūlāḥ samāsaktā mahāphalāḥ, mahaccārthaśca hṛdayaṃ paryāyairucyate budhaiḥ; ṣaḍaṅgamaṅgaṃ **vijñāna**mindriyāṇyarthapañcakam, **ātmā** ca saguṇaś**cetaś**cintyaṃ ca hṛdi saṃśritam*). When they use the expression "located in the heart," what they mean is that the heart is the coordinator of these functions, and thus they are dependent on the functioning of the heart. In verse 30.4 the term *cetas* is used to describe the mind that resides in the heart. *Cetas* is often considered synonymous with *citta*, although it has different nuances in the Āyurvedic and philosophical contexts. Here the emphasis is on the heart as the seat of *cetas*, or thought and consciousness.

54 Meulenbeld 1974: 457–458.

55 PTS p. 723 & p. 182 vol. VII ed. 1921; EDPG p. 494; EDL p. 596; EDG pp. 578–9.

body fat. The PTS provides the following note for *meda*: "thick or coagulated fluid or gelatine" (p. 541 & p. 165 vol. VI). The term *vasā* likely refers to grease or oil, associated with lubrication, potentially aligning it with synovial fluid, although the intention of this specific sutta is unclear.[56] The PTS notes (p. 605 & p. 63 vol. VII) refer to "fat, tallow, grease." Synovial fluid and fat are connected, yet at the end of the second list, we also find *pitta* (bile). The term *pitta* reappears alongside phlegm in the context of substances that the mouth may vomit, but it is curious that phlegm is absent from the list of body components. This could be because phlegm is, in fact, present in the form of *kheḷa*, a potential synonym, although this idea may be refuted by the fact that *semha* appears later with its own specific term. We do not know the precise conception of *pitta* and *semha*, nor why only *pitta* appears in this list, but from this analysis, it seems evident that these two terms were understood as mucous-like substances, part of the "bodily fluids" secreted by glands. The sutta then speaks of "nine channels" or "streams" (*navahi sota*) through which fluid elements flow and which are also considered impure substances (*asucī*). However, the text does not specifically list nine fluids or channels but rather eight: two eyes, two ears, two nostrils, one mouth, and the body. It is unclear what the ninth channel refers to unless it concerns the skull mentioned later, the seat of the brain, which might lead us to consider the brain as a liquid in this context. In the Āyurveda, the brain is indeed conceived as liquid (see CS 4.7.15). It should be noted that these fluids are not always in a purely liquid state. For example, earwax frequently appears in a semi-solid form, although one of its primary functions is lubricating the internal skin of the auditory tract. The most intriguing point, as mentioned earlier, is that bile and phlegm, here mentioned together, can be **vomited** (*pittaṃ semhañca **vamati***). This confirms unequivocally that whatever these two humours may have indicated, they were conceived as 'liquids' (with all the nuances implied, not simply pure water), capable of being vomited. This strengthens the hypothesis of gastric juices for bile and a mucous nature for phlegm.[57]

56 In Āyurveda the term is usually the fat contained in the flesh. Ḍalhaṇa (on SS 2.6.14) describes it as *māṃsasneha*.

57 In the BhM, it is evident that the majority of the content is predominantly influenced by Āyurvedic traditions, yet this does not diminish our interest in it. For instance, the three humours are listed and classified in BhM 1.20 and further elaborated on in 1.22–4. Moreover, the liquid nature of *pitta* is acknowledged, which should, therefore, reduce the perceived exceptionality of the *suttas* that describe this humour as liquid. Indeed, although the BhM characterizes *pitta* as liquid, this does not make it any less fiery; on the contrary, its fiery attributes are clearly recognized: "air is very rough, light, cold, delicate, mobile. Fire is sharp, hot, acid, pungent, and **fluid**. Water is salty, cold, heavy, and viscid" (*atilūkho lahu sīto sukhumo capalo 'nilo pittaṃ tikhiṇam uṇhañ ca ambilaṃ kaṭukaṃ **saraṃ** madhuro lavaṇo sīto kapho guru ca picchilo*, 1.22), but "the fire element known as the digestive agent helps the other fires, too, which are at the same place [in between the intestine and the stomach] by giving them force" (*tatr'aṭṭham eva pittānaṃ sesānam pi anuggahaṃ karoti baladānena pācakan nāma taṃ mataṃ*, 1.37).

RELATION BETWEEN HUMORS AND SUBSTANCES

Before analyzing the humours separately, I would like to mention two other suttas that help us understand the nature of bile and phlegm. SNP 3.2 describes an interesting phenomenon: "Rivers and streams may be dried up by the wind, so why should my blood not dry up when I am resolute? And as my blood dries up, so too do the **bile and phlegm**" (*nadīnamapi sotāni, ayaṃ vāto visosaye; kiñca me pahitattassa, lohitaṃ nupasussaye; lohite sussamānamhi,* ***pittaṃ semhañca*** *sussati*). We learn two important things from this verse. First, bile and phlegm can dry up, confirming their liquid nature, and second, this potential drying links them to both blood and wind. Wind is not mentioned here as a humour, but the term used for wind (*vāta*) is the same, further confirming that humours are not solely internal phenomena pertaining to the human body but are also forces found externally, and this is why "external factors" such as climate and diet influence the humours.[58] Wind can dry up water currents, even rivers, and this serves as a metaphor for the drying of blood. As in Greek medicine and certain Āyurvedic texts, blood is problematic. It is unclear whether it is classified as a humour, as it is sometimes but not always included in the list of humours.[59] The reasons for this ambiguity may relate to the fact that blood shares fundamental characteristics with the humours but differs in other respects. For instance, in the *sutta* we have just examined, blood may be considered similar to the humours because it is a fluid that permeates the body and contributes to its well-being, yet it differs from the humours in that it is not, in itself, considered a cause of illness. In contrast, humours are defined by their pathogenicity, as imbalances in them directly correlate with the onset of specific diseases. In this context, there is indeed a correlation between the two: the drying (*sussati*) of the blood linked to resoluteness (*pahitatta*) also leads to the drying of bile and phlegm. Finally, we arrive at the last issue concerning the relationship between the humours. A

58 The Pāli canon appears to demonstrate a certain concern for diet, although it does not explicitly link it to the regulation of bodily humours. Perhaps the most striking example is found in AN 4.198, where an improper dietary regimen is directly associated with ascetic practices of self-mortification (*puggalo attantapo hoti attaparitāpanānuyogamanuyutto*). Among the various practices of self-mortification, which can also be understood as improper habits—one of the eight causes of illness—is the act of wandering unclothed (*ekacco acelako hoti*), likely a critique of Jain ascetics. Furthermore, right conduct includes the prohibition against causing harm to plants or seeds (*so bījagāmabhūtagāmasamārambhā paṭivirato hoti*), a notion that vaguely recalls certain Pythagorean injunctions, such as abstaining from the consumption of beans. Additionally, a specific time is recognized as appropriate for eating—during the day—while there is a prohibition against eating at night (*ekabhattiko hoti rattūparato virato vikālabhojanā*).

