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## Lucretius and the Mind-Body Relation: the Case of Dreams

**Abstract:** In the third book of DRN, Lucretius argues in favor of mortality of the soul and removes the fear of a life after death: in so doing he conceives a soul-body model able to guarantee a strict functional interdependence of the two natures. Moreover, in the fourth book he deals with psychicness in all possible articulations on the basis of this very soul-body model. Through this analysis, Lucretius realizes a double purpose. First, he shows that human psychicness is the outcome of an active and voluntary interaction of the human being with the environment. Second, he supports the thesis of the veracity of sensation from a physiological perspective. A very puzzling case for Lucretius' account is that of dreaming. While sleeping, the dreamer can interface with realities that are no longer present or are totally reduced to perception, such as absent or dead people or gods; the dreamer can also deceptively believe that the dreamt object is the object itself: he/she may become deeply disturbed about such an object and not realize this as a mistake. While sleeping, the normal psychosomatic interaction breaks down and some psychological functions, such as sensation and memory – fundamental in order to verify the reliability of mental representations – are missing. The case of dreams, therefore, could be exploited to confute the whole Epicurean theory of the soul. The aim of the present essay is to show that Lucretius is able to justify the consistency of Epicurean psychology and epistemology through the analysis of the peculiar interaction between the soul and the body during sleep: although the condition of the soul within the body radically changes during sleep, nevertheless dreams are the outcome of the soul-body interrelation; the nature of their interaction with the environment guarantees the veracity of the dreamlike representation, namely the correlation of the mental image with the external object; their mutual dependence helps to explain the origin of deception in dreams as well as the pathological affections that can derive from it.

**Keywords:** Lucretius, mind – body relation, sleep, dreams, deceptiveness

# 1 Introduction

In Book 3 of the *De Rerum Natura*, Lucretius sets out to dispel the idea that “that fear of Acheron [...] which troubles the life of man from its deepest depths, suffuses all with the blackness of death, and leaves no delight clean and pure” (3.37–40). In order to do so, he outlines a rigorously materialist and unitary soul-body model, so as to ensure a close vital and functional interrelation between the two natures, based on the specific atomic composition of the soul and its place within the body.<sup>1</sup>

Then in Book 4, on the basis of the soul-body model he has just outlined, the poet examines the way in which the human psyche unfolds in all of its possible articulations. Through this analysis, Lucretius pursues two goals. The first is to show that all human psychic activity is the outcome of man’s active and voluntary interaction with the environment. The second goal is to establish the thesis of the veracity of sense-perception from a physiological perspective.<sup>2</sup>

Dreams, however, constitute a particularly problematic case for Lucretius’ psychological and epistemological explanation. In sleep, a dreamer may interact with entities no longer present to his perception, such as dead people who were once dear to him; he may fallaciously believe that the object he is dreaming of is the object itself, be deeply unsettled by it, and fail to realise his error. Sleep marks a break in the ordinary interaction between soul and body, whereby certain psychic functions that are crucial for judging the veracity of representations, such as sense-perception and memory, no longer operate. The case of dreams, therefore, might even be used to undermine the soundness of the psychological doctrine as a whole.<sup>3</sup>

The aim of the present contribution is to show how Lucretius is instead able to reassert the coherence of Epicurean psychology and epistemology through an analysis of the interaction between soul and body, and of the relation between the psychosomatic compound and the environment in the particular context of sleep.

I will proceed as follows. First, I will briefly illustrate the psychological theory expounded in Book 3 of the DRN. Then, on the basis of Lucretius’ analysis in Book 4, I will explain what psycho-physical changes take place in sleep. Finally, I will show how dreaming occurs by virtue of such changes.

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**1** For an overall introduction to Epicurean psychology, see Diano 1974, Everson 1999, Gill 2009, Kerferd 1971, Lathière 1972, Masi/Verde 2018, Repici 2008, Verde 2010, 187–199, Verde 2015.

