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NATURA FLUENS: TIME AND NATURE IN AVICENNA'S *THE PHYSICS OF HEALING*

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This work concerns Avicenna's account of nature, mainly as it engages with Aristotle's *Physics*. By discussing two accounts of nature, particularly their treatment of motion and rest, I wish to highlight Avicenna's *addendum* to Aristotle's account of nature. Integral to my argument shall be Avicenna's emphasis on the necessity of understanding components of nature in temporal terms. Incorporating his idea of the "flowing now" into nature, Avicenna's physics, I suggest, constantly emphasizes the place of temporality operative in natural occurrences. In doing so, he does not simply incorporate time into his account of nature but sees temporality as the necessary ground of the natural. Constantly asserting the temporal nature of motion and rest, he affirms the happening and event-based character of nature and highlights the becoming operative in it. He presents an account of nature qua *natura fluens*, or "flowing nature."

Keywords: Avicenna – Ibn Sinā – Aristotle – Physics – Time – Nature – Motion – Rest

Introduction

This work delves into Avicenna's study of nature, specifically his engagement with Aristotle's *Physics*. Its aim is to illuminate Avicenna's unique contribution to our understanding of nature by examining his departure from Aristotle's perspective and his emphasis on temporality. Avicenna's physics consistently underscores the significance of temporality in natural phenomena, surpassing the mere integration of time into the account of nature. He recognizes temporality as the fundamental basis of the natural world and asserts the dynamic and event-driven character of nature, leading to the conception of nature as "flowing nature" or *natura fluens.*

Avicenna's *Kitāb al-samāʿ al-ṭabīʿī*, or *The Physics of Healing*, serves as a fictional dialogue between Aristotle and Avicenna within the larger work, *Kitāb al-Shifāʾ*, demonstrating Avicenna's engagement with Aristotle's *Physics* and natural processes. The extent to which Avicenna adheres to Aristotelian principles has been extensively

explored in Dimitri Gutas' seminal work, *Avicenna and the Aristotelian Tradition* (Gutas 2014). Moreover, there is a growing body of scholarship focused on Avicenna's interpretation of Aristotle's *Physics*, particularly regarding nature and time. As Andreas Lammer affirms, "One of the philosophical disciplines that has received considerable attention in the investigation of Avicenna is physics, with the theory of time serving as a major incentive for interpreters" (Lammer 2018, 78). Avicenna's reading of *Physics* and his critical analysis of time reveal his role not only as a commentator on Aristotle but also as a critical philosopher who situates himself within the Aristotelian tradition. As Jules Janssens describes it, "Avicenna's reading of Aristotle is that of an Arabic and Neoplatonized Aristotle but, above all, critical" (Janssens 2018, 129). However, further scrutiny is required to explore how Avicenna diverges from Aristotle, particularly within the framework of his understanding of nature and time, which constitutes the main objective of this work.

Avicenna's concept of time has received significant attention in recent decades. Yegane Shayegan's 1986 dissertation and Jon McGinnis' 1999 research have led the English-speaking world to recognize the ingenuity of Avicenna's physics (Shayegan 1986; McGinnis 1999). *The Physics of Healing* goes beyond providing mere commentary on Aristotle; it presents assertions that complement, criticize, and even diverge from Aristotle and the Peripatetic tradition. Avicenna challenges and rejects the atomistic notion of time, offering an understanding of temporality based on the "flowing now." This perspective introduces a process-based comprehension that highlights the perpetual state of becoming in the world. Time is not conceived as a static and unchanging present but as a constantly evolving and shifting quantum, transforming Aristotle's "static account of time" into a dynamic one that emphasizes the event-driven nature of the flow (McGinnis 1999, vi). Avicenna not only discusses time but also employs it as one of the most important components in his argumentation (Lammer 2018, 433). Furthermore, this conceptualization of time provides insights into Avicenna's understanding of nature.

