

# NICHOLAS OF CUSA'S VANISHING GEOMETRICAL FIGURES AND THE MYSTICAL TRADITION OF «ENTBILDUNG»

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This article concerns the geometrical figures which Nicholas of Cusa used to illustrate his key notions of *docta ignorantia* and *coincidentia oppositorum*. In recent years, the link between mathematics and Cusanus' philosophy has received special attention in the French-speaking world. Some insights expressed in the dissertations *Mathématiques et métaphysique dans l'œuvre de Nicolas de Cues* by Jean-Marie Nicolle<sup>1</sup> and *Mathématiques et dialectique chez Nicolas de Cuse* by Jean-Michel Counet<sup>2</sup> will be the starting-point of our considerations. The first insight regards the dynamic nature of the geometrical configurations. According to Nicolle, activity and movement are, from Cusanus' point of view, essential features of the human mind's dealings with geometry. In Nicolle's lecture delivered in Irsee,<sup>3</sup> one reads, regarding thought in general, »The mind changes from a passive mirror to an active mirror and creates the forms«<sup>4</sup> and »If we represent the mind as a wax tablet, we have to add it's [sic!] a tablet written from inside; it is a tablet which writes itself on itself because it contains living ideas, that is to say ideas which move themselves«<sup>5</sup> quoting Stanislas Breton, »the geometrical being is the sign of an action«<sup>6</sup> and as a concluding remark, »The geometrical figures [. . .] seem inert, like dead [sic!]. We have to awake [sic!] them and to revive them in our mind.«<sup>7</sup>

We shall try to show that the figures, which in the manuscripts or in later editions of Cusanus' works give a very static impression, can be brought to life and set in motion. Compare, for this purpose, *figure 1*, with the computer-designed *figure 2*.

<sup>1</sup> J.-M. NICOLLE, *Mathématiques et métaphysique dans l'œuvre de Nicolas de Cues* (Thèse à la carte N° 31731) (Villeneuve d'Ascq 2001).

<sup>2</sup> J.-M. COUNET, *Mathématiques et dialectique chez Nicolas de Cuse* (Paris 2000).

<sup>3</sup> P. 279–293.

<sup>4</sup> P. 290.

<sup>5</sup> P. 292.

<sup>6</sup> P. 291; cf. S. BRETON, *Philosophie et mathématique chez Proclus* (Paris 1969).

<sup>7</sup> 293.