59 In SS 1.21.25 for example, blood is described as a *doṣa* because it can behave similar to bile. However, blood actually only acts as a *doṣa* in combination with a second humour.

sutta found in AN 5.208, though brief, offers several intriguing points for reflection. The subject of this sutta is a particular type of chew stick. The term used is *dantakaṭṭha*, derived from *danta* ("tooth") and *kaṭṭha* ("wooden stick"). The word *kaṭṭha* can refer either to small wooden sticks or to larger logs, but in this case, *dantakaṭṭha* appears to refer to a type of medicinal wood whose therapeutic properties are obtained through chewing. This is not entirely novel, as there are numerous plants and medicinal herbs that are used in similar ways. The central theme of the sutta is the importance of using these sticks, with their lack of use (*akhādane*, "non-chewing") resulting in several negative effects: eye problems (*acakkhussaṃ*), bad breath (*mukhaṃ duggandhaṃ*), issues with the taste buds due to accumulated impurities (*rasaharaṇiyo na visujjhanti*), and "bile and phlegm covering the food" (*pittaṃ semhaṃ bhattaṃ pariyonandhati*), leading to a loss of appetite (*bhattamassa nacchādeti*). One intriguing aspect is the implied connection between oral health and eye health, which raises a question about the relationship between the oral cavity and the eyes. The sutta suggests that what benefits oral health, such as the use of medicinal sticks, also has a positive effect on the eyes. The correlation is not immediately clear unless there is a humoral relationship between the oral cavity and the eyes, which might explain why good oral hygiene also benefits vision. Additionally, there is the issue of bile and phlegm covering the food. Apparently, using medicinal sticks mitigates the presence of bile and phlegm in the oral cavity, which would otherwise lead to imbalances severe enough to corrupt the perception of taste. We can presume that the effects on the oral cavity are due to the benefits the medicinal sticks have on the stomach, which is thus connected to the mouth. From this, we can deduce that bile and phlegm, among their various possible locations, are certainly present in the oral cavity and the stomach. This instance also seems to confirm the mucous-lipid nature of these two humours. If *pitta* refers to gastric juices, it is likely that in cases such as gastroesophageal reflux, it is common to find bile in the mouth in unhealthy conditions. If *semha* refers to a mucous substance, it too would be present in excess in the oral cavity in unhealthy conditions. Various examples, such as mucositis, could cause a loss of taste, highlighting the complex relationship between these humours and health. Thus, we are presented with a general framework that allows for a different understanding of humours in early Buddhist thought. My objective from this point forward is to explore whether a comparative analysis with Vedic traditions can corroborate this theory and introduce new evidence in support of the theory of two primary humours. Notably, wind (*vāta*) has not featured prominently in the suttas examined so far, except as an external, environmental factor that influences health. This might explain the later emergence of wind as a distinct humour originating from a natural element. Meanwhile, the two fundamental principles that act as vital forces within the body (heat/cold) seem to correspond to the elements of fire and water, which

were the first to be regarded as integral parts of the humoral factors contributing to human health: "We see oppositions between hot and cold as principles governing various aspects of life, and these can be connected with the later doctrines of bile and phlegm".[60]

3 HUMORS IN THE INDO-EUROPEAN CONTEXT

Angermeier revisits Wujastyk's thesis and reexamines Āyurvedic humoral theory.[61] Āyurvedic medicine is characterized not only by the three humours but also by a series of enumerated factors. Enumeration is also a general feature of Buddhist texts, and in addition to the three humours, human bodily characteristics include seven *dhātu*s (physical constituents) and five elements (*mahābhūta*s). In Buddhism, however, these two terms are used synonymously. The potential link between the five elements (or four, as *ākāśadhātu* is not always included in the list) and humoral theory seems to stem from the aqueous nature of phlegm and the fiery nature of bile. In this sense, elemental theory and humoral theory can be seen as parallel developments of a unified system composed of factors such as water and fire, which give rise to two similar but parallel systems. If there is indeed a common origin, we would expect to find clear similarities, at least between the bilious humour and the element of fire, as well as between the phlegmatic humour and the element of water or the windy nature of *vāta*. Indeed, Angermeier identifies such correspondences within Āyurvedic medicine. In Buddhist literature, which first provides evidence of a structured humoral theory, we can anticipate similar reasoning. However, two certain points warrant attention. While the term *agni* certainly denotes fire, in the Vedic context, it is also the name of the most important deity in the *Ṛgvedic* hymns. As for water, the term used to denote it is not univocal. While *āpa* is used, in Buddhist literature, water-related metaphors abound, and they deserve careful consideration. Among the various terms, it may also be worth considering *udaka*/*odaka* and related forms (*uda, oka, daka, ka*…) as potentially significant. *Soma* is not the only watery archetype present in the Vedic world, and it is possible that the ancient idea of primordial waters might also play a role.[62] The two-humour theory, however, presupposes a dualism between *agni* and *soma*, or more generally, between fire and water. What can we say about this latter term in the Buddhist context? *Soma* is simultaneously a deity, a sacred drink, and a synonym for water and the nourishing properties of liquids in the Vedic con-

60 Wujastyk 2016: 40.
61 Angermeier 2021.
62 Bodewitz 2019.

text.[63] This polysemy is also significant.[64] We will examine the terminological choices Buddhists make in this regard, but we should not forget that the purported psychoactive properties of the sacred drink called *soma* may indicate a need to consider the phytotherapeutic and pharmacological dimensions that could have arisen or been constructed around the sacred significance of this liquid/drink.[65]

> *ápāma sómam amṛ́tā abhūma áganma jyótir ávidāma devā́n*
>
> "We've quenched our thirst with *soma*, attained immortality, arrived into the light, finding the celestial deities." (*Ṛgveda* (ṚV) 8.48.3)

Thus, there is a dual dimension surrounding these elements. Comparing the figure of the *ṛṣi* and that of the *samaṇa* in Buddhist literature may offer further insights. I have previously emphasized the importance of the *samaṇa* as knowledgeable in medicine,[66] positioning them close to the role of the physician, but their peculiarities should not lead us to assume that these figures sought to completely distance themselves from the Vedic tradition. The conflict over orthodoxy and what it means to be a true *brāhmaṇa* (McGovern 2012) has led to a perception of a clear rupture between heterodox movements and the earlier Vedic tradition,[67] which has also influenced considerations of the role of the physician. The situation may be even more complex, especially concerning the development of these medical theories. In comparison with Greek medicine, it must be acknowledged that certain difficulties arise in identifying, at least within the works of Hippocrates, a clear position on the elemental origin of the humours.[68] The most significant point of reference for this theory is thus found in Hippocrates' ontology, where the roles of fire and water in the composition of the human being and