In the subsequent sections, it is argued that Avicenna's notion of the "flowing now" is not an incidental or isolated characteristic of his understanding of time but one that extends to his treatment of nature. By examining the phenomena that constitute nature, particularly motion and rest, Avicenna reveals the inherent connection between natural phenomena and time. As McGinnis notes, "the philosophical tradition surrounding Aristotle's Physics necessitated Avicenna to go beyond Aristotle's own account of motion" (McGinnis 2010, 59). Avicenna builds upon and diverges from Aristotle's account of motion and rest, portraying natural entities not as static occurrences but as events or happenings. In his view, natural beings are not merely temporal; they are natural precisely because they are temporal. Consequently, the idea of the "flowing now"

permeates Avicenna's depiction of nature, motion, and rest, establishing temporality as an indispensable element of natural occurrences and presenting an understanding of nature as *natura fluens*.

I. The Flowing Now

Drawing inspiration from Aristotle's definition of time as "the number (ἀριθμός) of movement in its before-and-afterness (κατὰ τὸ πρότερον καὶ ὕστερον)" (Aristotle, *Physics*, 220a25), Avicenna, in *The Physics of Healing,* characterizes time (*zamān*) as the magnitude (*miqdār*) of "motion when it is differentiated into earlier and later parts" (Avicenna, *Physics*, II.11, 232). According to Avicenna, time functions as the quantifier of motion in terms of its sequential order. This conceptualization closely aligns with the Aristotelian tradition and remains faithful to Aristotle's understanding of time as "not movement, but that by which movement can be numerically estimated" (Aristotle, *Physics*, 219b3). However, Avicenna takes a departure from Aristotle by seeking evidence for the existence of time. As noted by McGinnis, this represents a significant departure that "neither Aristotle nor subsequent Aristotelians prior to Avicenna attempted" (McGinnis 2010, 72), marking the initial point of divergence in Avicenna's account. While Aristotle merely entertains the idea of whether time actually exists (Aristotle, *Physics*, 217b30), Avicenna "distinguishes between the essence and existence of time" (Shayegan 1986, 15) and actively seeks evidence for the latter. His argument rests on the necessity of a specific magnitude associated with motion, which, as previously demonstrated, must be distinct from motion itself (Avicenna, *Physics*, II.11, 231). Avicenna writes,

> …[s]o it has been established that a certain magnitude exists that is some possibility involving motions between what is earlier and later, occurring in such a way as to require certain definite distances; and [this possibility] is not the magnitude of the mobile, distance, or motion itself (Avicenna, *Physics*, II.11, 231).

Consequently, Avicenna's account underscores the imperative of a distinct magnitude that distinguishes earlier and later motions in traversing distances, a magnitude that is other than the moving body, the distance covered and motion itself. It is within this magnitude that time finds its essence.

Having established the existence of time, Avicenna proceeds to provide a definition. Consistent with the previous exposition, he defines time as the magnitude of motion with regard to priority and posteriority, which, he asserts, "exists in matter through the intermediacy of motion" (Avicenna, *Physics*, II.11, 235). Furthermore, Avicenna states, "[s]ince time is continuous, it inevitably has a certain division, which

is a product of the estimative faculty and is called the instant" (Avicenna, *Physics*, II.12, 237). Due to time's continuous nature, it necessarily has concomitant parts and manifests itself in the instant or the "now" (*al-ān*). The particular configuration of time finds its essence in the nature of the "now."

Avicenna's discourse on the "now" as the division of time finds its foundation in Aristotle's account of the "now" (τὸ νῦν), regarded as the building block of time, the sequence of which forms the *continuum*. According to Aristotle, owing to the non-relative nature of the flow, time comprises "nows" that are identical: "at any given moment, time is the same everywhere, for the "now" itself is identical in its essence" (Aristotle, *Physics*, 219b10). Aristotle posits that the "now" is the numerical monad (μονὰς ἀριθμοῦ) that maintains its identity regardless of its position within a timeline. He suggests that the distinction between different "nows" emerges from their relational positioning within the matrix of the *continuum*. The variance among "nows" is not intrinsic to their essence but rather stems from "the relations into which it enters different in different connexions" (Aristotle, *Physics*, 219b10). In this manner, the "now" encompasses and distinguishes the before and the after, which, "in dividing the past and future, retains its identity." (Aristotle, *Physics*, 219b15). As Aristotle describes it, "the 'now,' wherever found in the before-and-afters, is identical, but the before-and-afterness its marks differ" (Aristotle, *Physics*, 219b25). McGinnis characterizes this conceptualization of time as "an atomic conception of time" (McGinnis 1999, 240). In Aristotle's perspective, the "now" neither moves nor changes; rather, akin to the analogy of the "moving object," it maintains its identity throughout the entirety of existence.

