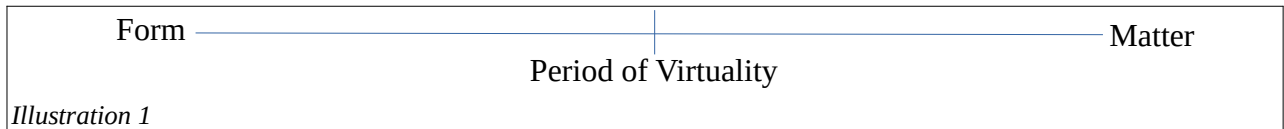


Quality \ Element	Fire	Air	Water	Earth
Major (formal)	Hot	Wet	Cold	Dry
Minor (material)	Dry	Hot	Wet	Cold

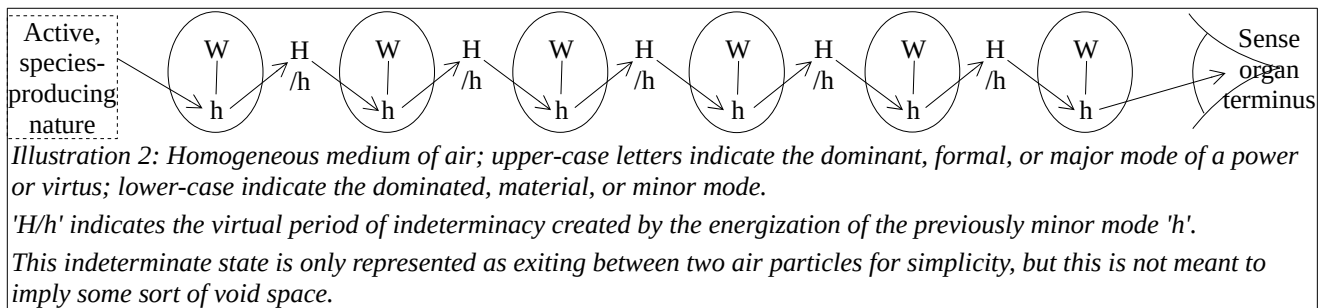
*Table 1: Solid diagonal lines indicate virtual contrariety. Dashed lines are examples of actual contrariety. Solid curves indicate actual differences.*

“[The generation of a species] must occur ... by a true alteration and bringing forth out of the active potentiality of the recipient matter [in our case, the minor, or ‘material’, mode of the specific virtue]. ... [T]his virtue is the same as the complete effect, for it becomes a complete effect when the agent becomes stronger [*invalescit*]”.<sup>1</sup>



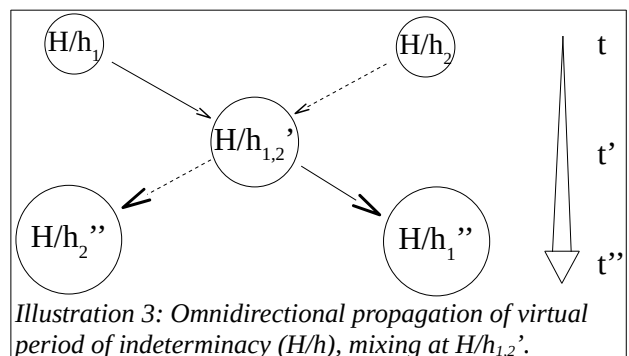
“Again, it is evident from what has been said that this *virtus* is the same as the complete effect, for it becomes a complete effect when the agent becomes stronger; and therefore the mode of producing this effect, whether complete or incomplete, will be the same. Therefore, if a complete effect is brought forth out of the potentiality of matter, *first an incomplete effect must be brought forth out of the same potentiality.*”<sup>2</sup>

“Since at first, when wood becomes warm, while it still remains wood it has the species of fire, and later the action becomes stronger, and the species is changed into complete fire, when the fire has destroyed the specific nature of the wood, and flame is produced and charcoal. The species does not, therefore, differ from the charcoal and the flame, except as the incomplete differs from the complete, the embryo from the child, and the child from the man.”<sup>3</sup>



“for a species has active virtue by which it can produce its like along all diameters in the part of the medium immediately adjacent to it.”<sup>4</sup>

“Hence speaking without restriction they do mix, but with respect to the different principle paths [...] they are divided and distinct. But this distinct existence is [taken equivocally], nor is it opposed to a real mixing without restriction, because this has to do with the effect and not with [the formal existence]; for they [the species or incomplete effect] are said to be distinct [...] solely because they make [distinct advances after].”<sup>5</sup>



1 Bacon, *De Multiplicatione Specierum* (MS), pars. 1, cap. 3. Translations from *Roger Bacon's Philosophy of Nature: A Critical Edition, with English Translation, Introduction, and Notes of De multiplicatione specierum and De speculis comburentibus*, Indiana: St. Augustine's Press (1998), p. 46-7, ln. 51-66.  
 2 Ibid., 47-9, my italics.  
 3 *Opus Majus* (OMaj), vol. II, pars 5, dist. 6, cap 4. Translated by Burke, Robert, University of Pennsylvania Press: Philadelphia (1928), 462.  
 4 MS 3.1 [185]. 5 Omaj [465].