63 The connection between water and nourishment may also be an Indo-European legacy rather than an independent innovation. Concerning Thales, Aristotle writes the following: "*ἀλλὰ Θαλῆς μὲν ὁ τῆς τοιαύτης ἀρχηγὸς φιλοσοφίας ὕδωρ φησὶν εἶναι (διὸ καὶ τὴν γῆν ἐφ' ὕδατος ἀπεφήνατο εἶναι), λαβὼν ἴσως τὴν ὑπόληψιν ταύτην ἐκ τοῦ πάντων ὁρᾶν τὴν* ***τροφὴν ὑγρὰν οὖσαν*** *καὶ αὐτὸ τὸ* ***θερμὸν ἐκ τούτου γιγνόμενον*** *καὶ τούτῳ ζῶν (τὸ δ' ἐξ οὗ γίγνεται, τοῦτ' ἐστὶν ἀρχὴ πάντων) — διά τε δὴ τοῦτο τὴν ὑπόληψιν λαβὼν ταύτην καὶ διὰ τὸ πάντων τὰ σπέρματα τὴν φύσιν ὑγρὰν ἔχειν, τὸ δ' ὕδωρ* ***ἀρχὴν*** *τῆς φύσεως εἶναι τοῖς ὑγροῖς.*"

"But Thales, the founder of this school of thought, asserts that the enduring substance is water—this being the reason he proposes that the earth floats upon water. Presumably, he draws this conclusion from the observation that **moisture is the source of nourishment for all things**, and that **heat itself is generated from moisture** and depends upon it for its life. What a thing is generated from is always its first principle. He derives this insight from the fact that the seeds of all things possess a moist nature, and that water is the **fundamental principle** of the nature of moist things" (Aristot. *Met.* 1.983b 20–5).

64 Nonetheless, the Buddhist use of the word *soma* (not even mentioned directly) is exclusively linked to the Vedic sacrifice (*vājapeyyaṃ*); see AN 8.1 or 4.39.

65 Brough 1971; Wasson 1971; Sharma 1996; Thompson 2003; Feeney 2010.

66 Divino 2022.

67 McGovern 2018: 52, 86.

68 Enache 2019: 194.

worldly phenomena are explicitly recognized. Given the subsequent connection between dietary regimens, thermal and seasonal variations, and other factors involving the elements that impact human health, we can already draw some conclusions. Furthermore, there is the issue of comparability between Hippocrates' ontology and that of other Greek thinkers, primarily Thales and Heraclitus.[69] In the case of the latter, it has been hypothesized on multiple occasions that a clear kinship, or even direct lineage (though I would approach this point with caution), exists with the Indo-Iranian fire cults, which is reflected in Heraclitus' view on fire as the origin of all things.[70] Not all Hippocratic treatises explicitly connect the *πυρὸς/ὕδατος* dyad to humoral theory. One might expect such a direct connection, yet Polybus, a disciple of Hippocrates, does not mention it in his *Περὶ Φύσιος Ἀνθρώπου*.[71] However, in *Περὶ Νούσων* (4.32.1), water is included among the humours. Men and women are said to possess four types of moistness, which are also the source of their afflictions and diseases (*ἔχει δὲ καὶ ἡ γυνὴ καὶ ὁ ἀνὴρ ὑγροῦ τέσσαρα εἴδεα ἐν τῷ σώματι*). These four types are phlegm, blood, bile, and **water** (*φλέγμα, αἷμα, χολὴ, καὶ* ***ὕδρωψ***). Here, we encounter a distinct humoral configuration, with only one type of bile, blood, and even the explicit inclusion of water. However, this particular humoral theory is not mentioned again in the

69 Notoriously, Thales' "doctrine was that **water** is the universal archetype, and that the world is animate and plenty of divinities" (*ἀρχὴν δὲ τῶν πάντων* ***ὕδωρ*** *ὑπεστήσατο, καὶ τὸν κόσμον ἔμψυχον καὶ δαιμόνων πλήρη*, DL *Lives* 1.1.27). In contrast, Heraclitus (Her. DK B30) believes that fire is superior. The world is the same for us all. It is eternal and uncreated (*κόσμον τόνδε, τὸν αὐτὸν ἁπάντων, οὔτε τις θεῶν οὐτε ἀνθρώπων ἐποίησεν*), and its nature was, is, and will ever be like a **sempiternal fire**, with measures of it kindling and measures going out (*ἀλλ' ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται* ***πῦρ ἀείζωον***, *ἁπτόμενον μέτρα καὶ ἀποσβενύμενον μέτρα*). This fiery nature of the world, especially concerning the expression "sempiternal fire," could be a sign of ancient Indo-European cults of the perennial fire, as suggested by Chronopoulou and other authors. Heraclitus also considers fire to be ontologically superior to water: Sea is just a transformation of fire, and from the sea half becomes earth and half becomes whirlwind (*πυρὸς τροπαὶ πρῶτον θάλασσα, θαλάσσης δὲ τὸ μὲν ἥμισυ γῆ, τὸ δὲ ἥμισυ πρηστήρ*, B31). In another interpretation, air comes from the death of fire, and the death of air is the birth of water (*πυρὸς θάνατος ἀέρι γένεσις, καὶ ἀέρος θάνατος ὕδατι γένεσις*, B76). Everything is just an exchange for fire (*πυρὸς τε ἀνταμοιβὴ τὰ πάντα*, B90). Fire will judge and convict everything in its advance (*πάντα γάρ τὸ πῦρ ἐπελθὸν κρινεῖ καὶ καταλήψεται*, B66). In the Vedic world, although Agni is indisputably the primary deity of the ṚV, we find some hymns that refer to primordial waters from which Agni himself was born, potentially placing this element even above Agni himself. These primordial waters are referred to as deep and unfathomable (*gahanaṃ gabhīram*, ṚV 10.129.1). This is also clear in ṚV 2.35.2, which mentions Agni as "generating" (*jajāna*) beings of the world, drawing them out from the primordial waters from which he is the "offspring" (*napāt*), just as the earth (*bhuvana*) that emerged was dried by Agni's heat and reclaimed from the waters that previously enveloped it. These waters continue to surround Agni (*pari tasthur āpaḥ*, ṚV 2.35.2).

