INDIVIDUAL, 1377-1650:
FROM MATHEMATICS TO SELF, AFTER CARLA MAZZIO

EL INDIVIDUO, 1377-1650:
DE LAS MATEMÁTICAS AL YO, DESPUÉS DE CARLA MAZZIO

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Abstract: Carla Mazzio's work on mathematical terminology to define the self in the early modern period can be extended by medieval examples. Although Peter Stallybrass (1992) finds that the word *individual* (a mathematical and natural philosophy term meaning "indivisible") was not attested in English from 1425-1597, French *individu* is regularly attested, beginning in 1377 (in a comment on infinite variety of individual complexions, in the French translation of Lanfranc's *Chirurgie*). What is more, the semantic field of *individu* is the same from 1377-1650. This paper discusses the meanings of *individu* and the continuity of the concept of self in the premodern period. Against Mazzio's definition of early modern subject as fragmented and disoriented, *individu* combines the meaning of atom (smallest indivisible particle or mote) with the sense of plenitude: an *individu* is the smallest discrete entity that is whole. This adds an alternative or complementary parallel to Mazzio's idea of fragmentation as the origin of depth in the formation of early modern self, and explains why, as Stallybrass notes, early modern *individual suggest*[ed] *indivisibility and* (…) *divisibility* […] *together*.

Keywords: individual; self; subject; French; medicine; mathematics; premodern.

Resumen: Los estudios de Carla Mazzio sobre el uso de la terminología matemática para definir el sujeto en la época renacentista se pueden extender y aplicar a casos de la Edad Media. Aunque Peter Stallybrass (1992) afirma que el uso de la palabra *individual* (un término propio de las matemáticas y de la filosofía natural que significaba "indivisible") no aparece registrado en inglés entre 1425 y 1597, hay testimonios constantes de la presencia del francés *individu* a partir de 1377 (cuando aparece en un comentario sobre la infinita variedad de las complexiones naturales, en la *Chirurgie* de Lanfranc de Milán). Además, el campo semántico de *individu* se mantiene invariable entre 1377 y 1650. En este artículo abordamos los sentidos de *individu* y la continuidad del concepto de *sujeto* en la época premoderna. En relación con la definición que hace Mazzio del sujeto renacentista como fragmentado y desorientado, *individu* combina el sentido de átomo (la más pequeña partícula o mota indivisible) con el concepto de plenitud: un *individu* es la entidad discreta más pequeña que existe en forma completa. Esta visión añade un paralelismo alternativo o complementario a la idea de Mazzio de la fragmentación como origen de la profundidad en el proceso de formación del sujeto renacentista, y explica por qué, como apunta Stallybrass, el *individuo renacentista sugiere indivisibilidad y* (…) *divisibilidad* (…) *a la vez*.

Palabras clave: individuo; yo; sujeto; francés; medicina; matemáticas; premoderno.

SUMMARY

1. Individual: how did a mathematical and natural philosophy concept (indivisible) Come to Define Personhood?– 2. Premodern individual: word use, 1295-1650.– 3. Mazzio's theory and analysis of early modern self.– 4. Medieval and early modern self as the premodern continuum.– 5. Bibliography.

1. INDIVIDUAL: HOW DID A MATHEMATICAL AND NATURAL PHILOSOPHY CONCEPT (INDIVISIBLE) COME TO DEFINE PERSONHOOD?

In 1860, Jacob Burckhardt gave the title *The Development of the Individual* to the second volume of his history of the premodern, a narrative where, after the medieval hiatus, the free individual who vanished at the end of pagan antiquity is reborn in Italy *ca*. 1290 and then, much later, in Northern Europe[1]. As Barbara H. Rosenwein notes, medieval scholarship rose to the challenge, opposing Burckhardt's framework to demonstrate that the phenomena Burckhardt ascribes to the Renaissance are present in the Middle Ages[2]. I mention Burckhardt, 150 years ago, because mainstream scholarly practice today, in particular outside of medieval studies, questions the possibility of the medieval subject, subjectivity, free individual or personhood in the modern sense, endowed with consciousness of her uniqueness, psychology, artistic aspirations, scientific interests and secular existence[3]. Contrary to that view, I believe that medieval and early modern, as well as premodern and modern often coexist, both before and after 1500 and 1800. Retrofuturism is not a modern phenomenon: literary texts from 1550s and 1850s alike combine the allure of a simpler, oral, rural past and, at the same time, that of a scientific, mathematical, learned, urban and urbane futurism assisted by mechanical reproduction. An excellent example is the posthumous career of the best-known medieval French author, Jean de Meung. Far from stopping or even slowing down at his demise, in addition to authoring the *Romance of the Rose,* the most copied French text of the medieval period that shaped both medieval and Renaissance French culture in crucial ways, Meung becomes an author of mathematical, alchemical

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[1] I would like to thank the two readers and the volume and journal's editors, for their detailed and excellent comments that made this article much better. Abbreviations used: BnF = Bibliothèque nationale de France; CNRTL = Centre National de Ressources Textuelles et Lexicales. All translations are mine unless otherwise indicated.

[2] Rosenwein 2005; Schmitt 2001; Bedos-Rezak, Iogna-Prat 2005.

[3] I use the term *medieval* to designate French and English texts before 1500, as opposed to Renaissance or early modern, designating 1500-1650; modern, after 1800 and premodern, before 1800.

and medical texts, and a famous oracle. *Rose* is not copied or printed even once between 1538 and 1735. But, well into the 1650s, Meung's alchemical texts are copied by the dozen, now extant in alchemical and other scientific manuscripts. The posthumous Meung is a celebrated ancient author of the *Rose* –no longer read– and alchemist-*cum*-oracle, avidly copied if not also read by natural philosophers, and he is remembered for his mathematical contributions. The retrofuturistic Meung is very well known to the collector of medieval manuscripts Elias Ashmole, whom we have to thank for preserving a number of medieval manuscripts and championing Chaucer's alchemical and astrological texts, among others. Similar to Meung, Chaucer, too, is a canonical poet whose astrological and alchemical poems are apparently copied more often than others, and we may usefully be talking about a pattern that these two posthumous careers reveal. Alchemical, natural philosophy and mathematical tradition makes it so that Meung is mentioned in one breath with the alchemist famous for the philosopher's stone, Nicolas Flamel, and the oracle Nostradamus. To conclude: retrofuturism, the combination of the allure of antiquity with that of futuristic technology and science, is a premodern and modern phenomenon alike.

Paradoxically, if we take Burckhardt's chronology of the Italian Renaissance as a threshold (*ca*. 1290), none of the texts mentioned in my essay are medieval; however, disciplinary divisions in French Studies schedule the end of the medieval period at 1500, and I don't have to prove that they are, in fact, medieval: given the accepted timeframe for French, they are. Clearly, the way the field itself is categorized gives birth to the perception that Renaissance came later in the North. Putting French Renaissance at 1290, not 1500, would void the need for this essay: I would be simply confirming that the Renaissance started *ca*. 1290 in France, as in Italy. But given the consensus, with Burckhardt's Italian vs. Northern Renaissance temporality as a guideline, my research into the medieval individual contradicts his and current field's timing of the birth of the individual in Northern European culture[4]. 1500 is a sticking point here: either we move the Renaissance in France to *ca*. 1290 or 1370, or we have to acknowledge that the birth of the free individual is not the hallmark of the Renaissance but in fact a medieval phenomenon (*ca*. 1370 if not as early as 1290) in France and Italy alike.

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[4] Burckhardt 1904, n. 1 p. 129, and pp. 129-134. Burckhardt focuses on Italy as the source of what he perceives as the development of the individual or, in his words, *uomo singolare* and *uomo unico*, leading in due course to the Renaissance man, *uomo universale*. He explores this new individual in the context of politics and literature, beginning in Italy in 1290s. Burckhardt notes the presence of *uomo singolare* in Italy long before Northern Europe, albeit with some exceptions: sixth and seventh century (Liutprand), pope Gregory VII (1073-1085), early Hohenstaufens (1138-1197).