Avicenna also underscores the significance of the "now" in comprehending time. Nevertheless, he diverges from Aristotle by contending that "the now qua a given present instant does not exist twice" (Avicenna, *Physics*, II.12, 244). Avicenna's critique of Aristotle's notion of the "now" revolves around the question of how a particular "now" is to be replaced by the adjacent "now" and how *this* "now" transitions into *that* "now" (Avicenna, *Physics*, II.12, 244). He argues that such a process implies overlapping among multiple "nows" and undermines the possibility of a distinct present moment. As McGinnis expounds,

> …if the now is corrupted gradually, then it is simultaneous with other nows, which is impossible. Or if it is corrupted in a now, then it is corrupted in either the immediately adjacent now, which is impossible since there are no immediately adjacent nows, or in itself, which is likewise impossible, since it then is (McGinnis 1999, 270 – 271).

Based on these insights, Avicenna concludes that the "now" is not immutable and identical, but rather undergoes constant change, development, and evolution. As Lammer observes, the "now" is "both always the same (because it is always present) and always different (because it always marks a different moment)" (Lammer 2018, 516). Consequently, rather than comprising identical "nows," time encompasses a "now that flows" (*ān sayalān*) (Avicenna, *Physics*, II.12, 244) or t*he nunc fluens* (McGinnis 1999, 282). Unlike the rigid conception of time within Aristotle's framework characterized by "a 'static' theory of time," (McGinnis 1999, vi) Avicenna's physics presents a dynamic perspective grounded on "the 'flow' of an ever changing now" (McGinnis 1999, vi). This disposition leads McGinnis to note that despite the similarities between the two accounts, "Ibn Sina's theory of time is clearly not Aristotle's theory" (McGinnis 1999, 210). Similarly, Yegane Shayegan arrives at the conclusion that "Avicenna's theory of time is not Aristotelian" (Yegane Shayegan 1986, 11). As we shall explore, Avicenna's theory of time reflects "a philosophical attitude towards disentangling himself from the rigidity of tradition and towards rearranging the available material, divested of its original purpose, in order to forge something new" (Lammer 2018, 433). This approach will be particularly evident in his conception of nature, characterized by an original account of motion and rest.

II. Never-Ending Perfection

In *The Physics of Healing*, Avicenna delineates nature (*ṭabīʿa*) as "the first principle (*mabdaʾ awwal*) of motion (*ḥaraka*) and rest (*sukūn*) in that to which it belongs essentially rather than accidentally" (Avicenna, *Physics*, II.5, 40). According to him, natural beings possess an intrinsic capacity for movement, wherein the "first" principle of motion resides within themselves, devoid of any intermediary. Unlike artifacts, which rely on external agents, natural beings possess an inherent ability to propel themselves forward or undergo growth due to their possession of the "first" principle of motion. Avicenna describes their movement as "proximate, with no intermediary between it and the production of the motion" (Avicenna, *Physics*, II.5, 41). Consequently, nature represents the realm of internal and unmediated motion, and natural beings encompass those whose movement cannot be attributed to external factors.