70 C. I. Smith 1966; Chronopoulou 2024.

71 Jouanna 2012: 366.

Hippocratic Corpus. In addition, the perspective seemingly advanced in the Περὶ Διαίτης is one of mutual dependence between the two elements, which complement and sustain each other.[72] This interdependence is articulated as follows: Fire must consume the moisture of water to survive, and through burning, the water is dried and its moisture evaporates, thereby nourishing the fire. For this reason, the two elements must be considered together (*συναμφότερα*), as only in conjunction are they self-sufficient and able to support one another. Conversely, when viewed separately, they are insufficient both for themselves and for anything else (*ἑκάτερον δὲ χωρὶς οὔτε αὐτὸ ἑωυτῷ οὔτε ἄλλῳ οὐδενί*, 1.3). Another striking point of convergence emerges here. Given that Hippocratic medicine conceives of bodily health as a balance of interacting factors (or "forces," *δυνάμεις*), the role of medicine is to maintain the appropriate measure, proportion, and balance among these forces (*σύμμετρος τῶν ποιῶν κρᾶσις*). The contrary condition is described as a "monarchy" (*μοναρχία*), that is, the disproportionate dominance of one force over the others.[73] This concept anticipates Alcmaeon's reflections on the relationship between *ἁρμονία* and *μοναρχία*, which can be interpreted as balance and imbalance, or more literally, as "harmony" and "monarchy." Notably, this idea resembles certain notions found in the fragments of Anaxagoras, although unfortunately, they have only survived in an incomplete form. In fragment A.16 (as cited in Anaximander: Testimonia, Part 3: Reception (R)), we read that the elements composing the universe are in mutual opposition to one another: air is cold, water is moist, and fire is hot (*ἔχουσι γὰρ πρὸς ἄλληλα ἐναντίωσιν, οἷον ὁ μὲν ἀὴρ ψυχρός, τὸ δ' ὕδωρ ὑγρόν, τὸ δὲ πῦρ θερμόν*). In addition, "the two elements only depend on one another, while everything else depends on them".[74] Furthermore, in *On Regimen*, the kind of "composition" that fire/water generate through their combination is deemed "**original**" (*ἡ* ***ἐξ ἀρχῆς*** *σύστασις*, 1.2). The underlying idea is that these elements are the "ultimate" constituents of everything, like fundamental and non-divisible particles.[75] We can thus understand these elements as something very close to Aristotle's *στοιχεῖον*. All these characteristics will be useful to us, and we must therefore keep them in mind in analyzing the elements and their relation to human physiology and health in the Buddhist world.

FIRE AND WATER COMPARED TO BILE AND PHLEGM

There may be various reasons for the fiery nature of the bilious humour. Fire emits heat, and when it burns, it "consumes" fuel. This could explain why fire is considered the basis of the humour responsible for the consumption of food, as

72 Enache 2019: 178; Schluderer 2018: 34.
73 Schluderer 2018: 36.
74 Enache 2019: 179.
75 Enache 2019: 184.

the digestive process "consumes" (or rather "transforms") food and leaves behind a processed form, which is waste. However, fire has been associated with life since ancient Vedic times through the metaphor of heat. Heat (*tapas*) is the most significant aspect of fire, symbolizing ascetic effort, representing the power of seers and even life itself.[76] What distinguishes a dead body from a living one is that the latter emits "heat," thus indicating that warming represents a sign of life. Fire and water seem to represent different "biological" functions in the fundamental sense of life (*βίος*), but in distinct forms: Fire is a dynamic, active element, indicative of life through "heat," "movement," and "effort," while water is a more passive aspect, representing nourishment—what life must consume to survive. The term *tapas* thus denotes a fundamental property of the heat of fire, with fire being the ultimate expression of power and the focal point of Vedic rituality. Fire is harnessed by the seers (*agniyojana*), quasi-divine mythical figures, who channel its power within a specific ritual,[77] making this fiery element emblematic of the essence of life. Tapas is both a characteristic of the seers' power and of ascetic effort. Curiously, however, the Pāli term *tapassin* refers to an ascetic opposed to the *samaṇa* and thus generally denotes a non-Buddhist ascetic.[78] This term often carries pejorative connotations (in AN 8.11–12 it is used as a synonym for a mortifier's practice, while in AN 10.94 the question is raised of whether the Buddha condemns all forms of **mortification**, *sabbaṃ* ***tapassiṃ*** *lūkhājīviṃ ekaṃsena upakkosati upavadati*). The term *tapas* is linked to the vitality principle, which can be traced back to Vedic tradition. Its general meaning is "heat" (MWS: 437). The Indo-European root is the same as in the Latin *tepor*/*tepōris*, which has the same meaning (EDL: 614). In the Scythian world, we find the goddess Tabití (in Greek, Τ*αβιτί*), who is considered an equivalent of Hestía. The connection to the fiery and solar aspects in the Indian context is clear. Thus, if we are to explore the possible origins of a proto-bilious humour rooted in the image of *agni*, we must also consider the role of the concept of *tapas*. In ṚV 10.154.5, we read about the genesis of the ancient *ṛṣi*s from heat (*tapojāṃ*).[79] This theme, as noted by Kaelber (1976: 344), is common in the *Atharvaveda* as well and concerns the creation not only of the seers but also of all the gods (*viśvedevā tapojā*). Similarly, *tapas* is associated with the generative power of Prajāpati through the theme of effort (*śram-*), which enables the production or emission of heat (*tapo 'tapyata*, see *Śatapathabrāhmaṇa* (ŚBr) 2.5.11). The bilious humour, *pitta*, is explicitly connected to *tapas* in SS 21.5 (Sūtrasthāna), where it takes on the meaning of digestion and the energy transferred to the body through the intake of nourishment.[80] Heat is the result of what is "consumed" by the body,

76 Kaelber 1976; Kaelber 1979; Gonda 1982.
77 Ginevra 2023.
78 Divino 2024: 230–231.
79 *ṛṣīn tapasvato yama tapojāṃ api gacchatāt.*
80 *tatra 'vā' gatigandhanayoḥ, iti dhātuḥ, 'tapa' santāpe, 'śliṣa' āliṅgane, eteṣāṃ kṛdvihitaiḥ pratyayairvātaḥ pittaṃ śleṣmeti ca rūpāṇi bhavanti.*

and for this reason, *tapas* and *pitta* are explicitly linked. In the Pāli canon, there is no trace of this complex conception. The idea that the humour *pitta* has a specific connection with fire or digestion reappears in the BhM, which, however, is influenced by structures already present in Āyurvedic thought. The only clue we have regarding the nature of *pitta* in the Pāli canon concerns its connections to temperaments. In a manner surprisingly similar to Greek conceptions—later developed in European medicine with the theory of the *Quattuor Humores*, where the predominance of a particular humour in the human body was thought to induce specific behavioural tendencies[81]—we find an indication in the Pāli canon suggesting a correlation between an excess of *pitta* and an irascible disposition, or what European physicians would term a "choleric" temperament, in line with the humoral characteristic linked to an excess of bile (χολή). As stated in SN 17.36, "if bile were to overflow excessively from the nose of a wild dog, this would only make the dog more violent" (*seyyathāpi… caṇḍassa kukkurassa nāsāya pittaṃ bhindeyyuṃ, evañhi so, bhikkhave, kukkuro bhiyyoso mattāya caṇḍataro assa*). In this case, the correlation between an excess of bile (*pittaṃ bhindeyyuṃ*) and violent behaviour (*caṇḍa*) in the dog (*kukkuro*) evokes the reasoning behind the "choleric" temperament in traditional European medicine.[82]