Given that Burckhardt's title is the "development of the individual", I focus on the use of the term itself in this interesting period that's either medieval or Renaissance, depending on where we are in Europe and how we look at it: 1290-1650. As we shall see, to examine the use of the word "individual" in Northern French may prove more interesting than merely critiquing Burckhardt's thesis because of a semantic and historical technicality. That is because (1) in the North, in French, the noun *individu* (individual) occurs as a translation from Italian and Latin, extant in a manuscript attested in 1377, and (2) there is continuity in the semantic functioning of the word *individu* in French between the Middle Ages and Renaissance. On one hand, this fully confirms Burckhardt's thesis: Italian and Latin were the conduits of the new concept of the free Renaissance individual, as shown by the first French translation of the word *individu* in 1377, translated from a Latin medical manuscript originally composed *ca*. 1295 by an Italian physician in Paris –provided we take 1377, the earliest attestation of the French text (in a manuscript now lost but known from a later extant exemplar) as our earliest date. The history of ideas in this case correlates with the history of the term. The presence of the term and the concept in French in 1377 shows a starting point of a process where the concept of the individual is no longer confined to literate Latin culture but translated to the mainstream. Second, the term in this earliest attestation is already used outside of the theological discussion of the Trinity and dual nature, demonstrating the dissociation between the idea of the individual and theological considerations of the Trinity and dual nature, a dissociation that characterizes the history of the modern philosophical concept of self.

But we can also look at these data from a different angle and say that they contradict Burckhardt's thesis and current temporal division medieval/Renaissance for France: if we take the noun *individu* as an indication, the Renaissance *uomo singolare* appears in French within the same century as in Italy –1290s in Italy, 1377 in France– contradicting Burckhardt's point about the much later blooming of the individual in the North. While frequent use of *individu* to mean citizen, subject of the law or person endowed with unique characteristics is a nineteenth century phenomenon in French, all these meanings are already present at the outset, in the 1300s-1650s. Limited as it is before 1800, medieval French *individu*, emerging in late 1370s and becoming more common in the 1400s, is used identically and covers the same semantic field in medieval and Renaissance periods, before and after 1500. I also contest the assumption that premodern use of *individu* is so limited as to render it completely unrelated to post-1800 *individu*. To accomplish this, I move from the terminology to the conceptualization of individual. In order to understand *individu*'s potential as a principal term in the discourse on the self –a potential

not realized until the nineteenth century– I look to Carla Mazzio's analysis of the Renaissance self, theater, and mathematical vocabulary. This paper expands Mazzio's brilliant discussion of early modern examples with medieval ones, and suggests that we may be able to elaborate an inclusive, premodern history and theory of the subject, thanks to these continuities; and secondly, that in spite of its limited presence, premodern *individu* is like the modern.

If the term individual worked in the premodern period just as it did later, after 1800 (although before 1800 it was infinitely less frequent), does that mean that the concept of the individual was the same in the premodern and modern periods? Or are there different conceptualizations and ideologies of the individual in the medieval and early modern (before and after 1500) and also premodern and modern (before and after 1800) periods respectively? Here, I want to re-emphasize that I do not believe in a linear deployment of concepts in the past –or present, for that matter. I believe the hallmark elements of premodern and modern concepts, discourses and institutions regarding the individual always coexisted, just as antique and futuristic elements are combined to create a retrofuturistic allure that buoys Jean de Meung's posthumous career in the 1360s-1650s.

This paper begins to answer the question of the concept of the individual before 1650 by studying the transformation of a mathematical term (indivisible) to mean *individual person* across diverse disciplines –medicine, law, alchemy; and across genres –theatre, narrative poetry, philosophical prose essay, prayers, medical textbooks, and legal documents. My archive, which brings together a range of disciplines and genres, shows that the principal elements of the concept of *individu* and networks of disciplines where the term *individu* occurred, travel unchanged from the medieval to the early modern periods. In a longer timeframe, the use of the word –rare in the Middle Ages and Renaissance in French, ubiquitous in modernity– shows a profound change: today, we no longer associate the word *individu* with scientific writing or genres translated from Latin and Italian, such as legal documents, scientific texts, philosophical essays, where French *individu* was most likely to occur before 1650. I want to emphasize that my methodology is neither strictly philology (study of the term) nor strictly history of ideas (genealogy of the concept). Perhaps I am, in the sense that Carolyn Dinshaw defines in *How soon is now*, a queer philologist and historian of ideas[5].

In accordance with the lines of inquiry established by the present volume's editor, this essay participates in the present volume's collaborative investigation of

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[5] Dinshaw 2012.

innovation and continuity, the role of the vocabulary in generating
a new aesthetic and intellectual experience, the study of the use
of vocabulary outside its original field [here, mathematics] for a
more precise and richer understanding of medieval texts and cul-
ture, the role of that use to renew traditional genres, the reception
of the new lexicon by the audience (frustration, novelty, confu-
sion, surprise), the changes in meaning, ambiguity and interpre-
tation, and tracking words with uncertain or poorly documented
origins[6].

In the first part of the essay, I examine the history of *individu* (noun:
individual; adjective: *indivisible*) to show what its medieval and early modern
use can tell us about the premodern self[7]. My archive consists mainly of
technical legal, medical, or alchemical texts, philosophical prose essays,
fiction (novels) and poetic or dramatic prayers. Many (especially the scientific,
philosophical and theatrical texts) translate or otherwise draw on Latin and
Italian texts. Indeed, a comparative study with other Romance languages
and Latin would be a natural next step in order to show, as I suspect, that both
word and concept of *individu* in French are to a great extent a *calque* or carbon
copy of Latin and Italian.

In limiting my archive to French texts, I examine a very different
world from the one studied by Alain de Libera, who exhaustively describes the
discourse and evolution of the modern concept of self in medieval philosophy[8].
In comparison, my archive is insignificantly small, but also more mainstream
and middle-brow, and therefore, I plead, no less specific or telling. Since I
only cite French texts, destined for a French public that may not have been
reading Latin or schooled in theology at all, my archive contains sentences
from Boethius but not Averroes, a couple of prayers redacted for performance
in Passion plays but no theology, a smattering of incipits to legal document
but no law theory, digests of textbooks (encyclopaedias, medicine, alche-
my) but no epochal science texts that constitute the origins of modern science.
The writers and readers of these texts –the people who used the word *individu*
in French, perhaps with no clear idea of its theoretical implications detailed
by Libera –I imagine, must have been much like the readers of Meung's *Rose,*
whose immense popularity was founded on the fact that it digested a Latinate
scholarly culture and made it accessible and citable for French speakers who
had little or no Latin or schooling. *Rose* was a French digest of clerical culture

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[6] The cited text is from the call for papers issued by the volume's editors.

[7] Libera 2007 cites, for the history of the modern subject: Zarka 2000a, 2000b, 1997; Balibar 1994, 1996, and for *individu* in the history of premodern philosophy, Cormier 1994; Weber 1991.

[8] Libera 2007, 2008, 2014, 2015.

in easy to recall couplets, obviously used as a vernacular encyclopaedia (and not read as a narrative), obviously cited out of context like an encyclopaedia (and not memorized in its entirety like Virgil), as demonstrated, among others, by the existence of an index or list of proverbs from *Rose* compiled in 1444 by Etienne Legris[9]. In this description of *Rose*, I follow Pierre-Yves Badel, who sees *Rose* as a vernacular digest of a bilingual Latin culture, *reading in Latin but writing in French,* and describes its readership:

> noble hunting men (...) pious monks (...) [university] chancelor Gerson (...) one group stands out by its numbers, the bureaucrats [hommes de procédure], "politic" clerics who actively partici-pate in the world's affairs, be it as magistrates, administrators or ministers (...) an "illiterate" [i.e., unlike the ecclesiastics, barely Latinate] public of "laymen" (noblemen, women whom Christine [de Pisan] warns off), as well as "literate" [i.e., Latinate] men, but especially the public of demi-savants, Latinists participating in the profane world of the courts, be it princely or legal[10].

This public of illiterate (i.e., not Latinate) readers, undistinguished women, medics, astrologers, Sunday alchemists, secretaries, petty provincial nobles, everyday *bourgeois* and demi-savants, I imagine, is also the constituency that first circulated *individu* in French in the 1370s. It meshes well with Mazzio's audience of teenage students and amateur scientists, cited in her discussion of a 1613 Jesuit college play where mathematical figures and concepts (circle, sphere) and tools (compass, ruler) become play's characters.

The earliest use of the adjective *individu* (indivisible) as a noun dates to a late thirteenth century medical text, the French translation of *Chirurgie* by Lanfranc of Milano (1245?-1306), which is attested at the earliest in 1377 (followed by numerous fifteenth century manuscripts and 1490 and 1508 print editions in French) *Particular complexions are infinite, according to the individual*[11]. Lanfranc's *Chirurgie* was composed in Latin in Paris *ca*. 1296. Since this earliest example, the meaning of *individu* that emphasizes its materiality and discrete and irreducible particularity –a semantic field corresponding to the Latin term– is maintained in all the other early examples,

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[9] Badel 1980, pp. 493-494.