**2** See Godwin 1986, 7.

**3** On the Epicurean dream theory see Masi 2017 and 2018, Tsouna 2018.

## 2 The Nature of the Soul and its Relation to the Body

In Book 3, just after the opening proem, Lucretius sets out to dispel the fear of death. He states that he wishes to clarify the nature of body and soul, on the basis of his previous explanation of the principles of all things (3.31–36). Lucretius' psychology is developed in several stages, according to an approach and logical order that find no parallel in surviving texts by Epicurus. Therefore, a succinct overview may be in order. Lucretius' starting point is what he regards as a well-known assumption that will only be explicitly illustrated later on,<sup>4</sup> namely the distinction between *anima* and *animus*: the former is the vital, kinetic and sensitive principle, the latter the rational, intellective and emotional principle of the human organism. So right from the beginning of the exposition, the soul emerges as an articulated and complex entity. In the light of this distinction, the poet then sets out to show – against the champions of the theory of harmony or of the soul as the vital part of the body – that the *animus*, which is to say the soul conceived specifically in term of its hegemonic and intellective function, is a part of the human organism “no less than hands and feet and eyes are parts of the whole living being” (3.69–97). After having justified this assumption, Lucretius explains that *anima* and *animus* have the same nature and that the distinction between the two is justified in spatial and functional terms (3.136–160). Having established as much, Lucretius first shows that the soul as a whole is corporeal and examines the nature of its composition in detail (3.161–322); then he analyses the soul's interaction with the other part constituting the human organism, namely the body. This extensive and highly detailed examination of the relation between soul and body allows Lucretius to show that the soul cannot exist or operate outside the body, and that the body cannot endure or perceive anything without the soul (3.323–829). On the basis of this conclusion, Lucretius can finally investigate and refute the false beliefs responsible for the fear of death, along with the desires that such fear can inspire and fuel (3.830–1094). Here I cannot examine the detailed analysis provided by the poet throughout the book. Rather, I will outline his conception of the nature of the soul, which is to say of its atomic composition and internal structure, as well as of its relation with the body, in order then better to clarify what structural and functional alterations occur during sleep.

“The nature of mind and spirit is bodily” (3.161–162). Lucretius adduces two proofs of the corporeality of the soul that revolve around its capacity to act and

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<sup>4</sup> On this aspect of Epicurean psychology, I will refer to Masi/Verde 2018, 243–246.

to suffer (cf. Epic., *Ep. Hrdt.* 67). Both these arguments rest on the assumption that movement and change are only possible by virtue of the mutual contact of corporeal entities and therefore that they can only fully be explained within the framework of an explicit materialistic theory. According to the first argument, the soul is corporeal insofar as it has the power to move the body, something which is only possible through physical contact (3.162–167). According to the second argument, the soul partakes in the suffering of the body, and vice versa: when the soul suffers, so does the body. Given that pain can only pass from one body to another, the soul too must be corporeal (3.152–162, 170–176).

Once the corporeal nature of the soul has been established, it is a matter for Lucretius of explaining “what kind of body this mind is, and of what it is formed” (3.177–178). With regard to this, the poet first of all argues that a body such as the soul, which is characterised by mobility and reactivity (3.181–188), must be very fine – with a consistency similar to that of water or air (3.189–198) – and hence be made up of particularly minute, smooth and round elements, capable of moving swiftly “when touched by a small living power” (3.188). The specific density of the structure of the soul is relevant for understanding its peculiar relation to the body. Lucretius immediately refers to this condition, arguing that the soul is “interlaced through veins, flesh, and sinews, since, when the soul has already departed from all of the body, nevertheless the outward contour of the limbs presents itself undiminished, nor is one jot of the weight lacking” (3.216–220). The reference here to the interlacing between the soul and the rest of the organism helps establish the fact that the soul can be conceived as a body within another body, precisely by virtue of its extreme fineness, which translates into its having practically no specific weight at all.<sup>5</sup> Later on the poet will return to this question from a different perspective, explaining that the soul’s location within the body prevents it from becoming dissipated and allows it to participate in its vital movements.

The quantitatively, formally and morphologically homogeneous nature of the atoms that make up the soul should not lead us to conclude that it possesses a simple nature:

For a kind of thin breath mixed with heat leaves the dying, and the heat, moreover, draws air with it. Nor is there any heat which is not mixed with air; for since its nature is rarefied, many first beginnings of air must be moving through it. Already, therefore, the nature of the mind is found to be threefold; yet all these three together are not enough to produce feeling, since the mind cannot admit that any of these can produce sense-bringing motions and the thoughts which it itself revolves. A fourth nature must therefore be added to these;

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5 On this paradox see Verde 2010, 188.

this is entirely without name; nothing exists which is more easily moved and thinner than this, or made of elements smaller and smoother; and this first distributes the sense giving motions through the limbs.

(DRN 3.232–245 tr. W.H.D. Rouse)

The soul, therefore, is the result of a mixture; in other words – judging from what we know about the Epicurean notion of *mixis* – it stems from the breakdown of different elements into their original atomic constituents and their recombination into an original synthesis that possesses a different causal efficacy compared to that of its individual components: breath, heat, air, and a nameless substance that stands out from the rest on account of its fineness and smoothness.<sup>6</sup> Lucretius' doctrine of the four elements constituting the soul is used to explain the different properties of the living organism. The first three elements (heat, breath, and air) are invoked to justify breathing (3.231–234), movement and rest, bodily temperature, and finally the temperament and character of animals and human beings (3.288–307). The fourth, nameless nature is instead explicitly introduced in order to account for the sensitive capacity of the soul.<sup>7</sup> The atoms originally belonging to the fourth element, being finer and smoother, are the first to react to external stimuli; they perform movements that engender sensation and transmit them to the other atoms constituting the soul and, through them, to those constituting the body, according to their degree of fineness (cf. 3.246–251).