Similarly, this also hints at the fiery nature of bile, as we can imagine that the fire element is dominant in the bilious humour, which drives the dog to adopt violent behaviour. The element of fire, as previously mentioned, is associated with dynamics, energy, and vital force (in excess, in this case, leading to anger). If there is a direct connection between humours and elements, the term *pitta* is not the only concept the sutta offers regarding this humour. We must also consider the occurrences of *teja* (or *tejas* in Sanskrit, a term preferred in the sutta over

81 See *Isidori Hispalensis Episcopi, Etymologiarum sive Originum*, Book 4.5: *De Medicina*: "*Sicut autem quattuor sunt elementa, sic et quattuor humores, et unusquisque humor suum elementum imitatur: sanguis aerem, cholera ignem, melancholia terram, phlegma aquam. Et sunt quattuor humores, sicut quattuor elementa, quae conservant corpora nostra. Sanguis ex Graeca etymologia vocabulum sumpsit, quod vegetetur et sustentetur et vivat. Choleram Graeci vocaverunt, quod unius diei spatio terminetur; unde et cholera, id est fellicula, nominata est, hoc est, fellis effusio. Graeci enim fel χολὴν dicunt. Melancholia dicta ec quod sit ex nigri sanguinis faece admixta abundantia fellis. Graeci enim μέλαν nigrum vocant, fel autem χολὴν appellant. Sanguis Latine vocatus quod suavis sit, unde et homines, quibus dominatur sanguis, dulces et blandi sunt. Phlegma autem dixerunt quod sit frigida. Graeci enim rigorem φλεγμονήν appellant. Ex his quattuor humoribus reguntur sani, ex ipsis laeduntur infirmi. Dum enim amplius extra cursum naturae creverint, aegritudines faciunt. Ex sanguine autem et felle acutae passiones nascuntur, quas Graeci ὀξέα vocant. Ex phlegmate vero et melancholia veteres causae procedunt, quas Graeci χρόνια dicunt.*"

82 What is attested in the Buddhist text is most likely a description of rabies. If we compare the description of rabies in SS 5.7.43–50 we find that the Āyurvedic text traces the disease back to aggravation of wind and phlegm.

aggi,[83] or *agni*, when referring to fire as an element), particularly in relation to the body. In MN 28, we are informed that *teja* has two natures, as do each of the four elements: **internal** or **external** (*tejodhātu siyā **ajjhattikā**, siyā **bāhirā***). Here, the internal/external dichotomy relates specifically to the body. These texts, which explore the relationship between the body and the elements, offer a comprehensive overview of the conceptions of these fundamental principles (*dhātu*s). In the Pāli Canon, the humours and elements are involved in functions that are sometimes overlapping, but often similar to those found in Āyurvedic medicine. For example, the internal fire element (*ajjhattikā tejodhātu*) described in MN 28,[84] MN 62,[85] and MN 140,[86] is responsible for warming (*santappati*), ageing (*jīrīyati*) and heating because of fever (*pariḍayhati*), and also proper food digestion (*asitapītakhāyitasāyitaṃ sammā pariṇāmaṃ gacchati*). In another sutta, proper digestion (*āmāvasesaṃ pāceti*)[87] seems to be also related to *vāta*, but only if this humour is settled (*anulometi*) In the Āyurveda we know that *pitta* is responsible for heating (*uṣman*), vitalizing (*tejobhūtaḥ sāraḥ*), and that *pitta*-related fever causes burning eyes. Fever is exclusively a characteristic of internal fire in Pāli Buddhism but not in Āyurveda,[88] where any humour can cause a different type of fever. However, the *pitta*-caused fever is characterized by burning eyes,[89] similarly to the excess of bile in AN 5.208 that, if not treated with chew-sticks, may cause eye problems (*acakkhussaṃ*). Concerning this issue, the Περὶ Διαίτης (1.10) states: "In a word,

83 A discourse vaguely similar to AN 5.208, but concerning *aggi*, is found in AN 5.219. Here *aggi* is presented as dangerous for the eyes, one's complexion, and one's strength ("it makes you weak"). It is also bad because it draws in groups and makes people talk low (*acakkhusso, dubbaṇṇakaraṇo, dubbalakaraṇo, saṅgaṇikāpavaḍḍhano, tiracchānakathāpavattaniko hoti*).

84 *ajjhattikā tejodhātu — yaṃ ajjhattaṃ paccattaṃ tejo tejogataṃ upādinnaṃ, seyyathidaṃ—yena ca **santappati**, yena ca **jīrīyati**, yena ca **pariḍayhati**, yena ca **asitapītakhāyitasāyitaṃ sammā pariṇāmaṃ gacchati**, yaṃ vā panaññampi kiñci ajjhattaṃ paccattaṃ tejo tejogataṃ upādinnaṃ.*

85 *ajjhattikā tejodhātu*... (same description as MN 28 also concerning ***santappati***, ***jīrīyati***, and ***pariḍayhati***, as well as ***asitapītakhāyitasāyitaṃ sammā pariṇāmaṃ gacchati***) *seyyathāpi, rāhula, tejo sucimpi dahati, asucimpi dahati, gūthagatampi dahati, muttagatampi dahati, kheḷagatampi dahati, pubbagatampi dahati, lohitagatampi dahati, na ca tena tejo aṭṭīyati vā harāyati vā jigucchati vā.*

86 *ajjhattikā tejodhātu*... (same description as MN 28, ***santappati***, ... ***jīrīyati***, ... ***pariḍayhati***, ... ***asitapītakhāyitasāyitaṃ sammā pariṇāmaṃ gacchati***) *seyyathāpi, bhikkhu, dvinnaṃ kaṭṭhānaṃ saṅghaṭṭā samodhānā usmā jāyati, tejo abhinibbattati, tesaṃyeva dvinnaṃ kaṭṭhānaṃ nānābhāvā vinikkhepā yā tajjā usmā sā nirujjhati, sā vūpasammati.*

87 This property is actually attributed to the *yāgu* food (rice gruel, conjee) which can help settle the windy humour (*vātaṃ anulometi*) and helps digestion (*āmāvasesaṃ pāceti*).