[10] *Ibidem*, p. 502.

[11] "Les complexions particuleres sont infinies selonc le individue", BnF ms. fr. 1323, f. 110c. *Individu*, CNRTL, http://www.cnrtl.fr/etymologie/individu [accessed: 29/04/ 2015]. The Latin version, *Chirurgia Magna*, completed in 1296 when Lanfranc moved to Paris (1295), was first printed in Venice in 1490 and in French (translated by Guillaume Yvoire) in Lyon in 1490 and in Paris in 1508 (by Pierre le Dru). The French text is documented in 1377, though the manuscript witness is from the sixteenth century. There is also a Hebrew version.

most dating to the 1400s and later. To sum up the evidence, *individu* was a handy way to evoke the following relations: (1) the difference between ideal and immaterial vs. material, embodied, particular, irreducibly different –I call this aspect the *embodied infinite difference*; (2) indivisibility –I call this aspect *atomic*; and (3) a certain level of abstraction, given that the word is rarely used and often appears in theological, legal or other technical contexts where precision is required; I call this aspect *theoretical*. Because of the theoretical aspect, the word is often used to enhance the formal register or contribute, by its rarity and Latin derivation, to the phatic potential of a prayer.

The adaptation of mathematical vocabulary to narrate and describe the self is an essential concern of this essay. In part 2, I discuss *individu* alongside Mazzio's examples, because just as her examples it belongs to mathematical vocabulary (indivisible) and serves as a privileged term in the discourse on subjectivity, bridging the seemingly disparate realms of mathematics and consciousness[12]. In part 3, I study Mazzio's work on literary uses of mathematical language in the early modern period. Mazzio's springboard is a *ca*. 1613 English play, a comic and didactic schoolroom allegory, where the characters are Euclidean geometrical figures and instruments. The play affords her the opportunity to explore the formation of the vocabulary and theory of the self in the premodern period. She suggests that the difference between arithmetic and geometry –between abstract numbers and their concrete plotting in space, between superficiality (literally, two-dimensionality) and depth, between simplicity and complexity, unity and variation– was constitutive of the self and especially of depth, a mathematical concept (space) that is also a psychological one (emotions). Mazzio's thesis applies to the Middle Ages as well. Extending Mazzio's thesis back in time to the 1370s, I want to articulate a theory of the premodern subject that does not constitute an accommodation for the need of the modern to emerge from a unified, theological, collective, crepuscular matrix of the premodern. Rather, my careful study of the historical record contributes to the history of the subject across disciplinary divisions such as medieval/Renaissance and modern/premodern. In doing so, I account for historical change, but it is not by describing the premodern as a dark age against which, in Carolyn Dinshaw's memorable phrase, the modern *groovily emerges*[13].

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[12] Mazzio 2004.
[13] Dinshaw 1999, p. 16.

2. PREMODERN INDIVIDUAL: WORD USE, 1295-1650

Imported from mathematics and natural philosophy, premodern French *invididu(e)* as an adjective (indivisible, individual) is a useful term in theology and the law, but it is not limited to technical discussions. The most frequent use is a vernacular copy of the Latin invocations of the Trinity, *in nomine summe et individue trinitatis* (*in the name of the whole and indivisible trinity*)[14]. The vernacular closely translates the technical vocabulary to impart a formal tone to a prayer or another invocation of the divine. Just like the Latin phrase, the vernacular equivalent can open a text[15]. The word *individu* also appears in Passion plays, in longer prayers or meditations on the nature of the Trinity[16].

In other words, the Trinity is defined as indivisible (atomic *individu*) and all its three persons share the same (*simple* […] *individue*) essence, because otherwise each essence would be specific and individuated (embodied infinite difference *individu*) and that would not be divine. The double use of the word *individue* in the prayer included in the 1486 Passion play (cited in footnote above) underscores the technical nature of the reflection on the nature of the divine: in the first line, the adjective underscores the undivided nature of the essence of the Trinity, in the subsequent line, the adjective describes the specificity of an individual essence distinct from any other individual. This distinction seems congruent with what we know about medieval theory of the human from other theological discussions of the differences between divine and human: ideal self-identity is divine, while variation and idiosyncrasy are human and contingent on materiality and corporeality. The theme of the dichotomy between the realm of ideals *versus* the idiosyncratic human self and the contingent, frustratingly heteroclitic reality is also the principal theme underscored by Mazzio in her study of the formation of the fragmented, early

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[14] Variants: "in nomine sanctis et individue trinitatis" ("in the name of the holy and indivisible trinity"), and so forth.

[15] For example, as in the fifteenth century *Treatise of the Nobility of Offices of Arms*, which begins: "To the honor and praise of the very saint and indivisible Trinity" ("A l'oneur et louange de la tressaincte et individue Trinite"), BnF ms. fr. 11464, f. 1r.

[16] For instance, in the Angers *Mystere de la Passion* by Jean Michel (1486): "Doncques est il tres necessaire / De conclure triplicté / De personnes en deité / En simple essence individue / Si c'estoyent plusieurs essences / Ilz en porteroient differences / Individue ou specifique / Qui contredit fort et implique / A deité": "Thus it is very necessary / to conclude triplicity / of persons in deity / in simple indivisible essence / If these were different essences / they would carry differences from it / individual or specific / which strongly contradicts and implicates / deity": Jean Michel, *Le Mystère de la Passion*, p. 4. Michel's text is largely based on Arnoul Gréban's *Mystère de la Passion*: 25-65% of lines are identical, depending on the day (from one to four). See Du Plessis, *Histoire*, 62, cited at *Individué*, Lacurne de Sainte-Palaye 1817-1890, vol. 7, p. 86; Martin d'Auvergne, *Matins de la Vierge*, *ca*. 1477-1483.

modern self endowed with psychological depth and expressed through drama;
a binary that Mazzio aligns with the difference between two-dimensional
(ideal) arithmetic and the three-dimensional (depth) geometry (see part 3 for
a more detailed account of Mazzio's study of early modern self-fashioning).

A decade after the 1486 Passion play, Martial d'Auvergne uses the
adjective *individu* to describe divinity in *Louanges de Marie* to a similar effect,
in order to strengthen the formal, phatic dimension of a prayer by using a rare,
Latin-sounding word and citing a specific, theological term[17]. The numerous
Renaissance printings (1518 [?], 1530 [?], 1537, 1538, 1540, 1541) of Simon
and Arnoul Greban's *ca*. 1460-1470 play *Le Mystère des Actes des Apôtres*,
staged in Paris in 1507, also show that use of *individu*[18]. That use is attested
throughout the period of our study, including a 1643 example: a legal text
(a will) where an opening prayer is used to make the text binding, serious,
authentic: a phatic function[19].

As we hinted above, in these uses of *individu* in religious play
performances and printings (performances: 1460-1470, 1486, 1507; print:
1518 [?], 1530 [?], 1537, 1538, 1540, 1541), vernacular prayer (1492), a
testament (1643) we also see a preoccupation with the elements of the
foundation of self that, according to Mazzio, are characteristic of the early
modern period: self is characterized by variation, embodiment, imperfection,
specificity. But the examples of use that more directly take *individu* away from
describing the nature of the Trinity and bring it to concerns closer to Mazzio's
discussion of the early modern self are connected to the atomic meaning of
individu, for instance, in the French-English dictionary of Randle Cotgrave
(1611) that translates *individu* as an atom or *moat* (mote).

As Mazzio explains, there are several factors –which she attributes
in particular to her period, the turn of the sixteenth century– that contribute
to the new, fragmented, atomic apprehension of the world, what she calls
disorientation, as in this passage that Mazzio cites from Robert Burton's
Anatomy of Melancholy:

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[17] Cited in Godefroy 1883, p. 572 (*Individu*). I am citing from the modern edition, Martial
d'Auvergne 1970, p. 171: "O tres exellant Trinité, / Vray Dieu, puissant et vertueux, / Saincte,
individue deité / Saulveur du monde glorieux" ("O very excellent Trinity, / True God, powerful
and virtuous, / Holy individual [i.e., indivisible] deity / Glorious Savior of the world").

[18] *Actes des Apostres* vol. 1, f. 5c, ed. 1537, cited in Godefroy 1883, p. 572 (*Individu*): "En
tant que nous trois en substance/ Sommes ung Dieu, une puissance/ Et volunté individue" (ll.
5830-5834: "Inasmuch as we three in substance / are one God, one power / and individual [i.e.,
indivisible] will").