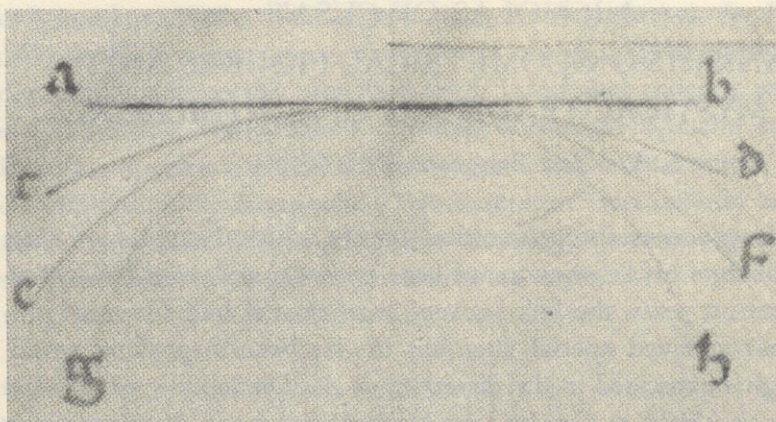


figure 1

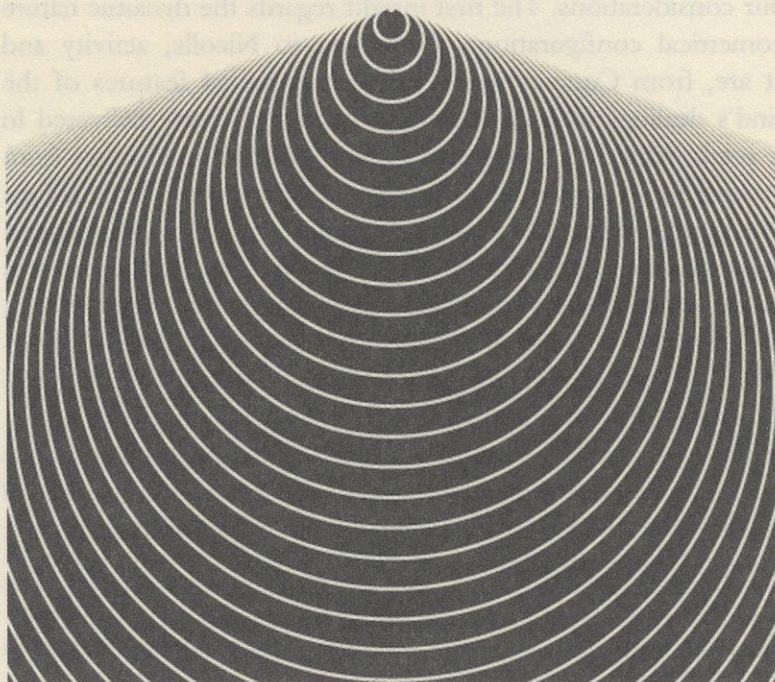


figure 2

Both figures express the following idea. The circle and the straight line are opposites to any person contemplating the configuration. They remain opposites however tall the circle grows. There is indeed no visible



stage at which the straight line is anything other than a straight line or the circle anything other than a circle. In other words, the limitations of our condition, namely having to think in terms of opposites, remains unchanged. However, as the circle grows, gradually filling up the space that separated its first stage from the straight line, we learn to understand that a mind superior to ours might be able to see the fusion of what to us remains separate and opposite. Configurations such as these, therefore, exemplify at the same time learned ignorance and the coincidence of contraries. While we think of what a superior mind *might be* capable of, we also realise what we *are not* capable of, and realising our condition of ignorance makes us wiser. Images such as *figure 2* allow one to suggest an uninterrupted process, but even more power of persuasion must be attributed to actually moving configurations. One can only imagine how modern technology and in particular computer animation might have been useful to the fifteenth century philosopher. We should certainly feel free to use our proper technical and graphic means to understand Cusanus' ideas because, clearly, he did not write exclusively for the people of his time, but also for the generations still to come. In the Centre d'Etudes Supérieures de la Renaissance in Tours, we have developed a website that is meant to bring alive some of the geometrical figures which Nicholas of Cusa believed to be evocative of divine mystery.<sup>8</sup> On this website one can examine in motion the configuration that corresponds to *figure 2*. The movement is able to express the intention and the infallible progression towards something which can, nevertheless, not be shown. The actual coincidence of opposites, such as a curve and a straight line, necessarily remains unseen to the person contemplating. It is to this absence that Jean-Michel Counet seems to refer in his doctoral dissertation where he brings up the idea of the »destruction of geometrical figures«:

Des figures géométriques comme la ligne, le cercle, le triangle, la sphère, sont dans le fini distinctes les unes des autres. Lorsqu'on les porte à l'infini, se réalise un phénomène de coïncidence de ces figures entre elles. On peut parler de véritable coïncidence des opposés puisque le courbe devient droit et le droit devient courbe. Chaque figure s'identifie à toutes les autres. Mais en même temps, on ne peut parler d'une réalisation effective de la coïncidence des opposés car *ce passage à la limite détruit les figures géométriques* en même temps qu'il les identifie l'une à l'autre. La coïncidence est irréalisable

<sup>8</sup> <http://www.cesr.univ-tours.fr>



dans l'ordre de la quantité; la ligne infinie n'existe pas, à l'instar du nombre le plus grand, ou du corps le plus étendu. Mais nous avons, grâce à la quantité, le pressentiment de ce qui se passe réellement au niveau de l'être, le maximum absolu.<sup>9</sup>

The configurations in motion tend towards an ultimate phase in which there is nothing left to be seen.

Let us consider another example. If one continually increases the number of sides of a polygon, the uninterrupted metamorphosis will tend towards a circle, but the actual transition from polygon to circle necessarily escapes our view.

It is the inalterable and purposeful progression towards a state that can be described as an absence of images which, in our opinion, allows one to see Nicholas of Cusa's efforts as part of the mystical tradition of *Entbildung* (the disappearance of images or the doing away with images). In order to illustrate this and to analyse the different aspects of Cusanus' particular and original application of *Entbildung*, we shall refer to quotations from three authors belonging to this mystical tradition: Ruysbroeck, Meister Eckhart and Seuse. Cusanus' preoccupation with Meister Eckhart is well known. As for Seuse, we may mention the presence of the *Büchlein der ewigen Weisheit* in the library of the Sankt Nikolaus Hospital in Kues (Cod. Cus. 115). Regarding the connection with Ruysbroeck, Nicholas of Cusa's contacts with the Rooklooster near Brussels should be remembered. In this cloister the spirit of Ruysbroeck's teaching was kept alive long after the death of the master. One should point further to Cusanus' friendship with Denis the Carthusian who was the one to confer the epithet *admirable* on Ruysbroeck.