88 The fact that multiple types of fever, depending on the different humours involved, can be observed is something also stated in Hippocratic medicine. Nonetheless, the Περὶ Φύσιος Ἀνθρώπου 15 states that "most of the fevers are of **bilious** origin" (*οἱ πλεῖστοι τῶν πυρετῶν γίνονται ἀπὸ* **χολῆς**).

89 *Suśrutasaṃhitā*, Uttaratantram 39.27: *sāmānyato, viśeṣāttu jṛmbhā'tyarthaṃ samīraṇāt, **pittānnayanayordāhaḥ**, kaphānnānnābhinandanam.*

fire arranged everything within the body according to a mode consistent with its own nature, mirroring the whole: the small in relation to the large, and the large in relation to the small" (*ἑνὶ δὲ λόγῳ πάντα διεκοσμήσατο κατὰ τρόπον αὐτὸ ἑωυτῷ τὰ ἐν τῷ σώματι τὸ πῦρ, ἀπομίμησιν τοῦ ὅλου, μικρὰ πρὸς μεγάλα καὶ μεγάλα πρὸς μικρά*). In this context, the strongest fire that "prevails over everything" (*κρατεῖ πάντων*) and orders everything according to nature (*διέπον ἕκαστα κατὰ φύσιν*) may represent the Sun, or perhaps echo an Indo-European divinization of Fire, such as *Agni*. This interpretation is further suggested by the hierarchical nuances of these expressions. Fire "governs over everything" (*πάντα διὰ παντὸς κυβερνᾷ*) like a sovereign. This mighty fire, being the strongest and warmest, also possesses some metaphysical qualities, as it is also described as "inaccessible to sight and touch" (*ἄθικτον καὶ ὄψει καὶ ψαύσει*, 1.10).

This brings us to the first significant contradiction that is difficult to resolve. If we adhere solely to the suttas, it is challenging to demonstrate the exclusively fiery nature of bile, as both bile and phlegm are, according to Buddhist thought, of a liquid nature, thereby associating them with water. It is possible, as I previously suggested, that this aqueous nature is a subsequent attribute arising from the fact that both bile and phlegm can be vomited and are identified as fundamentally liquid substances, akin to gastric juices or mucus—in essence, "anything liquid or watery" (*āpo āpogataṃ*).

Here's a list of the constitutive functions of the internal water element (***ajjhattikā āpodhātu***) in our body:

> **Bile** (*pittaṃ*), **Phlegm** (*semhaṃ*), Pus (*pubbo*), Blood (*lohitaṃ*), Sweat (*sedo*), Fat (*medo*), Tears (*assu*), Grease (*vasā*), Saliva (*kheḷo*), Mucous (*siṅghāṇikā*), Synovial fluid (*lasikā*), Urine (*muttaṃ*).[90]

This may have led to a conceptual division between the digestive nature of the element *teja* and an unspecified liquid form of bile (*pitta*) described in this sutta. It should be noted that within the canon, it is impossible to prove beyond a reasonable doubt that *pitta* is a fiery humour. We have observed that *pitta* can be associated with anger, eye problems, and gastric reflux—conditions that, on one hand, connect to the explicitly fiery functions of the *pitta* humour in Indian medicine, but are never referred to as such by Buddhists. On the other hand, apart from these functions that suggest *pitta* may have a fiery nature, there is an explicit connection of fire (*teja*) with digestion, which in Āyurvedic physiology is linked to the fiery nature of *pitta*. However, when Buddhists describe the nature

90 Cf. SNP 1.11 list of bodily fluids (parts 2 & 3): *siṅghāṇikāya kheḷassa, sedassa ca medassa ca; lohitassa lasikāya,* ***pittassa*** *ca vasāya ca athassa navahi sotehi, asucī savati sabbadā; akkhimhā akkhigūthako, kaṇṇamhā kaṇṇagūthako siṅghāṇikā ca nāsato, mukhena vamatekadā;* ***pittaṃ semhañca*** *vamati, kāyamhā sedajallikā.*

of *pitta*, they categorize it among liquid substances, and we must be conscious of this contradiction. However, it is also possible that given how it appears to the eye, fire could be considered a sort of liquid. In ṚV 2.35.1–15 Agni is even considered the progeny of the primordial waters (*apām napāt*), and as strange as it may seem that fire is born from water,[91] if in ancient times flames were conceived as similar to fluids or liquids, it is possible that the opposition between *agni* and *soma* or between *teja* and *āpa* in Pāli, is of a different nature, for example linked to temperature: water (*āpa*) would be linked to cold and darkness, while *agni*/*aggi* would be linked to its property of heat (*teja*), which is the element that is most insisted on also in the Pāli canon. This should lead us to a reconsideration of Angermeier's hypothesis according to which the hot/cold dichotomy as a property would have its importance perhaps preceding that of fire/water understood as substances.

The element of earth (*pathavī*) is explicitly associated with the formation of more substantial organs. While water contributes to the formation of the more fluid aspects of the body, such as blood, saliva, or mucus, the element of earth, when internal (*ajjhattikā pathavīdhātu*), manifests in the constitution of organs, tissues, or parts of the body like bones, which are undeniably "hard" and "solid," as stated in the text (*kakkhaḷaṃ kharigataṃ*). Undigested food also falls within this category. The text enumerates these solid components unambiguously: head hair, body hair, nails, teeth, skin, flesh, sinews, bones, bone marrow, kidneys, heart, liver, diaphragm, spleen, lungs, intestines, mesentery, undigested food, and feces (*kesā lomā nakhā dantā taco maṃsaṃ nhāru aṭṭhi aṭṭhimiñjaṃ vakkaṃ hadayaṃ yakanaṃ kilomakaṃ pihakaṃ papphāsaṃ antaṃ antaguṇaṃ udariyaṃ karīsaṃ, yaṃ vā*).

WIND-AIR: NOTES ON THE 'THIRD' HUMOUR

The element of air (*vāyodhātu*) is clearly linked to a single humour. This connection exists not only because *vāta* and *vāyo* are essentially the same term, sharing the meaning of their root,[92] but also because the relationships between the two are explicitly defined. However, so far we have observed that the windy humour, or *vāta*, is quite unique. It appears less frequently compared to bile and phlegm; indeed, there are instances where bile and phlegm are mentioned together without any reference to *vāta*. This absence is particularly intriguing when considering the theory of the two original humours. If the third humour was added later, it may have a distinct origin, and the most plausible hypothesis is that it is connected to breath.

91 See also ṚV 6.64.1–2: even the Dawn emerges from the waters, "The resplendent Dawn has arisen for the sake of brilliance, shimmering like the undulating waves of waters" (*udu śriya uṣaso rocamānā asthurapāṃ normayo ruśantaḥ*).