[19] Testament of F. Pamiers, ms. Richelieu, Baluze, Arm. 217, p. 39; cited in Godefroy 1883,
p. 572: "Au nom de la tres saincte et individue Trinité" ("In the name of the very holy and in-
dividual [i.e., indivisible] Trinity").

> Rotman, Kepler, Gilbert, Diggeus, Galely and our latter Math-
> ematitians, who have invented new hypotheses, and fabricated
> new systems of the World, out of their of Dedalian heads, *Burton,
> hurtling toward infinity, quickly breaks off from* such absurd and
> brainsick questions, *noting how it imbalances his own mind,* al-
> most giddy with roving about[20].

The *dramatis personae* in this passage necessitate an introduction. According to Burton himself, Christopher Rotman was the mathematician of the landgrave of Hesse, who corresponded with Tycho Brache on the nature of the air. Rotman argued that the air was the same element from here to the moon, except purer as you get higher; as a proof, people fainted the minute they scaled the top of the mountains in South America, lacking the thicker air that cools the heart at lower altitudes[21]. Kepler and Galileo need no introduction. Thomas Digges (*ca*. 1545-1595) was a mathematician and astronomer, the first to write in English about the Copernican system; his widow, Anne St. Leger, later married the man whom William Shakespeare chose to oversee his will. William Gilbert/Gilberd (1544-1603), physician and natural philosopher, published *De Magnete* (1600) and was among the first to refer to electricity. All five were well-known Copernicans.

Mazzio builds on Burton and other texts to propose that several factors contributed to the fragmentation and quantification of the world at the turn of the 1600. Multiple coexisting scientific theories and print distribution of knowledge, renewed interest in the atomic model of the universe, politics and political theory moving away from absolutism and tradition towards a politics of equilibrium between opposing parties, instinctive and non-scientific use of perspective by artists leaving geometry to mathematicians, and other factors contributed, in the later 1500s, to fragmentation and disorientation. The result of all these changes was the constitution of a self, experiencing a depth and fragmentation of feeling that corresponds to the spatial depth and fragmentation of the newly negotiable and relative model of the universe. The new turn-of-the-century (1600) self gave account, through art and theatrical representation, of the psychological depth that was called into being by the extension and fragmentation of space.

While I disagree with Mazzio that this was limited to the specific historical context *ca*. 1600 linking Copernicanism, the rise of print and theatre and other factors, I am eager to adopt her model of self, fragmented, individuated, embodied and imperfect, endowed with depth of feeling that

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[20] Mazzio 2004, p. 43; Burton 1621, pp. 328-330.
[21] *Ibidem*, vol. 2, p. 57.

corresponds to the spatial depth of which the self is painfully aware. My departure from her schema of the exceptional conditions at the end of the 1500s has a twofold basis. On one hand, I believe that the conditions she describes –the disorientation she attributes to the early modern period *ca*. 1600– existed in the medieval period. If we speak of similarities in very general terms, nothing would be easier to demonstrate. The fragmentation and balance of power she evokes is also the operative structure of the Hundred Years War, pitting the French against the English, while the Burgundians, who adopted the imperial style Great Dukes of Occident, became the third, decisive factor. There are other similarities as well. The plague; the spread of universities and commerce; scientific works and collaborations that lead to the Copernican tradition (Erazm Ciołek, known to Western scholars as Witelo; Nicole Oresme; Nicholas of Cusa); the use of perspective; the interest in geometry: the period from 1370-1530 can be easily compared to the blossoming of print culture and other factors Mazzio adduces. More importantly –and this is the second point on which I base my argument for the continuity between medieval and early modern, against Renaissance exceptionalism– the same definition of the self operated in the medieval and early modern periods, based on the lowest grade philosophical constructs that medieval and early modern writers shared: what is divine is unified and totalized; what is human is embodied, imperfect, particular, unique, irreducible. The history of the word *individu* gives further and more specific proof for the existence of Mazzio-like idea of self, at the most conservative estimate in the later Middle Ages, after 1377, when that word emerges in the vernacular; but perhaps earlier, closer to the 1290s when the Latin text by Lanfranc (later translated into French, *ca*. 1377) was composed in Paris.

Contemporary with the examples cited above, *Le somme abregiet de theologie* (1481), a French version (extant in two manuscripts) of the Dominican Hugh Ripelin of Strasburg's (*ca*. 1205- *ca*. 1270) textbook *Compendium theologicae veritatis* (extant in some 620 Latin mss, of which about 100 are French), translates:

> No thing is in a place either by circonscription or by definition as God. And the reason of this is that he is not individual, that is determined or singularized, by matter as well as by body or bodily things, or by agency [*suppost*] like angel[22].

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[22] Hugh Ripelin of Strasburg 1992, I, 1486, p. 138: "Aucune chose n'est en lieu ne par circonscription, ne par diffinition comme Dieu. Et la cause si est, car pas il n'est individue, c'est a dire determiné ou singularisé, par matere comme les corps et les choses corporeles, ne par suppost comme l'angele". See Gerner 2008, pp. 263-264.

The *Compendium*, now dated to *ca*. 1268, and sometimes attributed to Thomas Aquinas (in the 1473 printing), Albert the Great (1557 and 1651 Lyon printings), Bonaventure (Rome printing, 1588-1596) and other authors, was used for some 400 years.

Apart from *individu*, *Somme abregiet* has a lot to offer in the discussion of the terms *personne, personnel*, and individual traits that distinguish individuals (*Jehan, Pierre, Jaques*) in a species or *human nature* (*nature humaine*)[23]. Although it is a matter too voluminous for an essay, we must mention that the terms *personne, personnel* are entwined with *individu* in Boethius's (480-524) definition of person: *a person is an individual substance of rational nature*, where nature is the *specific property of any substance*. Participant in the theological context of the doctrinal schism concerning dual nature, Boethius writes against monophysites: *Book on the person and two natures against Eutychen and Nestor* (*ca*. 512). Although it is located in this theological context, Boethius's phrase is crucial in the entire history of the concept of self until the Enlightenment and beyond. The phrase is adopted by Thomas Aquinas, and cited by all, as reflected today by the genealogies of the philosophical concept of the subject by Alain de Libera, Olivier Boulnois, Jean-Luc Solère, Maximilian Forschner and others[24]. The history of the terms *personne, personnel* is no doubt more important than that of *individu* to the genealogy of the concept of self before 1650, not the least because *personne* and its family are more common. As we mentioned, Libera's *Archaeology of the Subject* (three volumes, 2007-2014) and *Invention of the Modern Subject* (2015) detail the genealogy of the concept in medieval philosophy. In his discussion of the philosopher Pierre Bayle (1647-1706), Solère cites Boethius's definition to underscore the continuity of the concept of individual from the early medieval period to *ca*. 1700, aided by the institutional and para-institutional continuities: the Church and the university as well as informal training in theology and philosophy[25]. And, one is not surprised to find genealogies of contemporary philosophical subject derived from medieval Christian theology among Catholic philosophers such as Forschner. Writing on Stoical genealogy of the concept of person, Forschner notes:

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[23] Hugh Ripelin of Strasburg 1982, I, 1875, p. 148.

[24] I want to thank the anonymous reviewer for pointing out the importance of the term *personne*, identifying the Boethius citation, and directing me to the work of Alain de Libera and Olivier Boulnois. See Libera 2007; Boulnois, Schmutz, Solère 2002; Solère 2002; Forschner 2005, pp. 293-317. Thomas Aquinas, *Summa* 1a:29:1.

[25] Solère 2002, p. 309; Forschner 2005, p. 297: "personae est definitio: naturae rationabilis individua substantia" (Boethius 1918, 3, p. 84); persona "uero rationabilis naturae indiuidua substantia" (Boethius 1918, 4, p. 93).

the dogma of the trinity (three persons in one god) and incarnation (one person with two natures) become (on this point Christian theological tradition is unanimous) mysteries of faith stricto sensu, whose content cannot be conceptualized by rational means, and they contain insurmountable ontological paradoxes. That means the concept of the person itself is employed there in a way that has nothing to do with the "condition of a person in the human sense of the term". We do not know, we do not understand what that means and what it is like to be one person with two natures. And we do not understand either what the existence of three persons within one numerical entity means. We can neither know nor understand it. Having said that, we nonetheless also arrive, by reciprocal intuition, at conceptualizations that grant these articles of faith and the history of their dogmatic entrenchment a determining role for the conceptual clarification of the condition of the person who reveals herself to herself[26].