<sup>9</sup> Geometric figures such as the line, the circle, the triangle, the sphere are distinct from one another as long as we stay within the realm of the finite. When one brings them to infinity, a phenomenon of coincidence of these figures will arise. One may speak of a true coincidence of opposites since a curve becomes a straight line and a straight line becomes a curve. Every figure is identified with all the others but, at the same time, one cannot speak of an actual realisation of the coincidence of opposites because *this approaching of a limit destroys the geometrical figures* all by identifying them with one another. The coincidence cannot be realised in the order of quantity. The infinite line does not exist, just as the highest number or the most extended body does not exist. However, thanks to quantity, we have a pre-sentiment of what really happens on the level of being, which is the absolute maximum. COUNET, *Mathématiques et dialectique* (as quoted in n. 2) p. 192–193 (italics added).



Which particular texts were read by Nicholas of Cusa will not be the issue here. Our main aim is to show that he had assimilated and felt close to a tradition with its particular themes. The quotations will serve as illustrations of these themes.

Let us start with Ruysbroeck who in his *Die geestelike brulocht* (The spiritual espousals) established a strong link between *vriheit* (freedom) and the doing away with images. Ruysbroeck explains in particular »hoe wi innicheit fonderen selen in onverbeelder vriheit« [how we shall found intimate unity on freedom without images]. Images are indeed considered to be obstacles in the spiritual quest by the mystic of Groenendaal.

Transposing this idea to the context of Cusanus' reflections on geometry, one may say that the dissolving of geometrical figures is a way of freeing them from their limitations in an attempt to find their founding source. The word *innicheit* which, outside the context of Ruysbroeck's writings, should normally be translated into something like »intimacy«, acquires a richer meaning within this realm of thought because of its resemblance with *enicheit*, unity. The word *innicheit*, therefore, at the same time calls up an interior activity and the establishing of unity. Both aspects are clearly present in what one might term as Cusanus' geometric *Entbildung*.

Let us now consider another passage from *Die geestelike brulocht*, in which an advanced stage of spiritual life is presented. The fourteenth century Flemish mystic here describes the mysterious contact that the seeker of God can establish with the object of his quest. Ruysbroeck does so by using words which each call up essential aspects of Cusanus' geometrical figures in motion. In the following I shall discuss four aspects, referring to the italicised parts of the quotation.

(Ruysbroeck has just discussed a type of rest [*raste*] which he rejects as dangerous and then compares it to a supernatural type of rest, which the true mystic can hope for.)

»Dese raste is contrarie der overnatuerliker rasten, diemen in God besit; want dat es ene minlike *ontvlotenheit* met enen *eenvoldigen insiene* in *onbegripeliker claetheit*. Dese raste in Gode, die altoos met innigher begheerten werkelijke ghesocht wert ende in ghebrueliker neighingen vonden wert ende in ontvlotenheden van minnen ewelike beseten wert *ende also beseten es niet te min ghesocht wert*; dese raste es verhaven boven raste der naturen alsoe hoghe alse God es verhaven boven allen creaturen.«<sup>10</sup>

<sup>10</sup> »This type of rest is contrary to the supernatural type of rest which one possesses in



1) *Ontvlotenheit*

This word is a noun derived from the past participle of the verb *ontvlieten* which does not exist any longer in Dutch. Modern Dutch still has *ontvlieden*, which means »to run away from«, as well as *vlieten* without the prefix *-ont*, which means »to run like a river«, and finally the noun *vliet*, which means »a small river«. The closest in meaning to the Middle Dutch *ontvlieten* is no doubt the English verb *to fleet*, which means »to vanish«. Making images vanish is, as we explained before, what Cusanus undertook in the realm of geometry.

2) *met enen eenvoldigen insien*

Another analogy lies in what Ruysbroeck describes as »a simple vision«, an idea which should be related to the one direction and the inalterable progression which characterises the motion of the geometrical figures.

3) *in onbegripeliker clærheit*

Ruysbroeck specifies that this vision is like seeing in incomprehensible clarity, a deliberately contradictory expression which is as reminiscent of Nicholas of Cusa's terminology as it is of that used by Denis the Areopagite. Applying it to the figures in motion, we may remark that, although every stage of the progression exemplifies the limitations of our intellectual capacities, the figures also contain a promise of our efforts coming to rest in a higher understanding which, from a purely rational point of view, will be incomprehensible (*onbegripelik*).