92 Cf. *ἄημι*, *ventus* and *wind* in EDG: 27, EDL: 662, and EDPG: 587.

> As respiration was the primary life-force, it was natural for the Vedic Indians to imagine that it was present in the active fetus ready for birth and that the issuance of the fetus from the womb resulted from the functioning of the life-breath. Although modem medicine disproves the assertions in this ancient text, one can clearly understand its basis. Moreover, this conceptual connection between bodily wind and the fetus could have resulted from the observation of the breathing patterns of women in labour.[93]

ṚV 10.168.1 begins, "I proclaim the grandeur and force of Vāta, his voice spreading the thunderous storms…" (*vātasya nu mahimānaṃ rathasya rujann eti stanayann asya ghoṣaḥ…*) and is particularly interesting because it links the "blowing" or "breathing" force of the wind to medicinal properties: "May Vāta blow into our hearts the benevolent **medicine**" (*vāta ā vātu **bheṣajaṃ** śambhu mayobhu no hṛde…*).

ṚV 10.90.13 suggests an association between human breath and *vāyu* as the cosmic breath (*mukhād indraś cāgniś ca prāṇād vāyur ajāyata*), and breath is considered a property of both atmospheric fire (*agni*) and water (*āp*), as stated in several passages of the *Atharvaveda* (3.13.3, 3.15.7, 5.30.14, 6.53.2, 8.2.13, 9.27.5–7). The Buddhist suttas (e.g., MN 28, MN 62, and MN 140) reference this relationship between wind and breath. Within the body, the air-wind assumes a configuration strikingly similar to that of breath: "The wind rises and falls, like the winds in the belly and bowels, the winds that flow into the limbs, the inhalations and exhalations" (*uddhaṅgamā vātā, adhogamā vātā, kucchisayā vātā, koṭṭhāsayā vātā, aṅgamaṅgānusārino vātā, assāso passāso iti*).

The concept of breath is particularly significant. It is well known that Buddhist yogic-meditative practices have historically emphasized breath awareness (*satova assasati, satova passasati*, see *Dīghanikāya* (DN) 22), with the importance of wind derived from the established relationship between breath and vitality. Similar to the reasoning applied to bodily heat, breath is considered an essential characteristic of the living: A living body breathes, and inhalation is perceived as the introduction of a vital element into the body.[94] This reasoning is not exclusively Indian and is also found in the Greek world (*ψυχή*). This suggests that the introduction of a third pneumatic humour may in fact be implicit in Indo-European conceptions of the vital breath, respiration, and the significance of wind.

In discussing wind as a humour, specific clarifications are occasionally made. For example, AN 5.77 states, "I might slip and fall off a cliff, or eat poisoned food, or suffer from bile disorders, phlegm disorders, or sharp wind disorders"

93 Zysk 1993*b*: 201.

94 Ewing 1901; G. W. Brown 1919; Zysk 2007.

(*upakkhalitvā vā papateyyaṃ, bhattaṃ vā bhuttaṃ me byāpajjeyya, pittaṃ vā me kuppeyya, semhaṃ vā me kuppeyya, satthakā vā me vātā kuppeyyuṃ*). Here, the author feels compelled to attribute an adjective to only one of the three humours: *satthakā*, meaning "sharp" or "knife-like."[95] Are we thus confronted with a specification of a particular quality of one of the three humours? The same formulation can be found in AN 6.20 and AN 8.74.

In Hippocratic medicine, we can distinguish two types of pneumatic functions related to the human body. One is clearly associated with the concept of wind (*πνευμάτων*), which is extensively discussed in texts such as Περὶ Διαίτης. Other considerations, however, pertain to the "breath" or "soul" (*ψυχὴ*), as described in Περὶ Διαίτης 1.28, where it is stated that the "psyche is the very same in every living being, albeit their bodies differ from one another" (*ἡ μὲν ψυχὴ τωὐτὸ πᾶσι τοῖσιν ἐμψύχοισι, τὸ δὲ σῶμα διαφέρει ἑκάστου*).

Similarly, in the Indian tradition, we find comparable discussions of the "winds" (*vāyo*/*vāyu* or *vāta*) and the "breath" (*prāṇa*). The latter term does not appear frequently in the Pāli canon, but the breath is described, with *pāṇa* (in Pāli) seemingly used to denote living beings in general (those who breathe). For instance, in SN 46.11, four types of living beings are listed and referred to as *pāṇa*. SN 56.36 also uses *pāṇa* to refer to living creatures.[96] Therefore, the term does not appear to indicate breath itself, which is instead referred to as *ānāpāna*. Discussions of the breath in the Pāli canon are almost exclusively in the context of meditation exercises focused on breathing (*ānāpānassati*), and this seems to be

95 A similar aspect of the sharp and potentially pathogenic nature of wind can be observed in its comorbidity described in CS 3.38.2: (*yogavāhaḥ paraṃ vāyuḥ saṃyogād ubhayārthakṛt*). Wind may also cause sensations of burning when combined with heat and sensations of cold when associated with *soma* (*dāhakṛt tejasā yuktaḥ śītakṛt somasaṃśrayāt*, CS 3.39.1). The (potential) pathogenic nature of wind/air is also present in the Περί Φυσών 6. For example, speaking about the spread of the plague (*λοιμός*), the text reads, "When air of the same quality mixes uniformly with the body, the resulting fevers are likewise similar in nature" (*ὁμοίου δὲ ὁμοίως τοῦ πνεύματος τῷ σώματι μιχθέντος, ὅμοιοι καὶ οἱ πυρετοὶ γίνονται*)... "when the **air becomes contaminated with such impurities** that are hostile to human nature, people then fall ill. However, when the air becomes incompatible with a different species of living beings, it is they who, at that time, fall ill." (*ὁκόταν μὲν οὖν ὁ* ***ἀὴρ τοιουτέοισι χρωσθῇ μιάσμασιν***, *ἃ τῇ ἀνθρωπίνῃ φύσει πολέμιά ἐστιν, ἄνθρωποι τότε νοσέουσιν· ὅταν δὲ ἑτέρῳ τινὶ ἔθνει ζώων ἀνάρμοστος ὁ ἠὴρ γένηται, κεῖνα τότε νοσέουσιν*). The same is recognized in BhM 1.23 where the wind/air must maintain its proper position within the body: "Air which is not deranged from favours of the body by the sustained action of breathing in and breathing out, by the sustenance of [natural] urges, by the proper movement of bodily elements and by the efficient functioning of the sense organs" (*nissāsapassās' ussāha-kriyāvegappavattanā sammāgatyā ca dhātūnam akkhānam pāṭavena ca sarīram anugaṇhāti avikāriisamīraṇo*).

96 The term *pāṇa* is used in BhM 1.31 to indicate the name of the windy humour when it is located at the top of the head.

the extent of what the Pāli canon has to say regarding the relationship between breath, vitality, and the human body.