In my approach to a body of texts in the vernacular that represent at best rough summaries of the fine-grained philosophical debates discussed by these historians, and usually only cite Boethius's hallmark phrase without the apparatus that sustains it, I emphasize continuities (Forschner's idea that theology is the grounds of the *conceptual clarification* of the *self that is thinking about the self*, or consciousness) and not the disjunctions (Forschner's idea that the use of the vocabulary and concepts of self in theology and in *the human sense* have *nothing to do* with each other). The fine-grained discussions on person, individual, subject, agency and so on were not conducted in French but in Latin before 1650. Because of my focus and my very limited archive, I therefore arrive at very different conclusions regarding the continuity of the term and concept of *individu* than either Latin philologists or historians of philosophy.

Let us consider for a moment these boundaries –in theology vs. *in the human sense*– that structure our description of the past by discipline (philology, history of philosophy, French studies). It is self-evident, because of my archive, that by studying French texts I have access to the *individu in the human sense*. Theology would be properly discussed in Latin, where the vocabulary is robust, the use of technical terms frequent, the definitions exhaustive. Now, in turn, let us think for a moment about the similarity between the two archives, my vernacular French and philosophy historians' Latin. No matter how strongly the distinction between theology and *human sense* structured the past, there was nonetheless conceptual continuity between them, as Forschner points out:

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[26] Forschner 2005, pp. 295-296.

> The multiple ramifications and facets of this [i.e., following Bo-ethius's definition: a person is an individual substance of ratio-nal nature] tradition of the concept of person (largely secularized and again emptied of the ontological substance [by Locke and by Hume] in the meantime) are precisely that which continues to deploy its effects from Boethius to Descartes, and from Descartes to Locke and his contemporary disciples[27].

To prove this continuity, Forschner cites Locke's definition of person: *A thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places* (...) *by* (...) *consciousness*[28]. As Forschner says, contemporary philosophers of subjectivity are passively and obliviously entrenched in the Boethian tradition (though *emptied* of metaphysics or what Forschner calls *ontological substance*).

This paper studies texts that substantially differ from Latin philosophical sources on the discourse of the self. While in French texts, just as in Latin sources *individu* is a term of self derived from mathematics (*individu*) and entrenched in theology (Trinity, dual nature), the French term *individu* is limited to *human sense* by the very virtue of its being in French. This particular archive may also help alleviate the natural resistance one feels towards that kind of erasure of distinctions between premodern and modern as can follow the interventions of contemporary Catholic thinkers and scholars. In my case, that resistance is acute, since my experience with some Catholic scholarship in queer studies is that while the archive and the methods follow the usual scholarship practices, the conclusions sometimes do not; instead, they foreclose all doubt or debate, and fall in line with traditional Catholic doctrine. We must keep in mind that the erasure of disciplinary period boundaries erected to quarantine the Middle Ages from both the secular late pagan antiquity and the secular modern Renaissance, by mid-nineteenth century secular historiographers such as Burckhardt who called himself an *honest*, i.e., open, *heretic* may mean different things to different constituencies –some secular, some not– of the twenty-first century[29]. It all depends on what work such erasure is doing. Paradoxically, as I erase the difference between medieval and modern, and premodern and modern, I am wary of the repercussions of this erasure, and with it the breaching of the long-established quarantine that helped keep *uomo singolare* comfortably unentangled from Catholic claims.

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[27] Forschner 2005, p. 297.
[28] Forschner 2005, n. 16 p. 297.
[29] Howard 1999, p. 151.

The late medieval use of *individu* noted above aligns with Mazzio's argument about the formation of premodern self as fragmented, embodied, imperfect and idiosyncratic. It also aligns with theology. The human is characterized as a singularized, embodied self (*individu* as embodied infinite difference), as opposed to the divine. The divine, in turn, is not singular, not embodied, not individual, not determined. Boethius's definition insists on the unity of the self. Discrete from other selves, *individu* is atomic: *a person is an indivisible* [*individuee*] *substance, that is, without division and not distinct from a reasonable creature*[30]. Here, the atomic *individu* also possesses an exhaustive fullness: its substance includes its reason. This fullness of self is one of the attributes of self: an atom complete unto itself, clearly in opposition to Mazzio's vision of premodern, fragmented self. The example from *Somme abregiet* that underscores the self-sufficiency and wholeness of the atomic *individu* also aligns with the use of *individu* in the sense of indivisible or atomic, in the context of the shared essence of the three persons of the Trinity, as in the Passion play that was contemporary with them (cited above). It is unthinkable that the essence of the Trinity be lacking, riven or fragmented: the atomic meaning of *individu* must have accommodated the idea of wholeness and completeness if it was used in that context.

The atomic sense of *individu* is attested even more frequently in cognate form, *indivisé* (undivided); Godefroy's dictionary of Old French proposes as equivalent the modern French *indivis*, undivided/indivisible or whole, and lists numerous examples, starting with 1255, 1437, 1488, 1532, and 1536, from sources such as prayers, legal and medical texts. These include late fourteenth century Oresme's *Ethiques* (*They are the same indivisible thing*, 30, edition of 1488, written before 1382), *Customs of Anjou and Maine* (1437: *Common and indivisible heritages*), and the works of the Renaissance physician Ambroise Paré (1510-1590). Oresme (*ca.* 1320-1382) also uses the active verbal form *indiviser à*; the translation below reflects Godefroy's modern translation of *indiviser*:

> And those who are called the guardians of the laws and that the princes negotiate affairs with them and makes them participate [les indivisent à] in things on which they previously counseled and gave judgement.

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[30] "La premiere est que personne est une substance individuee, c'est a dire sans division et non distinguié d'une creature raisonnable": I want to thank the anonymous reader who has noted that this is a paraphrase of Boethius.

Oresme provides another example of the verbal use of *indiviser contre* in the sense of incite (again, the translation follows Godefroy): *Demagogues flatter the people and unjustly incite them against* [les indivisent contre] *the princes*[31]. Godefroy translates Oresme's *indivisent* in the first passage above as "make them participate in" (*faire participer*) and in the second "excite, incite them" (*exciter, soulever*), as if the prefix in- was not a negative prefix but an emphatic one. This in- is analogous to be- in bemoan, or in- in inform, ingrain, inculcate, inculpate: not only it does not negate but it intensifies the action. If I understand correctly what Godefroy suggests here, *indiviser* is not "to un-divide", i.e., to unite, but rather "to divide more." These two cases beg for comments from a better linguist than myself.

Contemporary with Oresme and Lanfranc's *Chirurgie*, in the 1370s, Jean Le Fèvre de Ressons (*ca*. 1320-after 1380) uses *individu* in his French translation of pseudo-Ovid's *Vieille* (Latin title, *Vetula*), originally composed perhaps *ca*. 1220. The *Vieille/Vetula* has some notoriety because of its premise: Ovid was the supposed author, describing his last love in his dotage. The best-known passages of *Vieille* are mathematical and scientific digressions on probability and other topics. The first book of the *Vieille* describes the advantages of three kinds of women lovers, young, married, and widowed; and extolls the alternative pleasures of swimming, fishing, hunt; of alchemy; and of games such as dice, chess and rithmomachy. A well known table game, also known as the philosophers' game, rithmomachy was played with a special, elongated chessboard and with tokens in the form of different geometric figures, each also with a different number, where the tokens and their positions on the board correlated with musical, arithmetic and geometric values. Rithmomachy was used as a pedagogical tool in the Boethian tradition (more details on the game below)[32]. The second book of the *Vieille* narrates a failed attempt to seduce a young woman; by mistake, the poet conquers her ancient nurse. The young woman marries someone else, and only when she becomes a widow twenty years later, the poet finally marries her. However, her beauty is long gone and the book ends with the predictable consolation: praise of learning. The third book reflects on theology, philosophy and astrology. The Latin *Vetula*'s provenance, date and authorship are uncertain. Some scholars suggested that Richard de Fournival (1201-1260) was the author, because of

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[31] "Et ceulx qui sont appellez gardes des loix et que les princes traictent avecques eulx des negoces et les indivisent aux choses desquelles ilz ont devant conseillé et ordonné", Oresme 1489, f. 154; "Les demagoges sont flateurs du peuple et les indivisent injustement contre les princes", Oresme 1489, f. 132d.

