

phere; and that the power of *radiating* light to vivify the vegetation of our Earth does not appertain to the earthy nucleus of the Sun's body, but to the luminous covering by which it is enveloped." This view of the physical condition of the Sun's body, which has hitherto been but little regarded in the history of astronomy, presents considerable similarity with the opinions maintained in the present day.*

* I would, in the first place, give in the original the passages to which I refer in the text, and to which my attention was directed by a learned work of Clemens. (*Giordano Bruno und Nicolaus von Cusa*, 1847, §101.) Cardinal Nicolaus de Cusa (whose family name was Khrypffs, *i. e.*, Crab) was born at Cues, on the Moselle. He thus writes in the twelfth chapter of the second book of the Treatise *De docta Ignorantia* (Nicolai de Cusa *Opera*, ed. Basil, 1565, p. 39), a work that was much esteemed at that age: "Neque color nigredinis est argumentum vilitatis Terræ; nam in Sole si quis esset, non apparet illa claritas quæ nobis: considerato enim corpore Solis, tunc habet quandam quasi terram centraliorem, et quandam luciditatem quasi æqualem circumferentialem, et in medio quasi aqueam nubem et ærem clariorem, quemadmodum terra ista sua elementa." "Blackness of color is no proof of the inferiority of the Earth's substance; for to an inhabitant of the Sun, if such there be, the same brilliancy of appearance would not be presented as to us: if we consider the Sun's body, we shall conclude that it consists of a certain earthy substance in the center, surrounded by a luminous matter, partaking, perhaps, of the nature of fire, and in the midst a sort of aqueous clouds and brighter atmosphere, resembling the elements of which the Earth consists." To this are appended the words *Paradoxa* and *Hypnæ*; by the last of which, he probably understands (*ἐνύπνια*) certain speculations, vague and bold hypotheses. In the long Treatise, *Exercitationes ex Sermonibus Cardinalis* (*Opera*, p. 579), I again find the following comparison: "Sicut in Sole considerari potest natura corporalis, et illa de se non est magnæ virtutis" (notwithstanding the attraction of masses or gravitation!) "et non potest virtutem suam aliis corporibus communicare, quia non est radiosa; et alia natura lucida illa unita, ita quod Sol ex unione utriusque naturæ habet virtutem quæ sufficit huic sensibili mundo, ad vitam innovandam in vegetabilibus et animalibus, in elementis et mineralibus per suam influentiam radiosam. Sic de Christo, qui est Sol justitiæ . . ." "As in the Sun may be supposed to exist a corporeal nature, which of itself is of no great efficacy, and can not communicate its virtues to other bodies, because it is not radiant, and another nature united with this; so that the Sun, from the union of the two natures, has a virtue which suffices for this sensible world, to renew life in vegetables and animals, in elements and minerals, by its own radiant influence. So from Christ, the Sun of Justice . . ." Dr. Clemens thinks that all this must be more than a mere felicitous presentiment. It appears to him unlikely that Cusa, in the expressions "*Considerato corpore Solis*;" "*in Sole considerari potest . . .*" "could have appealed to experience, without a tolerably accurate observation of the Sun's spots, both their darker portions and the penumbrae." He also conjectures "that the penetration of the philosopher may have been in advance of the results of the science of his age, and that his views may have been influenced by discoveries which