Avicenna's conception of nature closely aligns with that of Aristotle, who, in *Physics*, *B*, defines nature (φύσις) as the "ground or cause of being moved and of being at rest (ἀρχῆς καὶ αἰτίας τοῦ κινεῖσθαι καὶ ἠρεμεῖν), in that to which it belongs primarily, in virtue of itself and not accidentally" (Aristotle, *Physics*, 192b20, modified). He later incorporates the concept of "change" (μεταβολή) into his explanation, asserting that nature serves as the principle of the movement, change, and rest of natural beings, in which it inheres primarily (ὑπάρχει πρώτως) and exists through itself (καθ᾽ αὐτό)

(Aristotle, *Physics*, 200b12 – 15). Unlike artifacts, natural beings possess the inherent ability to grow and move autonomously (Aristotle, *Physics*, 193b13) without external compulsion (βία).

In Aristotle's account of nature, a distinction arises between natural beings (φύσει ὄντα) and artifacts, (τέχνῃ ὄντα) with animals, plants, and elements falling under the former category. Similarly, Avicenna includes elements, celestial bodies, plants, and animals in this classification, juxtaposing them with products. According to Avicenna, all these *genera* possess an inherent principle of motion and undergo movement based on their immediate relationship with nature. Following this, Avicenna proceeds to provide the definition of motion (*ḥaraka*). Initially, he characterizes it as "the first perfection (*kamāl awwal*) belonging to what is in potency from the perspective of what is in potency" (Avicenna, *Physics*, II.1, 110). According to Avicenna, motion represents a transition from potentiality to actuality, but only as long as it remains unfulfilled. It denotes the shift from one state to another, from here to there, as long as its purpose remains unfulfilled. "The essence of motion for Avicenna is but a potential perfection, a form in the middle between the beginning and the end of a process" (Shayegan 1986, 29). In his view, motion ceases to exist once the goal is achieved or the *terminus* is reached. Thus, motion is "some intermediary limiting point before which it was not there and after which it is not there" (Avicenna, *Physics*, II.1, 113). Once again, this definition aligns with Aristotle's account of movement (κίνησις) in *Physics*, *Γ*, where movement is defined as "the actuality (ἐντελέχεια) of the potential qua potential" (Aristotle, *Physics*, 201a10). According to Aristotle, movement entails progress from potentiality toward actuality, with the condition that it remains potential and does not attain actuality. It is a striving towards fulfillment, the not-yet point between potentiality and actuality, persistently incomplete. Thus, Aristotle characterizes movement as ἐνέργεια ἀτελής, signifying an ongoing and perpetually incomplete being-at-work (Aristotle, *Physics*, 201b33). As Joe Sachs comes to explain it, "thinghood and being-at-work merge into the single idea of being-at-work-staying-itself (*entelecheia*)" (Sachs 1995, 31).

Despite the convergence between the two accounts, Avicenna once again diverges from Aristotle and introduces an essential *addendum* to Aristotle's understanding of motion. His inquiry revolves around the meaning of ἐντελέχεια or actuality in Aristotle's definition, as it implies the notion of completion and fulfillment in the "perfect aspect" (McGinnis 2013, 72). To complicate the matters, the Arabic tradition has often rendered ἐντελέχεια as *kamāl*, which signifies perfection or completion, thus "bias[ing] an Arabic-speaking philosopher toward a non-process understanding of this term" (McGinnis 2010, 60). Rather than emphasizing motion as a process and being-at-work qua *actualization*, the concepts of ἐντελέχεια and *kamāl* evoke connotations of finality,

prompting Avicenna to address this concern. His solution to this predicament lies in proposing that motion must be instantaneous. To dispel any idea of motion as achieving completeness, as implied by ἐντελέχεια or *kamāl*, Avicenna asserts that "there is [motion] at an instant" (Avicenna, *Physics*, II.1, 116). Instead of conveying the idea of completion or potentially including states of rest, motion must be conceived as an instantaneous happening: "It is never being at the same point for more than an instant that is for Avicenna the form of motion" (McGinnis 2013, 74). Avicenna's proposition thus introduces the element of time into his understanding of motion, asserting that it must be perceived as an event unfolding in temporal succession. In this sense, motion emerges as a dynamic entity rather than a static happening, necessitating a continuous state of becoming. In McGinnis' words, motion is "the perfection of the moving thing in one intermediary point after another, albeit only as existing at an intermediary point for an instant" (McGinnis 2010, 61).