[32] The game, supposedly invented by Gerbert (pope Silvester II) and renewed by Alain de Lille, is given in the *Vieille* an Indian origin and name, *algebrae almucgrabaloeque*; Jean Le Fèvre 1861, p. XXII.

his authorship of a treatise on rithmomachy, the table game evoked in the poem[33]. As for the date of the poem, references to Aristotle and algebra suggest that *Vetula* was composed in the 1220s.

A century and a half after that date, *Vetula* was translated into French, part of a vast movement of translation from Latin that marks French culture of that period. The author of the French translation, Jean Le Fèvre, was a typical member of the class of readers and writers we described before. A *procureur au Parlement* in Paris, he authored a dozen texts preserved in a few dozen manuscripts. Le Fèvre's other texts, like his translation of *Vieille*, combine philosophy and natural philosophy with intellectual recreation in French, not Latin: Cato's *dystichs (Les diz de Caton*, 351 couplets, twelve mss extant), *Lamentations of Matheolus* (fourteen mss), and a handful of poems preserved in one or two mss, including short lyric, prayers, along with several longer narrative poems including the one that interests us, *Ovide de la Vieille*[34]. The passage of the *Vieille* where *individu* appears describes a nativity:

> Therefore, the shape [figure] of the angle / of the rays is the cause, truthfully / in the hour of nativity / and in the place that is continued / of any individual thing. / From there it takes its own shape [figure] / according to the state of its nature / receiving its proper species / be it petite, slender or thick[35].

Here, the embodied idiosyncratic unit –*any individual thing*– is articulated by the emplacement and angle of stellar rays, so that the hour and place of nativity determine in a non-duplicable manner the individual traits of the embodied being/thing. The passing reference to stellar rays in this passage confirms what we know about the intellectual context of the *Vieille* from other passages, for instance the reference to the game of rithmomachy. The intellectual context where stellar rays played a role persisted beyond the 1220s and became enriched, expanded and invigorated throughout the period that interests us, well into the sixteenth century. For example, as Ann Moyer notes, *the notion of stellar rays –influence emanating from heavenly bodies themselves– developed by al-Kindi and built upon by Roger Bacon* [1214-

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[33] A fifteenth century attribution of the thirteenth century treatise on rithmomachy to Fournival is cited in Le Fèvre, Fornival 1861, p. XXII.

[34] Le Fèvre's *Vieille* is witnessed by a single manuscript (BnF ms. fr. 881). His other poems witnessed by only a few mss (or lost) are the *Respit de la mort, Theodolet, Epistre sur les miseres de la vie, Contredit de Matheolus / Livre de leesce, Humnes liturgiques, Danse macabre*.

[35] Le Fèvre 1861, p. 75: "La figure donques de l'angle / Des raiz est cause en verité / En heure de nativité / Et en lieu qui se continue / D'aucune chose individue / De là prant sa propre figure / Selon l'estat de sa nature / En recevant sa propre espesse / soit menue, graile ou espesse" (ll. 1488-1496).

1294] *and some of his Latin contemporaries* is reflected in the astronomers' or astrologers' game, uranomachia, a variant of rithmomachy that, according to Moyer, was only attested in English university circles (mainly Oxford) in the fifteenth and sixteenth centuries[36].

Linking astrology (specifically, the stellar rays theory) to the theory of self may seem on the surface detrimental to my project, if my goal is to integrate the medieval vocabulary and definition of self with Mazzio's early modern discussion of science, but the two are instead closely related. The problem of astrology –if the stars rule all humans, how can two children born at the same time become one a prince and the other, a pauper– is solved with the proper application of coordinates, the angle and point of intersection of the stellar rays. Together, they determine the particulars of the embodiment that make one individual irreducibly different from another, even if they share the same hour of birth. The fact that astrology does not contradict but supports the idea of the individual may be one of the reasons why this application of mathematics, geometry and astronomy to the study of self was not neglected earlier.

The *embodied infinite difference* aspect of *individu*, represented by medical and astrological texts, is also apparent in the verbal form of *individu*, *individuer* (to individuate), in another scientific text, *Jardin de Santé*. *Jardin* is the 1500 Paris printing of the French translation of *Hortus sanitatis* by Johannes de Cuba (1430-1503), an encyclopaedia of natural philosophy divided into kingdoms, only some of which we now recognize: plants, land animals, birds, fish, stones, urine. *Hortus* is known for the wealth of medical uses as well as for its lavish woodcuts that portray centaurs and mermaids, unicorns and mandrakes. The use of *individuez* in *Jardin*, like in Lanfranc, translates the idea of embodied singularity: *the generative members are made so that general members can be specified and after being specified, individuated and made particular*[37]. Along the lines of this definition, the greatest French novelist of the first half of the sixteenth century, François Rabelais (who no doubt read either *Hortus* or the works that it compiles) uses *individu* in the *Tiers Livre* (1546) in a series *genus, species, individual*, and in the phrase *son individu*, meaning oneself[38].

Often, the infinite difference aspect of *individu* is used in a general sense that has nothing to do with self. Guy Lefèvre de la Boderie (1541-

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[36] Moyer 1999, p. 230.

[37] "Les membres generatifz sont faitz affin que les membres generaulx feussent specifiez et apres qu'ilz seroient specifiez feussent individuez et faiz particuliers", *Jardin de Santé*, cited in Godefroy 1883, p. 572 (*Individuer*); *Jardin de Santé* 1500 (I have failed to identify the page).

[38] Rabelais 1964, chap. 8, p. 70, and chap. 31, p. 218.

1598) uses the noun *individuité* (individuality): *individuality (…) or the determination of each particular thing* (1578)[39]. Similarly, *individu* possibly means particular in Pierre Charron's (1541-1603) *Book of Wisdom*, a popular philosophical *vademecum* combining neo-Stoicism and Christian themes, inspired by Montaigne's *Essays*, first published posthumously in 1601:

> It is not enough to recognize one's fault in detail and in particular [en individu], and try to repair it; one must in general recognize one's weakness, one's misery, and use them as a starting point to universal reform and improvement[40].

The passage is situated rather prominently at the end of the opening chapter, summarizing the point of the whole book; the use of the infrequent term *individu* is the more striking.

As early as *ca*. 1550, a passage on alchemy illustrates another dimension of premodern French *individu* relevant to modernity: molecular theory of matter. Printed in 1585, four years before Charron met and befriended Montaigne in Bordeaux, this passage in *Tales and Discourses of Eutrapel* by the jurist and writer Noël du Fail may have been composed as early as 1548[41]. It is the only occurrence of *individu* in du Fail. The passage appears in the context of illegibility, specifically in the transmission of alchemical knowledge. Alchemical texts are described as jumbled to obscure their secrets, with the result that fundamental knowledge of nature these texts were supposed to transmit became lost and buried under all the confused textual traditions:

> they have hidden and obscured the truth of high and whole sciences by unknown, indeterminate and inarticulate words: and nonetheless not wanting such treasure to be lost, left to posterity, jealous as they were of her, under a strange and doubtful cover, the knot and the point of difficulty, to be known and developed, by tearing out the best one can from very little, and making one's profit of such rare and precious things. Which obstacle being presented, arts were found that taught the natural alliance of the richest and most secret individual [individu] under the arch of Heaven, so mixed up and scattered, under the eyes of Argus, the apples of the garden of Hesperides, and the voyage of Jason to

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[39] "L'individuité […] ou la determinaison de chaque chose particulière", La Boderie 1578, p. 137.

[40] "Il ne suffit pas de recognoistre sa faute en destail et en individu, et tacher de la reparer; il faut en general recognoistre sa foiblesse, sa misere, et en venir a une reformation et amendement universel", Charron 1601, book 1, chap. 1, pp. 8-9; cited in Godefroy 1883, p. 152 (*Individu*).

[41] Du Fail 1586, p. 164r (chapter 30); it was suggested that this section (*Suite du mariage*) was probably part of the early draft of the work, *ca*. 1548.

Colchos, and other enormous and unsolvable difficulties, so that all is covered and masked with false and vain doctrines, for that gaze, until the loss of the very core and nerve of this magistral science[42].