The fineness of the soul, its almost liquid or even gaseous density, and its 'graded' atomic composition, so to speak, determine its particular location within the body and the interaction between the two. As already anticipated, the soul requires a more solid and firmer framework, capable of preserving it against dispersion. Lucretius uses two images to illustrate the connection between soul and body: on the one hand, that of an interlacement, which highlights the close interconnection between the two; on the other hand, that of a vase which emphasises the containing and protective function of the body with respect to the soul. Moreover, Lucretius develops his explanation of the spatial relation between soul and body in polemical contrast to the Democritean doctrine, according to which the atoms of the soul are arranged in the living organism in alternation with those of the body, one after another. The poet notes that, with a similar distribution of the constitutive elements of the human organism, each movement made by the

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<sup>6</sup> On the Epicurean notion of mixture, see Alex. Aphr., *De mixt.*, 140 = 290 Usener, Keferd 1971, Masi 2006, 64, Gill 2009, 130, Masi/Verde 2018, 238.

<sup>7</sup> The nature of this fourth element and the reason why it is not given a name have been a matter of debate since Antiquity. For an overview of this debate, which lies beyond the scope of this paper, I will refer to Masi/Verde 2018, 239.

corporeal atoms would automatically be transmitted to those of the soul. But in fact – Lucretius notes – living beings cannot always perceive the impact of objects touching their body. In the light of this, the poet hypothesises that the atoms constituting the soul are separated by intervals larger than those posited by Democritus and which may be measured according to the number of particles constituting the smallest perceivable object (3.370–390). Lucretius’ argument, however, is not enough to elucidate the nature of the connection between soul and body. In order to explain how the soul adheres to the rest of the organism, Bailey suggests we focus on the composition of the latter. Lucretius (3.566–568, 691–695, 788) describes the human body as a complex whole consisting of different parts, such as the blood, veins, organs, nerves, bones, that vary in terms of compactness and solidity: bones are formed by tight-knit atoms, whereas blood, veins, organs and nerves are constituted by finer and smoother atoms, which are therefore bound together in a looser way. In all parts, however, pores are to be found between one set of atoms and the next (3.255, 702, 707). According to Bailey, it is through these passages that the atoms of the soul penetrate “into every part, yet constantly shifting with their own atomic motion and the changes of the surrounding structure caused by the movement of the body atoms”.<sup>8</sup>

The idea of a close adherence of the soul to the body has two implications. First, the soul is born and develops together with the body (3.445–454). Secondly, by virtue of its close spatial interrelation with the body, it is capable of producing sense-bringing motions. For the soul derives most of its sensitive capacity from its particular disposition within the human organism and from the activity which it performs by virtue of this disposition. Briefly put, sense perception stems from the convergence and coexistence of soul and body. In one respect, the soul is more responsible for sense-perception since what accounts for this is the soul’s composition and movement; in another respect, however, the soul is not the only cause of sense-perception, since without the participation of the body, the living organism would not perceive anything at all. Sensation is not something that intrinsically belongs to either the soul or the body, but is rather the result of their union (3.892–896). Sense-perception, then, comes about through direct interaction with elements from the environment or through changes undergone by the body (3.246–251, 566–572). This mechanism lies at the basis of almost all other psychic functions and constitutes a prerequisite for exercising them. For the perceptual, intellectual, affective and emotional life of a living being greatly depends on the reception and assimilation of elements (such as smells, sounds, images) from the environment and on their interaction with the soul-body complex.

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<sup>8</sup> Bailey 1929, 397.

As we shall see, a similar mechanism also lies at the basis of dreaming, which nonetheless presents certain anomalies.

Before we discuss dreams, however, it is necessary to address briefly one last question, namely what justifies the distinction between *anima* and *animus*, given their absolute structural identity. This distinction is crucial in order to explain dreaming. Lucretius presents the internal structure of the soul in functional and spatial terms:

Next, I say that mind and spirit (*animum atque animam*) are held in conjunction together and compound one nature in common (*unam naturam*), but that the head so to speak, and lord over the whole body is the understanding (*consilium*) which we call mind and intelligence (*animum mentemque*). And this has its abiding-place in the middle region of the breast (*media regione in pectoris*). For in this place throbs terror and fear (*pavor ac metus*), hereabouts is melting joy (*laetitiae mulcent*): here therefore is the intelligence and the mind. The rest of the spirit (*cetera pars animae*), dispersed (*dissita*) abroad through the whole body, obeys and is moved according to the will (*numen*) and working (*momenque*) of the intelligence.

