

move the obstacle, and the direction in which it really does move. Thus the Wedge and the Inclined Plane are connected in principle. He also refers the Screw to the Inclined Plane and the Wedge, in a manner which shows a just apprehension of the question. Benedetti (1585) treats the Wedge in a different manner: not exact, but still showing some powers of thought on mechanical subjects. Michael Varro, whose *Tractatus de Motu* was published at Geneva in 1584, deduces the wedge from the composition of hypothetical motions, in a way which may appear to some persons an anticipation of the doctrine of the Composition of Forces.

There is another work on subjects of this kind, of which several editions were published in the sixteenth century, and which treats this matter in nearly the same way as Varro, and in favor of which a claim has been made¹ (I think an unfounded one), as if it contained the true principle of this problem. The work is "Jordanus Nemorarius *De Ponderositate*." The date and history of this author were probably even then unknown; for in 1599, Benedetti, correcting some of the errors of Tartalea, says they are taken "a Jordano quodam antiquo." The book was probably a kind of school-book, and much used; for an edition printed at Frankfort, in 1533, is stated to be *Cum gratia et privilegio Imperiali, Petro Apiano mathematico Ingolstadiano ad xxx annos concessa*. But this edition does not contain the Inclined Plane. Though those who compiled the work assert in words something like the inverse proportion of Weights and their Velocities, they had not learnt at that time how to apply this maxim to the Inclined Plane; nor were they ever able to render a sound reason for it. In the edition of Venice, 1565, however, such an application is attempted. The reasonings are founded on the Aristotelian assumption, "that bodies descend more quickly in proportion as they are heavier." To this principle are added some others; as, that "a body is heavier in proportion as it descends more directly to the centre," and that, in proportion as a body descends more obliquely, the intercepted part of the direct descent is smaller. By means of these principles, the "descending force" of bodies, on inclined planes, was compared, by a process, which, so far as it forms a line of proof at all, is a somewhat curious example of confused and vicious reasoning. When two bodies are supported on two inclined planes, and are connected by a string passing over the junction of the planes, so that when one descends the other ascends,

¹ Mr. Drinkwater's *Life of Galileo*, in the Lib. Usef. Kn. p. 88.