Here, *individu* refers to the molecular theory of matter, of which the *individu* is the smallest unit, by analogy with the animal world where *individu* is the smallest independent unit of a species. As Hank Kubbinga points out, the idea of *individu substantiel* emerges in Greek commentaries to Aristotle's *Physics* by Simplicius (500-after 533), printed in Venice in 1526 (Latin, 1543); and by Philopon (490-570), printed in Venice in 1535 (Latin, 1539). Philopon uses the term *minimum* (a translation of Greek *elaxistos*, the least; and *micron*, the smallest) to describe *individu substantiel*[43]. Apart from Philopon's and Simplicius's commentaries, molecular theory is based on corpuscular theory in Pseudo-Geber's *Summa perfectionis magisterii* (*ca*. 1260, now attributed to the Italian Franciscan Paul of Taranto). Developed *ca*. 1612-1620 by Isaac Beeckman (1588-1637) and Sébastien Basson (1537-after 1625), molecular theory presupposed the existence of "substantial individual" (*individu substantiel*) as a building block of all matter. Beeckman uses the term *homogenea physica* and Basson, *minima*; the idea of substantial individual and species, *individu substantiel* and *espèce substantielle*, later appears in Descartes, Huygens, Newton, Leibniz and others[44]. The allusions in du Fail's passage leave little doubt that it describes alchemy, whose secrets were jealously guarded, whose truths were hidden by *unknown, indeterminate and inarticulate words*, and whose principal myths du Fail evokes as the mask behind which the science hides: the Hesperides, Argus, the Argonauts and the Golden Fleece. Similar to the reference to astrology in *Vieille/Vetula* which binds the use of the word *individu* with the development of what will become modern science, in du Fail the connection between the use of *individu* and alchemical context makes the term *individu* relevant to the emergence of modern chemistry, molecular physics and experimental science.

Let us now turn from molecular theory to the link between individual and language, specifically the necessity of language given the existence and definition of the individual. This problem is couched in the premodern period in very specific terms that are not common knowledge, and may be essentially different from the problem of language in the modern period. Let us recall the distinctions we saw in one of the *individu* passages cited above, between God,

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[42] *Ibidem*, p. 164r.
[43] Kubbinga 2002, pp. 143-144.
[44] Kubbinga 1990, p. 136.

men and angels. Not only is language particularly human: this particularity
is a corollary of another human characteristic, the fact that *individual* is
uniquely human. Alone of all creation, humans are individuals, as opposed to
animals (un-individuated members of a species) and angels (connected to the
godhead). Animals need not communicate (they all have the same instincts:
thus, nothing to explain) and angels are always in communication through
their shared connection to the godhead.

   This theory of language is succinctly summarized in Dante's *De
vulgari eloquentia*. Dante (*ca*. 1265-1321) may appear to predate the period of
our focus, as well as fall outside its geography (France). But, the transmission
of *De vulgari* is a good argument that the most accurate schematic model for
the unfolding of the Renaissance is parallel or tangled (retrofuturism), not
linear. The Latin text of *De vulgari*, our source, was discovered and edited in
the late sixteenth century (Paris, 1577) by Jacobo Corbinelli (1535- *ca*. 1590).
Corbinelli, an Italian humanist and tutor to the future French king Henry III
during Corbinelli's stay in Paris (1568), confirmed Dante's authorship of this
theory of vernacular languages, an authorship that was in doubt previously,
when only a Tuscan version of *De vulgari* was known. To return to that text:
angels don't use language, a trait they share with God and what Dante calls
inferior animals, as opposed to humans[45]. In Dante's formulation, angels
communicate (the appropriate term is *pando*, spread out, unfold, unwind,
akin to Pandarus and *pandus*, crooked, wound) without time or in *no time*,
promptly (from *promo*, to bring forth emotions) and without consideration of
space, ineffably (from *effero*, to bring forth news). Angels impart intelligence
instantly and without words, an obviously superior form of communication
when compared to human language[46]. Dante gives two descriptions of how
wordless communication works: intelligence, like ether, makes angels *totally
known to one another by itself* (*alter alteri totaliter inotescit per se*); in the
second description, angels apprehend each other because they are all reflected
in the *resplendent mirror*, the essence that connects them to each other and
to God[47]. In both descriptions, the fifth element (quintessence, ether) plays a

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  [45] Dante 2005, 1.ii.2.

  [46] In the tripartite hierarchy of cognition (reasoning, intelligence, contemplation), intelligen-
ce provides the link between the lowest term (reasoning) and the highest term (contemplation).
Derived from *intus legere*, reading within oneself, or *inter legere*, reading between (the latter
origin is less frequently cited in the premodern sources), *intelligence* exceeds speculation, lea-
ding to mystical union unimpeded by differences between God and humans. Both angels and
demons have intellect, an inalienable though corruptible part of their nature. Some kinds of
intellect are more corruptible than others. Those kinds of intellect that are more fleshly would
be (logically enough) more corruptible than those that are more speculative; Bonaventure 1885,
vol. 2, p. 191, Articulus 1, *De cognitione daemonum*.

  [47] Dante 2005,1.ii.3.

crucial role in the transmission. It's no doubt unnecessary to mention that the five elements were mapped on Euclidean and Platonic five ideal solids (sphere, cube, pyramid, icosahedron, dodecahedron), the quintessence corresponding to the dodecahedron, the shape of the cosmos, as illustrated in young Johannes Kepler's (1571-1630) first publication, *Mysterium cosmographicum* (1596), where the model of the solar systems (and distances between planets) is that of imbricated ideal solids (later superseded when Kepler took into account Tycho Brache's measurements; however, it was the 1596 publication that spurred the correspondence with Brache in the first place).

While angels network via ether, non-rational animals of the same species also communicate wordlessly. This is because they are not individuated, not endowed with free will, and not rational animals. As a species, they are guided by instinct that moves them to identical acts and passions, unlike the free will that moves human individuals to make different choices. Thus, there is no need for explanations or for language among animals; that need is limited to the individuated, rational animal: the human[48]. Along similar lines, languages at the building site of Babel are split between the different categories of workers shaped and defined by their location and occupation: those who carried stones by sea *vs*. those who brought them by land, and so forth[49]. Human language develops in the context of individuals, each endowed with free will, and therefore opaque and indecipherable to any other individual, though they belong to the same species. Furthermore, human language, in Dante's emphatic formulation, is not abstract but embodied. Language is reason communicated *via* the senses, literally: *nothing can be conveyed from one rational mind to another except through a sensible medium*[50]. This idea of the exceptional status of humans that ties language to their irreducible individuation, which in turn necessitates language as a form of communication since there is no communion between them –unlike between animals of the same species, or between angels and God– is germane to Mazzio's discussion of three-dimensional embodiment as a corrupted but more complex state, whose expression is literary and dramatic. This is further emphasized by Dante's insistence on the embodied nature of language, also compatible with Mazzio's hypothesis that complications resulting from embodiment (complex and imperfect three-dimensional geometry of forms instead of ideal, simple two-dimensional arithmetic of numbers) and the depth of the self are related.

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[48] *Ibidem*, 1.ii.5.
[49] *Ibidem*, 1.vii.7.
[50] "De una ratione in aliam deferri possit per medium sensuale", *ibidem*, 1.iii.2.

Another idea I borrow from Mazzio is the relation between individual, self, emotional depth, and infinity, including its mathematical dimensions. In one of the most beautiful fourteenth century poems, Guillaume de Machaut (1300-1377) sings: *One cannot count the stars / (…) And drops of rain and sea / And the sand on which she flows / And encompass the firmament / And also, one cannot think or conceive / How great is my joy in seeing you*. While the metaphor of grains of sand on the seashore is biblical, it is also a frequent object of premodern mathematical puzzles, and I want to connect it to the interest in speculation, both financial and mathematical, emerging at the time. In *Commerce Before Capitalism in Europe, 1300-1600*, Martha Howell shows that although credit, money, capital and other elements of modern capitalism existed in the Middle Ages, there was no capitalism. Rather, heavily regulated local markets engaged in site –and time– specific practices that are hard to generalize. But a recent essay by Nick Srnicek suggests a different viewpoint[51]. Summarizing broad cross-disciplinary studies of economy, quantification, and mathematics, Srnicek concludes that the Middle Ages saw the rise of speculation, arbitrage, and risk valuation, and he posits a continuum between then and now. It seems to me that the idea of infinite as it is expressed in Machaut –in embodied, concrete, material images– is germane to the premodern use of the term individual, a use that allows a concrete and precise idea to be formulated, whether about the nature of the Trinity, legal standing concerning questions of heritage, the human body, the human individual, or the body politic (uniting people for a cause). Premodern texts often note the paradox that the embodied idea of infinity as expressed in Machaut (grains of sand on the seashore) is nothing but an imperfect approximation of infinity, a flawed example, because in reality, the number of the grains of sand on the seashore is (1) finite, and (2) can be counted or estimated quite easily by extrapolating from a small sample.