(DNR 3.136–144, tr. W.H.D. Rouse)

Lucretius, therefore, stresses the idea that *animus* and *anima* are conjoined (cf. 3.398–401, where the soul is described as the ‘companion’ of the *animus*) and constitute a single nature, that of the soul, distinct from the aggregate of the body (yet just as material). The *animus* or rational part of the soul, which Lucretius conceives of as ‘the understanding’ (*consilium*), in turn defined as *mens*, not only governs the body, but also operates at a higher level than the soul. The latter obeys the *animus/mens* and moves in accordance to its order. Moreover, the *animus* resides in the thorax, at the center of the chest, and hence in the heart, where anxiety fear and joy come from, whereas the *anima* is dispersed throughout the rest of the body, since it is responsible for sense-perception. The bipartition outlined by Lucretius must therefore be understood in functional spatial terms rather than ontological ones. In other words, by residing in a specific part of the body and having a certain arrangement, the *animus*, which has the same composition as the rest of the soul, exercises specific functions that the *anima*, distributed as it is throughout the organism and conditioned by its movements, cannot exercise.<sup>9</sup>

To sum up, then, the soul, comprising spherical, smooth and round atoms – which make it a mobile and reactive body similar to a liquid or even a gas – is

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<sup>9</sup> On this see See Bailey 1929, 402–403, Diano 1974, 145, and Masi/Verde, 243–246. For a more extensive and detailed discussion of the problem of the distinction between *anima* and *animus*, see Verde 2018.

homogeneously suffused throughout the body, which is to say through the empty pores and passages of the body, which is constituted of more or less compact parts. The soul is therefore perfectly enclosed and protected by the rest of the organism, and together with it forms a unitary functioning system. Depending on the specific conditions in which it finds itself, the soul exercises different functions and distinguishes itself into *anima* and *animus* or *mens*: the soul, which is suffused throughout the rest of the body, exercises a sensitive and kinetic function, whereas the *animus* or *mens*, concentrated in the breast, exercises a noetic, dianoetic and even emotive function. In sleep, the usual interaction between soul and body no longer applies; consequently, the activity of the soul is partly altered.

In the next section I will examine the structural and functional changes that affect the soul-body complex in this state and what causes them.

### 3 The Soul and the Body during Sleep

In Book 4 of the DRN, Lucretius provides a detailed description of the particular physical process that affects the soul-body complex during sleep. His analysis is structured in two parts. In the first part, the poet examines the changed condition of the soul within the body during sleep and the consequent suspension of its ordinary sensory activity, which experiences a sudden limitation, albeit not an irreversible interruption such as that which occurs at death. In the second part of his exposition, the poet explains the causes for this alteration. Lucretius argues that in sleep the soul loses the unity that usually characterises it in its wakeful state, becoming divided and almost torn. Part of the soul leaves the body and part of it withdraws into its innermost depths, in such a way that what remains of the soul becomes even more thinned out and dispersed throughout the rest of the organism: “In the first place sleep comes on when the power of spirit is drawn apart through the body, when the part being cast forth has gone away, and the part more crowded together has retreated into the depths” (4.916–918). Lucretius is also quite explicit in attributing this twofold process of dispersion and withdrawal to the influence of an external agent upon the soul: the soul is pushed (*eiecta*) and squashed (*contrusa*). Before considering what this agent might be, it is important to note that the state of the soul affects that of the body and hence the overall psychic functionality of the organism: “for only then the limbs loosen and become flaccid. For there is no doubt that this feeling in us comes about by action of the soul, and when sleep hinders the feeling so that there is none, then we must suppose that the soul has been disordered and cast forth without”



(4.919–922). Without the soul to fill the spaces left empty by the structures that make up the body, the latter's constitution too is altered. The relaxation of the limbs may be conceived as a sliding of the atoms that constitute it into those gaps left by the atoms that make up the soul. This loosening of the various body parts helps explain the phenomenon of dreaming. For the moment, however, I wish to bring into focus the direct consequences of this new interaction between soul and body.