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God because this latter type of rest *is vanishing* with love, all by *seeing with a simple vision* through *incomprehensible clarity*. This type of rest in God [i. e. the supernatural rest] which is always really searched for with intimate desire and found in joyful tendencies, and which is eternally possessed through vanishing with love, and *which although possessed is nevertheless searched for*, this type of rest is superior to the natural one in the way God is superior to all creatures.« Translation: J. v. RUYSBROECK, *Opera omnia*, 3, *Die geestelike brulocht*, Ruusbroecgenootschap ed. (Tielt/Leiden 1988).



4) *ende also beseten es niet te min ghesocht wert*

Finally, Ruysbroeck describes the supernatural rest as what one might term as *epectasis*. One possesses this rest but one nevertheless searches for it. It seems possible once again to relate this to Cusanus' geometry in motion. Although every single stage of the progression makes us aware of our not possessing the *coincidentia oppositorum*, the figures at the same time do establish trust in its presence and in its inevitable accomplishment. In that sense they can be said to be satisfying all by allowing for continued search.

In other passages Ruysbroeck specifies that the vision of which the seeker of God is capable comes about *boven redene* (above or beyond reason) and *boven modus* (above or beyond modus). It is indeed through *transsumptio*, i. e. by moving beyond our rational faculties, that *visio intellectualis* becomes possible. Ruysbroeck makes use of the expression *in onwise* to refer to a state characterised by the absence of any modus. It is interesting to see that modern colloquial Dutch still uses a word that is in many ways reminiscent of a respectable mystical past. What we are aiming at here is the use of the adverb *onwijs*, an intensifier typically combined with an adjective such as *goed* (good), so that *onwijs goed* means »terribly good« or more correctly »excessively good«. The fact that the word calls up excess in colloquial modern Dutch seems by no means a coincidence. *In onwise*, in Ruysbroeck's writings, also expresses excess at the same time indicating the absence of particular modes.

Coming back to the moving figures, one can say that the dynamics behind them pushes them *in onwise*, i. e. beyond particular ways, particular modi of conceiving or representing. We would like to suggest that the phenomenon of *Entbildung* might be described in semiotic terms, distinguishing between the denotational and volitional aspects of the meaning of a sign. One cannot object to considering Nicholas of Cusa's moving geometrical configurations as signs. As such, they have a denotational content which corresponds to the visible lines, as well as a volitional value which corresponds to what they aim at. It now seems that Cusanus is progressively emptying the sign of its denotational content in order to keep the purely volitional. He pushes the *modus significandi* to its limits and makes *wijs* into *onwijs*, *wise* into *unwise*. Nicholas of Cusa's vanishing geometrical figures, which suppress the denoted in order to



give way to the purely intentional, may well be considered examples of *destructiones modi significandi*.

Let us also, having considered Ruysbroeck, look at *Entbildung* in the German tradition. To Meister Eckhart, doing away with images in oneself was a way of finding the hidden image of God. His statement »in der verborgenheit lît daz bilde«<sup>11</sup> applies perfectly to the ultimate, invisible stage to which Nicholas of Cusa's figures tend. Seuse, who in agreement with Ruysbroeck and Eckhart considered images to be obstacles in the spiritual quest, believed, just like them, that God can only be approached beyond rational thinking and by refraining from looking for him in particular ways. This is strongly expressed in the following sentence from his *Vita*: »wie kan man bildlos gebilden und wiselos bewisen, daz über alle sinne und über menschlich vernunft ist«.<sup>12</sup>

Although systematic reflection on geometrical configurations is absent from Seuse's works, there is an intriguing example of an abstract figure, which is part of a complex illustration in a fourteenth century manuscript belonging to the collection of the Library of Berlin (cf. figure 3, p. 321).<sup>13</sup>

The illustration represents the mystical path according to Seuse. In the top left-hand corner, the abyss of the eternal *Gottheit* (Divinity) is represented, which has no particular modus and which has neither beginning nor end. From this abyss proceeds the Trinity and it is into this abyss that, with the Trinity, the soul will eventually disappear. The abyss is represented by three concentric circles – a configuration which can be interpreted as both dynamic and vanishing.

Seuse's abyss gave rise to graphical visualising, but he referred to many more images about which J. A. Bizet wrote in his *Henri Suso et le déclin de la scolastique*, »L'esprit s'oriente dans une perspective où la multiplicité s'ordonne à circonscrire l'indéfinissable unité«.<sup>14</sup> Clearly this can be said of Cusanus' geometry in motion.

<sup>11</sup> »In hiddenness lies the image.« MEISTER ECKHART, *Deutsche Werke*, ed. F. Pfeiffer, (Göttingen 1924) p. 251.