According to Joshi, the origins of *vāta*/*vāyu* should also be sought within the Vedic world. However, the alternation of two distinct terms, despite having the same linguistic origin, suggests a subtle difference in the roles these two entities play. The distinction between Vāta and Vāyu, Joshi proposes, may be akin to that between Sūrya and Savitṛ.[97] Both Vāta and Vāyu appear as deities in the ṚV, although their significance does not parallel that of Sūrya and Savitṛ. Vāta is the subject of two short hymns (ṚV 10.168 & 10.186), and his domain is the *antarikṣa*, typically identified as the sky. Therapeutic and medical properties of Vāta are already evident in these hymns: "Vāta effects healing and prolongs life".[98] Vāyu, while appearing more frequently, has only one hymn dedicated solely to him, though he makes several appearances in other hymns, often alongside Indra. Moreover, Joshi observes that Vāyu is also referenced in the Avestā as a creative power of Ahura Mazdā.[99] The ŚBr further draws a connection between Vāyu and Indra, and there seems to be a link with the waters, of which Vāyu is said to be the essence (ŚBr 5.1.2.7). The movement of the waters, the fall of the rains, and their flow are attributed to the force of the wind.[100] The origins of this deity are thus very ancient, possibly tracing back to the cosmological division of the Indo-European firmament mythology.[101] The equivalence between Vāyu and the realm of *antarikṣa* allows for parallels to be drawn with the tripartite cosmology that appears to emerge from Vedic texts, which may also have connections to these fundamental elements, although it is difficult to determine the precise structure with certainty.[102]

In the Indian world, as in Greece, the preeminent element fluctuates considerably, depending on the texts, authors, and periods. In both cultures, we encounter views aligning with those of Thales, Heraclitus, or Anaximenes. Thus, it is not a matter of determining which of these elements—water, air, or fire—is the most important but rather recognizing that both cultures share a common foundation, where these elements are seen as agents participating in the constitution of worldly phenomena and the human body. From this perspective, it becomes apparent how these elements were employed in understanding physiological processes and health. These three elements possess all the prerequisites to give rise to humoral theory, as seen in Buddhist texts.

97 Joshi 1973: 229.
98 Joshi 1973: 229.
99 Joshi 1973: 230.
100 Joshi 1973: 234.
101 Cohen 2018: 59; Kramrisch 1962.
102 Divino 2024: 230–237.

4 CONCLUDING REMARKS

In this study, I have endeavoured to contribute new insights to the ongoing discussion about the origins of Indian medical thought within the Buddhist intellectual framework. Such investigations require engaging with other sources in addition to Indian literature. In fact, one hypothesis under consideration posits that certain aspects of this medical thought may belong to a shared Indo-European cultural legacy. Consequently, comparative analysis with the Greek tradition has prompted additional reflections, particularly concerning the hypothesis advanced by Wujastyk, Köhle, Angermeier, and others regarding the two original humours.

The Hippocratic Corpus, in certain respects, highlights the significance of the elements of water and fire in the development of a "Hippocratic ontology," as echoed in the ideas of some Presocratic thinkers, who similarly emphasize water and fire as fundamental principles of all things.

Comparative studies between Indian and Greek medicine were pioneered by eminent scholars such as Filliozat and Benveniste, positioning this research within the framework of Indo-European comparative studies.[103] My hope is that this line of research will regain momentum, as it not only enriches the history of science in South Asia but also revitalises a scholarly tradition that has become increasingly rare due to the interdisciplinary expertise it demands, which is often difficult to acquire. Nevertheless, such research brings considerable value to academic discourse, as it continues to offer substantial material for analysis, as evidenced by the recent work of Zysk on humoral theory.[104]

In examining early Buddhist literature, which is significant for being the earliest known source referring to humoral theory in Indian medical thought, certain challenges arise. In contrast to later medical treatises, where the connection between the *agni*/*soma* dyad and the principal humoral characteristics is fairly explicit, Buddhism does not mention these two elements in such terms. However, this does not invalidate the theory. One might speculate that the essence of the Agnīṣomīya dyad may have been preserved in non-Buddhist traditions, from which it was later excluded due to its close association with Vedic thought, or that it represents a new expression of a prior configuration, recognized as analogous to the *agni*/*soma* pairing.[105] An example might be the hot/cold dyad, not only because *teja* is the term used by Buddhists to denote the body's fire but also because scholars like Przyluski and van Buitenen have proposed this dyad as a potential alternation of universal principles within Indo-Aryan, and more broadly Indo-European, cosmology.[106]

103 Bussagli 1951.
104 Zysk 2021.
105 Magoun 1898; 1900; Varenne 1977; Findly 1979; Gonda 1979.
106 Przyluski 1930; van Buitenen 1956; 1957*a*,*b*.

Indeed, the hot/cold dyad shares nearly identical characteristics with the *agni*/*soma* pairing (e.g., in the attributes of heat/cold, dryness/moisture, dynamics/nourishment). This similarity arises largely from Przyluski's reconstruction, which relies heavily on mythological literature, where the importance of this antinomy is undeniable. In Vedic literature, Agni and the primordial Waters exhibit a mutual dependence, often reappearing to interact in various forms.[107]

In Buddhism, we observe two parallel and semi-autonomous streams. On one hand, as noted, humoral theory primarily identifies three elements—bile, phlegm, and wind—which are frequently listed together, especially as pathogenic elements, although they sometimes appear individually. Bile and phlegm more commonly appear together, without wind. Moreover, there are sporadic yet intriguing references that offer insight into conceptualizations of bile and phlegm. Correlations are drawn between these humours and bodily substances, and likely between these humours and specific therapeutic foods or substances used to restore balance. Furthermore, at least one correlation links excess humours to behavioural disorders (e.g., excess bile causing a dog to become irritable) as well as to particular organ-specific issues (e.g., bile with the eyes or problems in the oropharyngeal cavity). We can hypothesize correspondences between these substances and bodily secretions of an acidic mucous nature (bile) or colloidal mucus (phlegm), although the latter could also denote saliva, given the polysemous nature of the term *kheḷa*.

In analyzing various texts that address the localization and functions of bodily humours we find that, while the Pāli canon does not offer conclusive evidence for the origins of humoral theory in the Indian world, it nonetheless provides a compelling view of physiological and anatomical concepts, including the roles of elements and humours in the body.

The theory of elements emerges as a particularly intriguing aspect of the Buddhist medical framework. It is likely that the theory of the four elements developed in parallel with the three-humours theory. The elements *teja* and *āpa* retain functions that sometimes overlap with those of the humours (most notably the digestive and warming functions of *teja*), while at other times they appear to be responsible for the production of the humours themselves. However, a perfect correspondence remains uncertain, as *āpa* is clearly associated with both bile and phlegm.

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107 Magoun 1898; 1900; Findly 1979; Izawa 2017.

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