The fact that in sleep the sensitive capacity of the organism temporarily ceases to operate is due to the turbulence that affects the soul. As already noted, sense-perception results from the motions that the atoms of the soul perform on account of their interaction with appropriate external elements, but also of their particular arrangement within specific bodily structures, namely the organs: the atoms are forced to move about by virtue of their being arranged in a particular way. Once the setting has radically changed, the soul is no longer capable of performing the same activity, and without its contribution the organs are incapable of perceiving anything. Furthermore, owing to the withdrawal and increased rarefaction of the soul within the body, the former can no longer convey a kinetic impulse to the latter, which loses its support and firmness, growing heavier and weaker:

Next, part of the mind comes to be cast forth, and a part recedes within and is hidden; a part again, being drawn abroad through the frame, cannot remain in conjunction or perform a combined motion; for nature shuts off the communications and paths; therefore sensation buries itself deep when the motions are changed. And since there is nothing as it were to prop up the limbs, the body becomes weak and all the members are languid, arms and eyelids fall, the hams often at the moment of lying down, give way beneath you and lose their strength.

(DRN 4.944–953, tr. W.H.D. Rouse)

However, this condition of inertia is temporary and reversible: it should not be confused with the complete cessation of all psychic functions brought about by death. Lucretius confirms that, in sleep, not all the soul is expelled from the body, “for then the body would lie pervaded with the everlasting cold of death” (4.923–924). He notes that part of the soul remains hidden and active in the depths, “like fire covered in a heap of ashes” (926), so that sensation can be rekindled like “a flame from the hidden fire” (928). Moreover, Lucretius informs us that in sleep the *animus* remains active by virtue of its concentration in the breast, which evidently prevents it from withdrawing even more into the depths or indeed of flowing out from the thorax. This already emerges in the discussion in Book 3, where Lucretius argues in favour of a mereological view of the soul. To prove that the mind is clearly a distinct part of the organism, the poet points to the fact that it

continues to be agitated and to experience emotions even in sleep: “when the frame is given over to soft sleep, and the body lies spread out, heavy and without sensation, there is yet something in us which at that time is agitated in many ways, and admits into itself all the motions of joy and cares of the heart which have no meaning” (3.112–116). The same idea, as will be explained in greater detail later on, is more explicitly confirmed in the discussion on dreaming, where Lucretius states that “the mind’s intelligence is awake, when sleep has relaxed the limbs” (3.757–758). Later on in the poem, the author more clearly explains that the overall functionality of the soul during sleep and the subsistence of part of the soul within the rest of the body lie at the basis of dreaming, of its emotional component, and of the involuntary motions of the sleeping body.

Before turning to examine these aspects, in order to complete our analysis of dreaming, it is worth at least briefly considering the causes of the structural and functional alterations of the soul-body complex. Lucretius invokes two causes: air and food. The whip-like blows that air delivers to the body both from the outside and, through breathing, from within, disrupt the arrangement and motions of the atoms that make up the body and the soul:

it is necessary that since the body is touched by the breezes of the neighbouring air, the outer part of the body must be thumped and buffeted by the frequent blows of the air; and that is why nearly all things are protected by skins, or even shells, or a callosity or bark. This same air beats the inner part also when we breathe: as it is drawn in and blow back. Therefore, since the body is beaten on both parts, and also blows coming in through the tiny passages penetrate to the primary particles and elements of our bodies, by degrees there comes about as it were a collapse all through the limbs. For the positions of the first-beginnings of both body and mind are disordered.

(DRN 4.932–944, tr. W.H.D. Rouse)

Food too will produce shifts and disruptions similar to those caused by air – indeed, even more numerous and intense ones:

Again, sleep follows after food, because food has exactly the same effect as the air, while it is being distributed abroad into the veins. And much the heaviest sleep is that which you take when replete or weary, because then the greatest number of elements are disordered, being dulled by long effort.

(DRN 4.954–958, tr. W.H.D. Rouse)

Having outlined the condition in which soul and body find themselves during sleep,<sup>10</sup> it is now a matter of understanding whether and in what way, despite these radical alterations, the interaction between the two may account for dreaming in a way that, on the one hand, is consistent with the psychology outlined in Book 3 and, on the other, safeguards the epistemological principles extensively discussed in Book 4.

## 4 Dreams as the Outcome of the Interaction between Body and Soul

Lucretius devotes many lines to an analysis of dreaming. This is a noteworthy topic for a number of reasons. In sleep, the subject may: visualise the image of an object or of a state of affairs that he has already experienced, but which is either no longer present (as in the case of a deceased person, or of a war, a trial, a theatrical play, or a sexual intercourse) or totally removed from perception (as in the case of a god); distort objects of experience (e.g. he may dream of a person he knows, but as having a different eye colour); believe that the content of his dreams does not merely have a counterpart in reality, but actually coincides with the object or state of affairs in question (e.g. he may think that the deceased person in his dream is truly interacting with him); rouse passions akin to those caused by the actual experience of the particular object or state in question (e.g. the sleeper might be moved by the beloved one he is dreaming of); produce bodily movements of this or that magnitude during rest. Dreaming, therefore, insofar as it entails a weakening of the usual correlation between image and object, risks disproving the thesis of the veracity of all mental representations and raises a serious difficulty for Epicurean epistemology. By allowing one to interact with entities that escape perception, it can nourish false beliefs, such as those connected to the fear of death, and hence undermine the whole framework of Epicurean psychology. Finally, by causing strong perturbations, it may interfere with the pursuit of tranquillity and constitute a significant ethical obstacle.

