

Émilie Du Châtelet, *Foundations of Physics*, 1740.

Chapter 7. Of the Elements of Matter.

Translation of the passages not included the Zinsser and Bour translation.

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Footnotes are ours except where otherwise indicated.

Du Châtelet's marginal notes are placed in {bold} in the closest appropriate place in the text. Please see the French original for the position of each note in the margin alongside the paragraph.

132. {Our Soul has obscure representations of all that happens in the whole Universe.} In truth, our Soul represents the entire Universe, but in a confused way, whereas God sees it so distinctly that none of the relations therein escape Him. This is another of Mr. Leibniz's views, one that most needs to be clarified and saved from ridicule, with which we could charge it: his claim that this representation of the entire Universe, and of all its changes, is an attribute of our Soul.

We know, and all Philosophers agree, that motion propagates in the plenum to all distances, the smallest stone thrown into the Ocean disturbs the equilibrium of this immense mass of water, and there forms rings whose end we do not distinctly discern. Let us imagine, for example, that a boat is floating on the Sea, and that one throws stones of different sizes to different distances from this boat. We perceive that each stone generates rings that in the form of waves propagate more or less strongly, in proportion to the distance they come from and to the power of the cause that produced them. Thus, this boat will receive successive impressions from all the stones, each of which is such that one could determine the cause and the distance. Now, we are in the same situation as this boat: our Body swims in an infinite fluid, and waves hit it from all sides, bringing with them the character of their origin; when an impression in our sense organs is strong, and excites in us a violent motion because the object that causes it is close, we perceive it and we have a very clear idea of it. As the object that causes the sensation becomes further away, the impression it makes upon our sense organs becomes less strong, and the clarity of the idea that it excites in us follows this deterioration and diminishes proportionately; for by the law of continuity, the clarity of the idea must follow the force of the impression. Thus, when the object is very distant and cannot make a perceptible impression upon our senses, the idea must also become imperceptible, that is to say, must form an obscure representation. Now the impressions that the objects make upon us continue to whatever distance they may be placed, because in the plenum all motion must produce waves to infinity, like this stone that one throws into the Ocean, of which I just spoke, and the waves, propagated and spread to infinity, must necessarily reach us, and consequently, there must occur in our Soul a representation in relation to the movement

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that our organs experienced. For, if at a certain distance the representations that the objects excite in our Soul were to cease, even though the impressions that they make on our senses were to continue, there would be a leap in Nature, which would be contrary to the principle of sufficient reason (§13); for there would be no reason for the clarity of an idea to gradually diminish proportionately to the impressions up to a certain point, and then at this point end as if in a leap, even while the reason for its continuation still subsists. Thus, once one accepts the principle of sufficient reason, and the plenum that follows from it, one is obliged to agree that we receive impressions from all motions that happen in the Universe, and that our Soul has obscure representations of it, due to the constant liaison that there is between the impressions of the Body and the representations of the Soul.

See Bour and Zinsser for a translation of the remainder of §132.

133. *See Bour and Zinnser for a translation of the beginning of §133. The remainder of §133 reads as follows:*

Furthermore, it is by this dissimilarity that one can understand how non-extended Beings can form extended Beings; for the Elements exist each of them necessarily external to the others (since one can never be the other), and all of them being, as we have just seen, united and linked together, an assembly of several diverse Beings results from this, each of which exists external to the others, and which by their interconnections make a whole; but I have shown that we cannot represent extension other than as an assembly of several diverse, coexisting things, and which exist external to one another (§77): therefore, conclude the Leibnizians, an aggregate of simple Beings must be extended. Thus, from the Metaphysical union of the Elements flows the Mechanical union of the Bodies that we see; for all Mechanics that falls under our senses derives in the end, and in going back to the first source, from the superior and Metaphysical principles.

134. The Composite Beings cannot subsist without the simple ones, nor can they receive any change that is not founded in the Elements; thus the Composite Beings are not Substances in themselves, but assemblies of Substances or of Simple Beings. **{A Composite Being is not a Substance, but an aggregate of Substances, that is to say, of Simple Beings.}** For in the Composite Being, there is nothing Substantial except the Elements; all the rest, such as the size, the shape of the parts, how they are situated with respect to one another, the Physical qualities of Matter (such as duration, ductility, malleability², etc. that constitute the Composite Being), are nothing but Modes. Take a Watch, for example: the shape of the wheels, their combination, the elasticity of the spring, the hardness of the parts, etc. constitute the Watch; however, it is obvious that all these things are nothing but Modes that can vary without the matter of the Watch perishing. Consequently, nothing substantial perishes even though a Composite Being ceases to

² The 1740 “meabilité” is corrected to “malléabilité” in the 1742 edition.

be, and even though it forms another Being through the different combination of its parts; since the Elements still continue to subsist, and to endure through any separation that may happen to the parts that make up the Composite Beings. However, extension must seem to us a Substance, for we see that it endures, and that it can be modified (§52). But if we examine this idea with the eyes of Understanding, we will be obliged to recognize that it is nothing but a Phenomenon, an abstraction of several real things, by the confusion of which we form for ourselves this idea of extension; it is from this confusion that arise almost all the objects that fall under our senses, and of which the realities are often infinitely different from the appearances (§53). Thus, if we could see distinctly all that composes extension, this appearance of extension that falls under our senses would disappear, and our Soul would perceive only Simple Beings existing each external to the others, in the same way that if we distinguish all the small portions of matter differently moved, that compose a portrait, this portrait that is only a Phenomenon would disappear for us. **{How extension can result from the assembly of Simple Beings.}** Thus, the same confusion, that is in my organs and whereby the resemblance of a human face results from the assembly of several portions of matter differently moved (of which none has any relation to the Phenomenon that results from it for me), this same confusion, I say, is that which makes the Phenomenon of extension result for us from the assembly of Simple Beings, and of their internal differences. But as it is impossible for us to represent to ourselves the internal state of all the Simple Beings (upon which, nevertheless, the Phenomenon of extension depends), all perception of the realities must by our nature escape us. And there remains to us, of the confused ideas that we have of each of these Simple Beings, only an idea of several things coexisting and linked together, without us knowing distinctly how they are linked, and it is this confused idea that brings into being the Phenomenon of extension.