A second issue arises when considering the concept of actuality in relation to the traversal of distances. The notion of *kamāl* seems to overlook the apparent dilemma of a traversal potentially encompassing an infinite number of "perfections" or "completions" (Avicenna, *Physics*, II.8, 187). Between any *terminus a quo* and *terminus ad quem*, an infinite number of *termini* can be identified. In the process of traversing from here to there or transitioning from one state to another, numerous intermediary points, including states of rest, can be considered ἐντελέχειαι or "perfections." Avicenna's understanding of motion, as highlighted by McGinnis, must address "how the moving body could be actually at an intermediary point in such a way that its being at that point implies neither that the moving body is at rest at that point nor that the distance and time involved in the motion are atomic" (McGinnis 2010, 63).

Avicenna responds to this predicament by suggesting that motion, in fact, possesses two distinct perfections. The dilemma of traversal is resolved through the division of motion into two perfections. Drawing on Aristotle's characterization of the soul as "the first actuality (ἐντελέχεια πρώτη) of a natural body which has life potentially" (Aristotle, *De Anima*, 412a19 – 29), Avicenna conceives of motion as having a first and a second perfection. The first perfection pertains to the process of passing and transitioning itself, while the actualization of this process alludes to the second perfection: "the second perfection (*kamāl ṯānin)* happens once it has made the traversal" (Avicenna, *Physics*, II.1, 113). The perfections of movement, therefore, initially refer to progress and subsequently to the fulfillment of the intended goal. While the first perfection signifies the transition itself, the second perfection lies in the attainment of the goal and reaching the *terminus*. In Avicenna's framework, motion emerges as an instantaneous happening and incessant state of becoming: "an actualised

state of being on the move" (Lammer 2018, 361). For him, as temporal phenomena, natural beings are actualized at each and every instant.

III. The Prior and The Posterior

Equally fundamental to Avicenna's exploration of nature is his examination of rest (*sukūn*). Recognizing that nature serves as the domain and the origin of motion *and* rest, he sees the necessity of providing a comprehensive account of the latter to fully articulate the intricacies of nature. Again, Avicenna builds upon Aristotle's conceptualization of rest (ἠρεμία) as a foundation for his own analysis.

Aristotle, in books *Γ, Δ*, and *E*, meticulously formulates his account of rest, delineating it as either the contrast (ἐναντίος) or privation (στέρησις) of motion. Additionally, he introduces the notion of counter-motion (ἐναντιόν κίνησις) into the equation, as "we find a contrast (ἐναντία) not only between a movement and its counter-movement but also between experiencing that movement and its rest" (Aristotle, *Physics*, 229b23, modified). Motion is not only opposed to rest but also to movement in the opposite direction. Understanding the true nature of rest and its place within nature requires an examination of this threefold relationship.

At the outset, Aristotle raises doubt about whether rest can truly be considered the contrast of motion, for "it may be questioned whether 'staying in a place' is really the contrary of 'moving out of it'" (Aristotle, *Physics*, 230b28, modified). In fact, it might appear that "counter movement is more perfectly contrary to the other than is the rest which it abolishes" (Aristotle, *Physics*, 231a1, modified). However, upon closer examination of rest and counter-motion, it becomes evident that both present distinctive opposition to motion: "While the opposite of a movement, in the full and proper sense, is the movement counter to it, privation of movement is also contrasted with movement, as being its non-accomplishment" (Aristotle, *Physics*, 229b26, modified).

Counter-motion and rest each present their distinct contrast to motion. While the former appears as the "proper" contrast of motion, the latter emerges as its quasi-contrast by being the privation of it. According to Aristotle, rest is the privation of movement, and to a lesser degree, its contrast as its non-accomplishment (Aristotle, *Physics*, 202a40). It is seen as the privation of all forms of movement, including locomotion: "movement from A to its opposite B will have for its opposite the resting fixed in A, and movement from B to A will have for its opposite the abiding fixed in B" (Aristotle, *Physics*, 229b30, modified). Rest in point A opposes the movement from A to B as its privation, while rest in point B opposes the movement from B to A as its negation. Thus, Aristotle understands rest to exhibit privation or negation depending on its prior state or location.