Aware of the potential unwelcome implications of dreaming at the ethical, psychological and epistemological level, Lucretius sets out to develop a detailed physiology of dreaming capable, on the one hand, of reasserting the coherence

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<sup>10</sup> The process of sleeping is also explained – albeit in terms that are not entirely clear – in a scholium to Epic., *Ep. Hrdt.* § 66, on which see Lapini 2015, 93 and Masi 2017, 67–69. On this see also Schrijvers 1976, Gigandet 2015.

and efficacy of his soul-body model and, on the other hand, of fully accounting for the complexity of the phenomenon. Here I will endeavour to illustrate how the particular relation established between body and soul in sleep explains three fundamental aspects of this experience: the formation of dream representations; the deceptiveness of dreams; and the emotional and practical consequences of dreams for the dreaming subject.

First of all, the interaction between body and soul that comes into play during sleep is crucial in order to explain the mode of reception of the image that stands at the basis of the formation of dream representations. It is important to bear in mind here that Lucretius has an exogenous, visual and physical conception of dreams. Like other forms of imagination, dreaming is shaped by the impact upon our mind of one or more *simulacra* stemming from external objects (4.30–41). Moreover, according to Lucretius the *simulacrum*, which constitutes the external film of the object from which it originates, has a very thin texture, comparable to that of the soul (Verde 2018): hollow and about as thick as an atom, it is capable of reproducing the morphological and structural – yet not psychic – characteristics of the object it originates from (on the Epicurean notion of *simulacra*, see Leone 2012, 78–80 and 2015, 40ff). The *simulacra* which engender mental representations are, generally speaking, *simulacra* that travel through the air and have different origins: some come from objects perceivable in the daytime; others are *simulacra* that have continued to travel through the air even in the absence of the objects they stem from; others still derive from the combination of several *simulacra* of different origin that, like spider webs, mix in the air and give rise to images of non-existent objects. The *simulacra* that flow into the mind are finer than those that strike the eyes. Lucretius repeatedly stresses this feature, which distinguishes the *simulacra* responsible for mental vision from those responsible for eyesight. In one of these passages he also explains the precise reason for this greater fineness: “in truth these are much more thin in texture than those which take the eyes and assail the vision, since these penetrate through the interstices of the body and awake the thin substance of the mind and assail the sense” (4.728–731).

Lucretius associates the greater fineness of images stimulating the mind compared to those entering the eyes with the journey the former must make through the body. This observation is particularly relevant because it helps clarify in what way the specific relation established between body and soul in sleep can influence the formation of dream representations. It seems as though the peculiar place of the mind within the body plays a crucial role in this process. As already noted, the mind is enclosed within the thorax and situated in the heart, far away from the more peripheral areas of the body where the sense-organs are

located. This suggests that, in order to reach the mind, the *simulacra* must travel a tortuous route through corporeal structures with different degrees of compactness; and while these structures have pores and gaps that allow the passage of the *simulacra*, they may offer some resistance, causing the *simulacra* to deteriorate. This deterioration, in turn, might take the form of a thinning down of the *simulacra* that allows them to retain a degree of structural, if not morphological, similarity with the object from which they originate. *Simulacra* can travel through more or less dense and compact structures, altering their contours yet still transmitting the permanent and typological characteristics of their objects.<sup>11</sup> The capacity for inner contraction of the *simulacra* enables them to grow smaller and finer, so as to pass through more compact structures. Instead, the inner cohesion of every *simulacrum* allows the atoms that make up its texture to preserve or re-establish – by virtue of their movements and arrangement – their original position within the compound even after collision with an external body.<sup>12</sup> Therefore, what seems to lie at the basis of the refinement of the images that produce mental representations is this process whereby *simulacra* make their way through the various structures that make up the body. During sleep, by virtue of the particular psychophysical conditions at work, the mechanism in question might even be more pronounced, since – as already noted – the soul withdraws and the space it formally occupied is filled by the rest of the organism, as the body relaxes. Hence, whereas during our waking hours an image that strikes our mind might in theory pass through the passages left open by the soul – which, as we have seen, has a looser consistency compared to the body – during dreaming such access routes are blocked by our limbs. This might explain why dreams, while still representing external reality, tend to blur its contours, altering reality without completely distorting it.<sup>13</sup>

Lucretius' explanation for the finer texture of mental images can also fruitfully be connected to his illustration of the actual process of dreaming. The explanation provided here revolves around two points. Lucretius focuses first on the formation of dream representations and then on the origin of the deceptiveness of dreams. In both cases, what once again plays a crucial role is the peculiar interaction that emerges between body and soul. Lucretius states:

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**11** On the difference between morphological homogeneity and structural one of the *simulacrum* with respect to the external object, see Corti 2015.

