Immo si nauta descendit ad fundum maris ut habeat super humeros centum dolia aque ipse non sentit gravedinem illius aque quia illa aqua que est supra ipsum non inclinat ad amplius esse deorsum sed respectu aeris inclinaret si aer esset inferior. Et iterum quamvis aqua non esset in suo loco naturali sed multum alte in vase ut in cacumine turris beate marie tamen una pars respectu alterius non inclinaret ad esse deorsum ut si aliquis esset ibi in balneo et haberet tibiam suam in fundo ita quod supra eam esset magna quantitas aque quam ipse in aere non posset portare tamen non sentiret pondus illius aque.1

Even if a sailor descends to the bottom of the sea so that he has one hundred vessels of water upon his shoulders, he does not sense the weight of that water, as that water which is above him does not incline to be farther below. And even if the water were not in its natural place, but very high in a vessel like on top of the tower of the Notre Dame, still one part of it would not incline to be below so that, if someone would be there in a bath with his leg on the bottom so that above that leg there would be a large quantity of water which in the air he would not be able to carry, he would still not feel the weight of that water.

Sentences like these would not have pleased Cicero. They come neither from live Roman speech, nor from dead scholarly Renaissance speech, but from live medieval speech. They were spoken by a fourteenth-century teacher at

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the Paris Faculty of Arts, named Johannes Buridanus or Jean Buridan (c. 1300–after 1358).

In speaking these lines Buridan was setting forth to his students an intriguing detail of Aristotelian natural philosophy as expounded in Book IV of Aristotle’s treatise Φυσική. The treatise was not entitled thus in Buridan’s handwritten copy, which was in Latin (as translated from Arabic) and carried the title ‘Physica’. The customary translation ‘Physics’ suggests that this work shares much ground with the modern discipline of that name. This is far from the case. The point is not so much that modern physicists tend to regard Aristotle as a remarkably inept colleague in that he managed to have it wrong so often on truly fundamental topics like motion or the composition of matter. Rather, in this work (literally entitled ‘On Nature’) Aristotle was not in any way a scientist but rather a natural philosopher. Unlike a modern physicist he derived all conceivable phenomena in the whole natural world from certain first principles regarded as self-evidently true. To cultivate natural philosophy was a speculative business. A few empirical phenomena like falling objects or mixed fluids provided food for the formation of those first-principles, but for the rest the sole function of empirical phenomena was to illustrate and, in so doing, to underscore their indubitable truth.

Precisely that is what happens in the passage by Buridan just quoted. There is no question here of his finding out what may happen when a sailor descends to the bottom of the sea—does he feel the weight of the water pressing upon his shoulders, or does he not? Nor has Buridan really taken a bath-tub, carried it up the freshly laid, still snow-white stone steps of the Notre Dame, placed it on top of the tower, filled it with water taken upstairs by his teaching assistants, and seated himself in the bath so as now to find out for himself whether he feels the weight of all that water pressing upon his legs or not. The reason he does not bother to carry out these experiments is that he already knows the answer, which had been given by Aristotle, or rather—since Aristotle had not asked the question—could immediately be derived from Aristotle’s first principles. These involve the idea of natural place—heaviness is the inclination of an object to move to its natural place, which for earthy matter is as near the centre of the universe as it can get, and for watery matter as near as it can get to the earthen sphere thus formed around that centre. Buridan does not give us here an early instance of experimentation, but rather fits in with the predominant mode of pursuing knowledge of nature in his time, which is through speculative thought sustained by pieces of empirical evidence. These are borrowed most often from everyday experience but on occasion, like here, from a pseudo-experimental setup. And all this is done in Latin.