To further complicate the matter, Aristotle later introduces the alpha-privative version of κίνησις, the notion of non-motion or inertia (ἀκινησία), into the discussion.

In the following pages, the *Physics* discusses two modes of rest and juxtaposes rest with inertia. At times, Aristotle uses the terms interchangeably, by saying, "what we mean by inertia [ἀκινησία] or 'rest' [ἠρεμία] is the absence of motion in that to which motion is possible" (Aristotle, *Physics*, 202a4, modified). However, he later distinguishes the two notions and explores their respective relationship with motion. He writes:

> We say a thing is inert (ἀκίνητον) either because by its nature, it is insusceptible of motion (as a sound is invisible); or because its movement is so slow as to be hardly perceptible, or because it is 'slow to begin with,' which is equivalent to 'inapt to move,' or lastly because, though it could move under given conditions of time, place, and manner, it is not actually moving. And it is only to the last class of inert (ἀκινήτων) things that I apply the term resting (ἠρεμεῖν) (Aristotle, *Physics*, 226b11, modified).

Aristotle considers rest to be a subset of inertia and identifies it as the privation of motion. He views rest not as an affirmative concept and contrast to motion, but rather as a particular modification of inertia that is never entirely devoid of motion. Despite the necessity of rest for the transition between movement and counter-movement, Aristotle maintains that rest fundamentally belongs to the realm of absolute negation of motion as its privation.

Likewise, in *The Physics of Healing*, Avicenna seeks to elucidate the nature of rest by drawing on his interpretation of the *Physics.* He posits that an object at rest is one that "is not moving but such that it can be moved" (Avicenna, *Physics*, II.8, 197). Rest, according to his perspective, denotes the absence of present movement despite the possibility of movement. As motion becomes actualized, what ceases to exist is rest. Avicenna further argues that "with respect to every kind of motion, there is some opposing rest" (Avicenna, *Physics*, II.4, 156). Regarding the relationship between motion and rest, he writes: "the sense of providing the temperament and form is already included in producing motion, and the sense of preserving the temperament and form is already included in producing rest" (Avicenna, *Physics*, I.5, 43). Motion is evident as supplying the formal factor, while rest is responsible for retaining the form. Motion facilitates the realization of the goal, while rest ensures the conservation of this *telos*. Thus, Avicenna perceives motion and rest not as contrary but complementary. Despite their opposition, they jointly support the *telos* by providing and safeguarding the form.

Avicenna presents an intriguing perspective that suggests an opposition between rest and motion, highlighting their antithetical but interconnected nature. Unlike Aristotle, who defines rest as the privation of motion, Avicenna appears to challenge the notion of rest as a mere absence or privation and to lean towards

conceiving rest in more affirmative terms. In *The Physics of Healing*, rest emerges as the final cause of motion: "every natural motion is for the sake of seeking a state of rest, whether in a where, quality, quantity, or position" (Avicenna, *Physics*, IV.9, 467). According to Avicenna, the natural inclination of a moving body to seek its natural place makes rest the final cause of motion. After all, "every motion that does not come to rest is not a natural one" (Avicenna, *Physics*, IV.9, 468). However, he then presents motion as the efficient cause of rest, explaining that "motion is that which brings the body to its natural rest and disposes it to it, but it does not remain together with that [rest]" (Avicenna, *Physics*, III.9, 340). Thus, while rest assumes the role of the final cause of motion, motion itself becomes the efficient cause of rest. Rest can only be experienced by virtue of motion; without motion, rest simply does not exist. Avicenna suggests that viewing rest solely as the contrast of motion overlooks the intricate relationship they share.