**12** Cf. Epic., *Ep. Nat.* II coll 102–106, Leone 2012, 443–453, 608–609.

**13** For a different explanation of the finer structure of the *simulacra* that strike the mind see Avotins 1980, 441, Nemeth 2017, 29 Tsouna 2018, 236. For a deeper discussion of this point cf. Masi 2015, 109–113.

Since this is like that – what we see with the mind like what we see with the eye – it must come about in a like way.

Now therefore, since I have shown that I perceive a lion, it may be, by means of images which in such case assail the eyes, we may be sure that the mind is moved in a like way, by means of the images of lions and of all else it sees, equally and no less than the eyes, except that it perceives what is more thin.

Nor is there any other reason why the mind's intelligence is awake, when sleep has relaxed the limbs, except that the same images assails our minds as when we wake, and to such a degree, that we seem surely to see him who has left his life, and of whom now death and dust are masters. This nature compels to happen, for the reason that all our senses are obstructed and quiet throughout the frame, and unable to refute the false by the true. Besides, in sleep memory lies inactive and is relaxed, and does not urge in contradiction that he has long since been in the power of death and destruction whom the mind believes itself to see alive.

(DRN 4.750–767, tr. W.H.D. Rouse)

Lucretius' explanation of the formation of dream representations may be understood in three different ways. According to the first interpretation, dream representations, like actual visions of things moving through the eyes, are caused by *simulacra* originating from the same objects that lie behind perception. These *simulacra* are in the air and flow directly into the mind at night, even if the objects they originate from are no longer present. According to the second interpretation, dream representations are caused exactly by the same *simulacra* that had produced visions in the waking hours; hence, they are delayed reflections of daytime perceptions. Finally, according to the third interpretation, dream representations result from the combination of the two previous mechanisms. This is further confirmed by another passage, in which Lucretius clearly argues that daytime perception paves the way for dreaming:

And whatever be the pursuit to which one clings with devotion, whatever the things on which we have been occupied much in the past, the mind being thus more intent upon the pursuit, it is generally the same things that we seem to encounter in dreams: pleaders to plead their cause and collate laws, generals to contend and engage battle, sailors to fight out their war already begun with the winds, I myself to ply my own task, always seeking the nature of things and, when found, setting it forth in our own mother tongue. Thus too all other pursuits and arts usually seem in sleep to hold fast men's minds with their delusions. And whenever men have given constant attention to the games through many days on end, we usually see that, when they have now ceased to observe all this with their senses, yet certain passages are left open in the mind by which the images of these things can come in. For many days then these same things are moving before their eyes, so that even while awake they seem to perceive dancers swaying their supple limbs, to hear in their ears the lyre's rippling tune and its speaking strings, to behold the same assemblage and with it the diverse glories of the stage in their brightness.

(DRN 4.962–983, tr. W.H.D. Rouse)

The passage of *simulacra* stemming from perceptible objects that cause vision and thought paves the way for the subsequent passage of *simulacra* stemming from the same object, even if this is no longer present. Lucretius, moreover, suggests that prolonged exposure to a given daytime experience will cause an individual to retain in his sense organs the elements he has perceived in his waking hours (images and dreams), which at a subsequent stage will enter deeper into him. Dream representations, therefore, may originate from *simulacra* that travel through the air and flow into the mind at night by making their way through the passageways left open by perception; alternatively, they may originate from a perceptual residue that is transmitted at a stage subsequent to the sensory experience itself, almost through a mechanism of peristalsis.<sup>14</sup>

Lucretius, furthermore, is quite clear as to the nature and origin of the deceptiveness of dreams. The error lies in believing that the image of the object dreamed of is the object itself: for instance, that the person one has dreamed of coincides with the actual person. This belief one harbours when dreaming cannot be disproved and may give rise to considerable emotional turmoil. Owing to his psychophysical condition, the dreamer lacks the criterion of sense-perception which would allow him to disprove his erroneous belief, and he does not remember things: in other words, he is incapable of tracing his representation back to the external object and of judging whether it is still present or not.<sup>15</sup>

