# Episode Sixty - Dreams and the Mind's Use of Images

## Post by “Cassius” of March 1, 2021 at 8:03 PM

Maybe some of the issue can be gleaned from this article:

https://www.researchgate.net/publication/33...OD_IN_ARISTOTLE'S_DE_SOMNO

In outline, the argumentative strategy that Aristotle follows in the first chapter of the *De somno* consists of the following three steps.

*First step*: Aristotle establishes that waking and sleep are contraries, and that what receives one of the two contraries receives also the other (but it does not, and indeed cannot, receive both at the same time). This is a general point, and a point that Aristotle makes without invoking any particular principle of natural philosophy. Rather, Aristotle secures this result by invoking a logical property shared by any chance pair of contraries.[5]

*Second step*: What is specific about the phenomena of sleep and waking is that they depend on the activity of perceiving. Aristotle establishes this point by means of the following observation: we know that someone (or something) is awake or asleep based on the presence or absence of the activity of perceiving. With this observation, Aristotle secures two results. The first is that, since the activity of perceiving is proper neither to the soul nor to the body but it entails both, sleep and waking are to be studied as part of the explanatory project that is concerned with "what is common to the soul and the body."[6] As a result, we can say that this explanatory project is clearly distinct from the one attempted in the *De anima*. While in the *De anima* Aristotle is concerned with the soul as the principle of life, in the *De somno* he is concerned with natural phenomena that are common to both the soul and the body, the explanation of which depends at least in part on the results achieved in the study of the soul.[7] A full appreciation of the relationship between the two projects helps us understand why in the *De somno* Aristotle invokes the *De anima* for the claim that the capacity of perception belongs to animals to the exclusion of plants. This claim is enough to secure the following important result: animals alone are affected by sleep and waking.

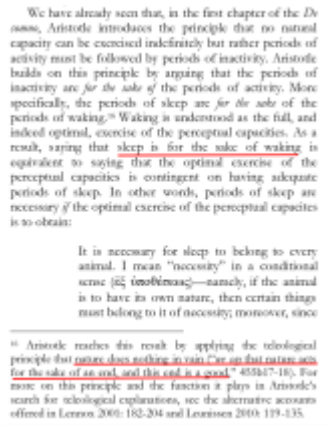
*Third step*: No animal can be always asleep or always awake, but each and every one of them must alternate sleep and waking. Aristotle argues that the capacity for perception cannot be exercised continuously, and hence



periods of activity (waking) must be followed by periods of inactivity (sleep). This result is secured by invoking the following general principle: if *x* possesses a natural function, then there is also a natural time-limit for the exercise of that function; when the function is exercised beyond that time-limit, *x* is incapacitated. Aristotle does not pause to elaborate on the epistemological status of this principle, nor does he try to qualify it, by saying that it is a *natural* principle, or to restrict it by adding that this is a principle that applies to the sublunary world to the exclusion of the celestial world. The overall impression is that Aristotle is invoking a general principle of natural philosophy that, at least by his lights, is empirically evident. His claim is that things such as eyes, hands, *and everything else with a determinate function*, is given a time-limit beyond which they are incapacitated.

With the help of these three steps, Aristotle has secured *the scientific fact* that he will attempt to explain in the rest of the *De somno*—namely, that all animals alternate periods of sleep and periods of waking. It should not go unnoticed that Aristotle has also achieved an initial characterization of the phenomena of sleep and waking. More directly, if the animal is defined by possession of the capacity for perception, sleep is a fettering or an immobilization of perception, whereas waking is the release and liberation of perception:

That all animals partake of sleep is clear from these considerations: for the animal is defined by the possession of perception, and we say



We have already seen that, in the first chapter of the *De somno*, Aristotle introduces the principle that no natural capacity can be exercised indefinitely but rather periods of activity must be followed by periods of inactivity. Aristotle builds on this principle by arguing that the periods of inactivity are *for the sake of* the periods of activity. More specifically, the periods of sleep are *for the sake* of the periods of waking.[16] Waking is understood as the full, and indeed optimal, exercise of the perceptual capacities. As a result, saying that sleep is for the sake of waking is equivalent to saying that the optimal exercise of the perceptual capacities is contingent on having adequate periods of sleep. In other words, periods of sleep are necessary *if* the optimal exercise of the perceptual capacites is to obtain:

> It is necessary for sleep to belong to every animal. I mean "necessity" in a conditional sense (ἐξ ὑποθέσεως)—namely, if the animal is to have its own nature, then certain things must belong to it of necessity; moreover, since

[16] Aristotle reaches this result by applying the teleological principle that nature does nothing in vain ("we say that nature acts for the sake of an end, and this end is a good," 455b17-18). For more on this principle and the function it plays in Aristotle's search for teleological explanations, see the alternative accounts offered in Lennox 2001: 182-204 and Leunissen 2010: 119-135.

well THIS is surprising to me -- that Aristotle held that the brain exists for the sake of cooling the rest of the body:

To understand the physiological process outlined in this passage we have to keep in mind the function that Aristotle assigns to the brain. The brain is the coldest among the parts of the body and exists in the body for the sake of cooling the entire organism.[16] When the exhalation produced in the process of digestion enters into the veins,

[15] The reader should compare what Aristotle says in the *De somno* with the following passage from *PA*: "as the nourishment exhales upward through the veins, the residue from it becomes cooled owing to the specific nature of this place =i.e. the brain=, and produces fluxes of phlegm and serum. And we should be justified in maintaining that this process resembles, on a small scale, the one which produces rain-showers. Damp vapour exhales up from the earth and is carried into the upper regions by the heat; and when it reaches the cold air up it condenses back again into water owing to the cold and pours down toward the earth" (*PA* II 7, 653a5-8).

[16] Here is what Aristotle says on the function of the brain in *PA*: "Everything needs something to counterbalance it, so that it may achieve proportion and the means […] for this reason nature has contrived the brain to counterbalance the region of the heart and the heat in it; and this is why animals have a brain, the composition of which is a combination of water and earth. Hence, although all blooded animals have a brain, practically none of the others has (unless it be just a counterpart, as in the case of the octopus), for sicne they lack blood they have but little heat" (*PA* II 7, 652a28-2b). Among other things, this passage helps us understand that bloodied animals must have both a heart and a brain. With the exception of a few cases (most notably, the octopus), bloodless animals do not have a brain. In their case, cooling takes place in some another way. In the *De somno*, Aristotle deals with cooling in bloodless animals at 2, 456a6-21.



it becomes a warm substance moving up quickly through the veins toward the upper part of the body. When it has reached the brain, this hot substance is cooled off.[17] At that point this substance, which will at some point be transformed into blood, is ready to flow inward toward the heart. Sleep happens in connection with the sudden concentration of blood in the region around the heart. The brain produces sleep but it is not itself affected by sleep. What is affected by sleep is the heart because the latter is the seat of the common sense-organ.[18]

We can go further in describing what Aristotle envisions happening in the body in connection with episodes of sleep and waking. Aristotle argues that one awakes when the separation of the thinner blood from the thicker blood is completed (3, 458a12). Aristotle seems to think that an episode of sleep occurs as a result of the fact that a large quantity of blood in need of separation has flooded the region around the heart; when the separation is completed, an episode of waking ensues:

[17] Based on what Aristotle says in *De somno* 3, 458b5-10. It is suggestive to think that the brain works like a radiator, the function of which is to cool the body off. The brain is surrounded by a dense network of veins. By being forced to flow through these narrow passages, the hot substance is cooled off. Cf. *HA* 496 a 5-13: "In all animals, the brain is bloodless; there is not a single vein in it, and it feels cold to the touch […] the