To resolve the apparent dilemma and the inherent confusion within Aristotelian physics, Avicenna proposes a nuanced approach to understanding rest by differentiating two modes of rest and their relationship with time. In order to fully comprehend the relationship between rest and motion, it is necessary first to clarify the concepts of privation and contrast. Avicenna tackles the question of whether rest is a "positive state, i.e., a 'possession' (*qunya* or *malaka*) that belongs to a subject and is contrary to the state of being in motion" or "is not a positive state but merely the 'privation' and 'absence' (*ʿadam*) of motion" (Lammer 2018, 362). To further expand upon Aristotle's account and address the inherent conundrum, Avicenna introduces two distinct accounts of rest: rest *qua* "coming to rest" and rest as "being at rest." He demonstrates how each account relates to motion, shedding light on their respective characteristics.

Avicenna argues that by categorizing rest as either "coming to rest" or "being at rest," we can approach the question of whether rest is a possession or absence, a contrast or privation. If rest is defined as "being at rest," it implies that rest is contrary to motion and is considered a possession. According to this definition, rest would mean being in "a single where for a moment and to being at it both before and after [that moment]" (Avicenna, *Physics*, II.4, 155), which suggests that in a state of rest, there is no prior or posterior motion. In other words, if rest is conceived as a possession, then it would be a state that is acquired without a *before* or an *after*, which is impossible. Therefore, rest cannot be perceived as a possession and the contrast of movement. However, if rest is defined as "coming to rest," it presupposes a *before* and an *after*. In this case, rest would entail being in a specific location for a definite amount of time, serving as a temporary pause between past and future movement. Avicenna thus refutes the Muʿtazilī stance of

defining rest as a possession and instead demonstrates that rest is the privation of motion (*ʿadam al-ḥaraka*) (Lammer 2018, 362).

By situating rest within the framework of motion and time, Avicenna further underscores its nature as a privation. According to him, if we were to consider rest as an affirmative state and conceive it essentially as "being at rest," we should be able to define time in terms of rest. If our aim is to derive motion from rest rather than the other way around and assume a contrast between rest and motion, it follows that we should be able to conceptualize time based on both rest and motion. However, Avicenna encounters a fundamental obstacle in the endeavor. The assumption that rest essentially refers to "being at rest" and is the contrast of motion fails to account for the passage of time. We lack the means to conceptualize the flow of time solely based on rest. As Avicenna states, "[t]ime, however, is defined in terms of motion, and so rest would be defined in terms of motion" (Avicenna, *Physics*, II.4, 155). Consequently, Avicenna concludes, "motion precedes time conceptually, in which case motion cannot be a privation" (Avicenna, *Physics*, II.4, 155). Ultimately, Avicenna posits that "rest is the opposite of motion in the way that a privation, not a contrary, is the opposite of possession" (Avicenna, *Physics*, II.4, 152). Rest must be understood as the state of being deprived of movement despite being capable of it. As he describes it, "rest is a privation of motion in that which is disposed to being moved, not the privation of motion absolutely" (Avicenna, *Physics*, II.13, 255). Avicenna concludes his account of rest and writes:

> …there is no way to confirm the opposition between the definitions of motion and rest when the definition of rest [in the sense of] is a possession, and so it remains that the definition of rest is in the sense of a privation (Avicenna, *Physics*, II.4, 155).

In Avicenna's account, rest emerges as the privation of motion. His solution to the Aristotelian predicament concerning the nature of rest lies in distinguishing two modes of rest and establishing that rest must fundamentally be understood as the privation of motion *qua* "coming to rest." However, Avicenna's *addendum* signifies more than a mere clarification of Aristotle; it instead represents a significant departure from the Peripatetic school. While Aristotle views rest as the absence of motion, implying a state devoid of participation in motion, Avicenna contends that rest is an intermediary state with inherent temporal properties. Aristotle perceives rest as *not partaking in motion*, while Avicenna demonstrates that it means *no longer* or *not yet* partaking in motion. As Avicenna asserts, "rest [qua 'coming to rest'] has an earlier

and a later, in a certain way, and so the two ends of the rest enter into time accidentally." (Avicenna, *Physics*, II.13, 255). Avicenna thus establishes temporality as an indispensable element for comprehending the true nature of both motion and rest.