<sup>12</sup> »How can one picture without pictures, and point out without pointing, that which is beyond all senses and beyond human intelligence« J.-A. BIZET, *Henri Suso et le déclin de la scolastique* (Paris 1946) p. 278.

<sup>13</sup> H. SEUSE: *Deutsche Schriften*. Hrsg. v. K. Bihlmeyer (Stuttgart 1907), Cap. 53.

<sup>14</sup> »The mind chooses to adopt a perspective in which multiplicity orders itself in such a way as to centre around the undefinable unity« BIZET, *Henri Suso* (as quoted in n. 12), p. 280.



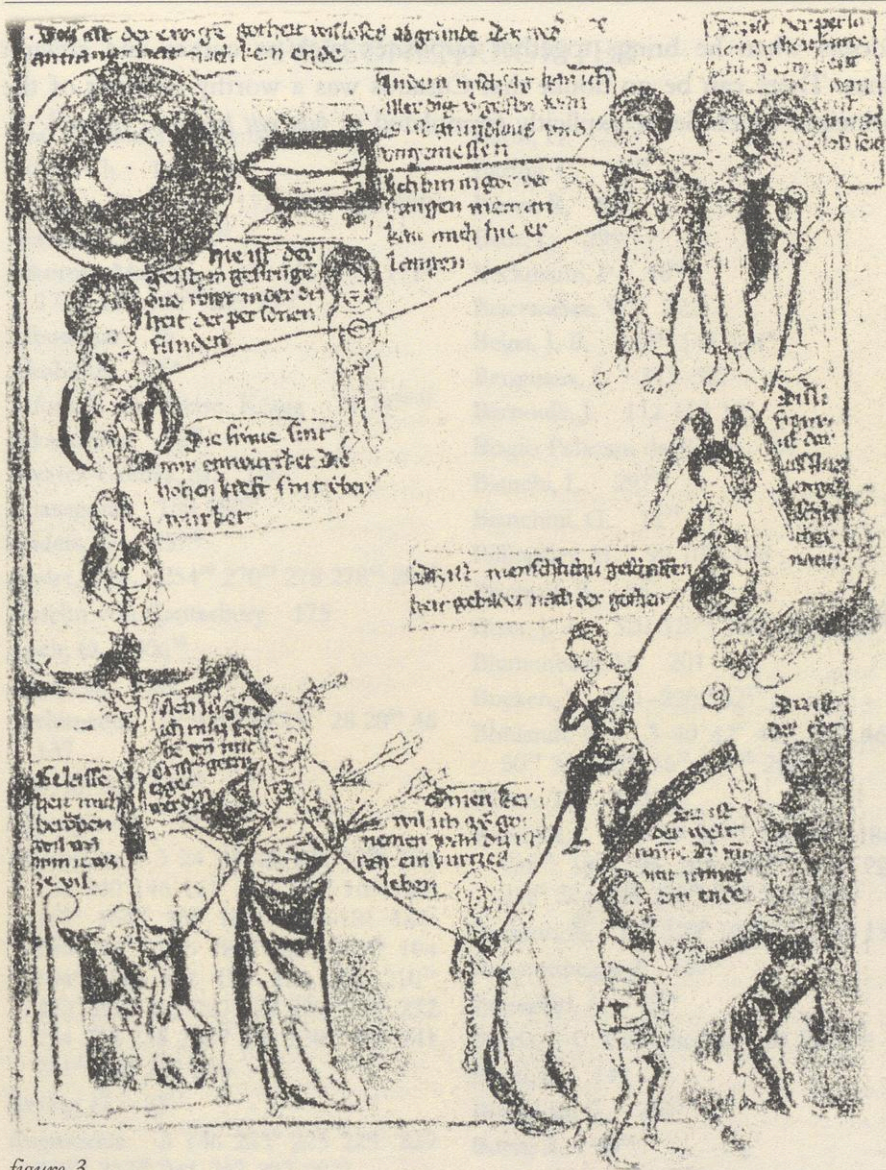


figure 3

Among Suso's concrete images with this »surrounding« effect, we may count the height of a mountain, the well from which water springs and the extending circular ripples caused by throwing a stone into the water. Bizet notices Seuse's use of contradictory terms and his tendency to oppose different images. This is very much the method which Nicholas of Cusa



adopts when he brings together opposites such as curves and straight lines. There can be no doubt that Cusanus was a worthy follower of the principle which Seuse explicitly formulated as *bild mit bilden us triben*.<sup>15</sup>

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<sup>15</sup> »the driving out of images through images«, cf. BIZET, *Henri Suso* (as quoted in n. 12), p. 280.