What remains to be clarified, therefore, is how Lucretius is able to draw upon the soul-body model just outlined, i.e. in the altered version that applies to sleep, in order to account for the passions that dream representations can stir in the dreamer. The *DRN* offers some compelling examples to illustrate how dreams can produce affections, emotions and even bodily movements in the sleeping subject: in sleep, kings continue to wage battles, prisoners scream in fear of being slaughtered, and many people struggle and shriek as though they were really being devoured by a panther; others admit their most secret guilt, while others still perceive themselves falling off a cliff and end up on the floor, in a state of fright; “those into the choppy tides of whose youth the seed is first penetrating, when time has duly produced it in the frame, meet with images from some chance body that fly abroad, bringing news of a lovely face and beautiful bloom, which excites and irritates the parts swelling with seed, so that, as if the whole business had been done, they often pour forth a great flood and stain their clothes” (4.1030–

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<sup>14</sup> On the idea of a perceptual residue that is transmitted to the mind see De Witt 1939, Bailey 1926, 196–197, Lapini 2015, Masi 2015, 129–130, Verde 2016.

<sup>15</sup> On this see also Tsouna 2018, 239ff.

1036). These last verses, in particular, help us to grasp the physiological mechanism at the basis of oneiric perturbations and to explain why dreaming remains an intimate and unique experience, even though it has an exogenous and objective dimension.

Lucretius explicitly refers to the action exerted by *simulacra* as they pass into the body. The flowing images, which have a corporeal nature and can exercise an actual causal power via contact,<sup>16</sup> reactivate in the dreamer pleasant or painful affections connected to the perception of the objects from which they stem. These bodily affections of pleasurable or painful character are then combined with the beliefs – often nourished by prejudices and superstitions – which emerge in the mind that has remained awake concerning the nature of the objects at the basis of the dream experience and of the passions aroused by it. This, in turn, may trigger violent emotions such as joy, desire, anger and fear that leave the dreamer, who lacks any criterion for evaluation, in a state of profound turmoil.

This passion-induced disruption may also translate into an involuntary movement of the whole body. In order to better explain how this occurs, it is worth briefly recalling how, according to Lucretius, the mind gives rise to this movement. During waking hours, the process generally unfolds as follows: through the influx of *simulacra*, a representation of the act about to be performed is formed in the mind which triggers the desire to perform it. At this stage, the mind's impulse to move is transmitted to the soul which, being suffused throughout the organism and closely connected to it, sets the whole body in motion (cf. 4.877–891). This process is partly reproduced in sleep. For while in this state the soul has withdrawn and is incapable of exercising its kinetic function, which is to say of transmitting motion from the mind to the body, the mind remains active and is therefore still capable of communicating with the whole organism in some way and of transmitting the impulse. This can clearly be inferred from those verses in which Lucretius describes children who, “when held fast in sleep, if they think they are lifting up their garments beside a basin or low pot, pour forth all the filtered liquid of their body, drenching the Babylonian coverlets in all their magnificence” (4.1026–1029). On the one hand, therefore, we have the *simulacra* that lie at the origin of dream representations: these flow through the body and, by virtue of their material nature, interact with it, stimulating the reproduction of affections and movements connected to sensible experience. On the other hand, we have the mind, which even during sleep is capable of engendering extensive and substantial movements. In this case too, then, in order to illustrate the effects

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<sup>16</sup> On this point, see Epic., *Letter to His Mother* = 72 Arr.; Diog. Oen. Fr. 10 Smith and, for a more in-depth discussion, Gourinat 2017, 172–174; Güremen 2017, 194; Masi 2018, 274–275.



of dreaming on the sleeping subject, Lucretius – consistently with his doctrine – invokes the interplay between the psychophysical condition that emerges during sleep and the action of *simulacra* reproducing the characteristics of external objects.

## 5 Conclusions

In the present article it has been shown that:

- a) even though the condition of the soul within the body undergoes profound changes in sleep, dreams are still the outcome of the atomic constitution and the interdependence of these two elements;
- b) the nature of their interaction with the environment is enough to justify the veracity of dream representations, that is to say, to ensure a correlation between the mental image of the dreamed object and the object itself;
- c) this explains the origin of any deception in sleep, along with the pathological and emotional effects and involuntary movements of the body that sleep may give rise to.

Through his detailed analysis and extensive examples, Lucretius is able to show that dreaming does not constitute a mysterious and worrying phenomenon capable of compromising and undermining the whole psychological framework of Epicurean epistemology and ethics; rather, dreaming is one of those particularly complex psychic experiences of man which the atomistic soul-body model can coherently explain, thereby confirming its own scientific adequacy.

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