Avicenna's establishment of temporality as a fundamental component of rest and motion has profound implications. It reinforces the understanding that motion and rest are inherently temporal, thereby solidifying the idea that nature itself is intrinsically bound to temporality. Avicenna's physics elucidates the inseparable connection between temporality and nature, providing a framework in which nature is best described as "the flowing nature" or *natura fluens.* By emphasizing the dynamic and ever-evolving nature of natural phenomena, Avicenna's account unveils the inherent temporality that governs the processes of the natural world. In this way, his insights invite a deeper understanding of nature as an ongoing and constantly unfolding phenomenon.

Conclusion

Avicenna's account of motion and rest elucidates the crucial role of time in his physics. Just as motion is conceptualized as instantaneous and as possessing multiple perfections, Avicenna argues that rest relies on temporal priority and posteriority: "being earlier and later exist with respect to resting" (Avicenna, *Physics*, II.13, 257). As Lammer aptly describes it, "[f]or Avicenna, the prior and posterior in motion is an inseparable and concomitant feature of motion" (Lammer 2018, 441). Avicenna underscores the necessity of temporal priority and posterity for being in time, by writing, "things in which there is neither an earlier nor a later in some way are not in time, even if they are together with time" (Avicenna, *Physics*, II.13, 257). Additionally, he emphasizes that no duration or time can be understood without inherent notions of before and after (Avicenna, *Physics*, II.13, 257).

Of greater significance for our purposes is the recognition of nature itself as an inherently temporal happening in his framework. Rooted in the dynamic and temporal nature of motion and rest, Avicenna demonstrates the temporal character of nature. According to him, nature serves as "the first principle of motion and rest" (Avicenna, *Physics*, I.50, 40), wherein motion is not understood as a state of completion or perfection, but as an instantaneous process through which natural beings continually actualize themselves at every moment. Even in their state of rest, natural beings do not come to a complete halt; instead, they exist within a "now" that is defined by prior and posterior motion, enveloped by the continuous motion at both ends of the present. This understanding of nature reveals that natural beings are embraced and sustained by "the flowing nature" or *natura fluens*.

Aristotle's account of nature also highlights the perpetual movement and progression inherent in natural beings. Unlike artifacts, which can come to a standstill,

natural beings never truly cease to be in motion as long as they live. Aristotle's choice of the active verb ἠρεμεῖν (to repose) to define nature makes "rest" a state within movement. As such, natural beings can never be entirely devoid of motion. However, this does not imply that natural beings possess an inherent ground of rest or movement within themselves. Attributing nature to natural beings would reduce it to a mere capacity, disregarding the fact that natural beings lack the ability to halt their movement. Thus, Aristotle employs the middle-passive κινεῖσθαι (to be moved) to explain the peculiar movement of living beings. According to him, natural beings do not move themselves but rather receive or are affected by movement – an aspect that Avicenna was not aware of (Lammer 2015, 137). For Aristotle, regardless of their actions, living beings are inevitably bound to be in motion. Properly speaking, the natural being moves itself despite itself: "The thing in movement does not move itself. It has the origin of movement, not of moving something or of causing motion, but of suffering it (πάσχειν)" (Aristotle, *Physics*, 255b30).

In aligning his account with Aristotle's definition of nature, Avicenna is "placing himself squarely within a larger tradition of natural philosophy that has its roots in the classical Greek world" (McGinnis 2013, 71). Aristotle, too, sought to uncover the inherently temporal nature of motion in natural beings, asserting that "those which are not in any way embraced by time neither were nor are nor will be" (Aristotle, *Physics*, 221b25). However, Avicenna goes beyond Aristotle by placing a greater emphasis on discussing motion and rest in temporal terms, emphasizing the permanence of priority and posteriority in natural occurrences. In this regard, Avicenna not only incorporates temporality into his conception of nature but regards time as an indispensable element within natural processes. He underscores the temporal and event-like nature of natural beings, presenting them as inextricably linked to time. According to Avicenna, natural beings are not merely temporal; they are natural only because they are embraced and governed by time, existing not alongside it, but within its all-encompassing dominion (Avicenna, *Physics*, II.13, 256).

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