Mazzio evokes the infinite in the context of non-commensurability, fragmentation and irrationality of the Renaissance world. In creating what she calls *Renaissance self-fractioning,* she says, *the early modern self transforms infinite space to bad dreams, infinite divisibility to a sense of the vulnerable*[52]. This *disoriented mode of personhood* is adequate to an unhinged, untimely, shifting world[53]. Let us recall that the first occurrence of *individual* in Lanfranc's *Chirurgie*, 1377, related *individual* to *infinite: particular complexions are infinite, according to the individual*. This infinite is different from the history

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[51] Srnicek 2013.
[52] Mazzio 2004, pp. 61-62.
[53] *Ibidem*, p. 62.

of mathematical infinite proposed by Brian Rotman in *Signifying Nothing: The Semiotics of Zero*, where zero was the indicator of absence and vanishing point in perspective, as well as a notion or symbol exemplifying the unease with the new system of paper currency and the anxiety of distance or definite severing from tangible value. Lanfranc's *Chirurgie* is also a better example of infinity than Machaut's grains of sand on the seashore. Unlike the grains of sand, whose numbers are finite, new individual complexions may be formed indefinitely into the future, giving the true measure of infinity. The concept of *individu* in its earliest formulation in Lanfranc's *Chirurgie* clearly articulates the two limits of the individual: infinite (each individual is different: there is no end to difference) and singular (each individual is unique, as in love poetry: you are the only one).

Finally, at the other terminus of our investigation, post-1650, the French Academy dictionaries of 1694 (first edition) and 1762 (fourth edition) repeat that *individu* is a *dogmatic* (i.e., theological) or didactic term, sometimes used with respect to oneself as *a witticism (to take care of my individual, to preserve my individual)*[54]. In the fifth edition (1832-1835), *individu is said in particular of persons. All the individuals that compose a nation, According to law, any individual who* (…). This is categorized as *legislative, administrative, and statistical use*. The dictionaries also repeat an example of colloquial use of the term. *Individu* is used when we ignore the person's identity, do not want to name them, and also by disregard: *Who is this individual?*[55].

3. MAZZIO'S THEORY AND ANALYSIS OF EARLY MODERN SELF

Mazzio's work is the gold standard of the discussion of mathematics in the field of literature. Here, I will attempt a medieval extension of her discussion of *the disorienting dimensions of quantification as they informed representations of emotional and aesthetic complexity* of subjectivity in the early modern period[56]. One of the bridges to Mazzio's discussion is the fact that *individu* has a mathematical origin. While *subject* has its roots in political science and theory of government, *individual* is a metaphor borrowed from mathematics, as Mazzio reminds us in an aside:

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[54] *Dictionnaire* 1694, p. 337, and 1762, p. 924 (*Individu*).
[55] *Dictionnaire* 1832-1853, vol. 2, p. 29 (*Individu*).
[56] Mazzio 2004, p. 39. On quantification in the early modern period, see Reiss 1997, 2000; Crosby 1997; Poovey 1998; Knoespel 1987.

> The mathematic lexicon of "dividuals" and "individuals" offers a counterpart to complications of Burckhardt's legendary "rise of the individual" in the Renaissance. As Peter Stallybrass notes, in English, "the uses of 'individual' suggesting indivisibility and those suggesting divisibility emerge together." Further, the word, "whatever its range of possible meanings, suggests a relation (of part to whole, of part to part, of member to body, of body to body) not a separate entity" [57].

We can more easily understand what Stallybrass observed with respect to the use of the *individual* as both indivisible and divisible if we take into account our previous discussion of the double use of the word in the passage on the Trinity in the 1486 French Passion play. It is not strictly that *individual* is both indivisible and divisible. Rather, *individu* means at the same time atomic in the sense of smallest (i.e., indivisible) unit distinct from other atoms, and atomic in the sense of whole unto itself, complete, as in Boethius's definition, translated in the 1481 *Somme abregiet*, where the *individu*, no matter how humble, encompasses *without division* all the qualities of a *reasonable creature*.

As does Stallybrass, in her study of early modern texts Mazzio anticipates a complex and fragmented, not a whole and unified self. Mazzio focuses on an anonymous allegorical school drama, *Blame Not Our Author* (*ca*. 1613-1633), found in the collections of a recusant Jesuit college in Rome, the Venerable English College, but her discussion has much wider concerns[58]. Mazzio's context includes Albrecht Dürer's print *Melencolia* (1514) with its focus on Saturn's purported influence on mathematics and madness, Robert Burton's *Anatomy of Melancholy* (1621), cited above, which advises practicing Euclidean proofs to *divert* (…) *idle thoughts* and rehearses the theme of human inadequacy to the world, only weakly remedied by collaboration, *through the agency of all*, as well as John Dee's *Mathematicall Preface* to Euclid's *Elements* (1570)[59].

The school play's characters are from Euclid: geometric shapes and instruments. The protagonists, Quadro and Regulus, with their fellow figures, Line, Rhombus, Compass, complain of abuse at the hands of the *carpenters, navigators, peddlers, political strategists, translators, printers, poets*[60]. The Quadro or square wants to become *all orbicular*, aided by his servant

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[57] Mazzio 2004, p. 63 n. 16; Stallybrass 1992, p. 606.
[58] On Venerable English College, see Gossett 1973; Gasquet 1920.
[59] Mazzio 2004, p. 43; Burton 1621; Bacon 1633; Euclid 1570 (Dee). On early modern history of mathematics in England, see Feingold 1984; Taylor 1954.
[60] Mazzio 2004, p. 43.

Rectangulum, a shifty, low, pragmatic, calculating mind. As Quadro wants to become spherical and three-dimensional, he acquires not only geometrical depth but also the *depths* of passion. At one point, he longs for what Mazzio calls a *spatial suicide*, wishing for a *darksome Canopy* to *close (…) up in ever lasting night / (…) that soe my passion may / Mourne in the weedes of sable melancholy*[61]. Then, tricked by Compass into drinking an elixir that is supposed to expand him into a *perfect rotundity*, Quadro ends up not a sphere but a mere *periphera*. In response to this affront, Quadro and Rectangulum, his sidekick, plot revenge on Compass.

Mazzio's guiding insight is that the play dramatizes how mathematical modelling falls short of representing the real world. It must be noted, though, that this pessimism is only one face of the coin, in the sense that the ability to model the universe in abstract terms was also, at the same time and in similar contexts, optimistically considered as one of humanity's great achievements. Mathematical modelling was seen as an ability to overcome the practical limitations of time and space, deficiencies of the body and existing technologies, and enable us to encompass the universe, as is described, for instance, in Tom Conley's *Self-Made Map*[62]. One illustration of that ambivalence– the optimistic and melancholy traditions of the modelling of the world through geometry– is the difference between the representation of Geometry on the title page of Euclid –first in Paris and then, a generation later, in London– that Mazzio describes. Mazzio contrasts the French imperious Geometry to the English melancholy one:

> Compare the frontispiece of Oronce Fine, *In sex priores libros geometricorum elementorum* (Paris, 1544), which features Geometria atop the page, compass pointed outward as if slaying a dragon, with the frontispiece of Henry Billingsley's translation of Euclid's *Elements* (London, 1570), with Geometria toward the bottom of the page, compass pointed inward[63].

Expansive optimism also animates the preface to the French translation of Marco Polo's *Description* (Paris, Vincent Sertenas, 1556), which contrasts the barbaric conditions of actual travel on the ground with unlimited flight of the human mind that allows us, aided by geometry and cartography, to encompass –in ways that actual travel cannot, at the time– the whole of the universe[64].

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[61] *Ibidem*, pp. 24.
[62] Conley 1997.
[63] Mazzio 2004, p. 63 n. 5.
[64] Preface by François Gruget de Loches, in Marco Polo 1556, n. p.

As Mazzio notes, *geometric shapes continually practice oratory by performing speeches, or what Line calls "linea imaginaria" (601) based on the virtues of geometric configurations*[65]. The connection between mathematical shapes, lines and speeches is weak for us moderns, but obvious and forceful in medieval and early Renaissance periods. There is the idea of the harmony of the spheres, the movement of the overall geometry of the universe that yields a continuous sound, so constant that the human ear no longer registers it. Thanks to Boethius, the investigation of musical composition, proportions and mathematics are part of the same pursuit in the philosophical tradition that constituted the basis of early modern pedagogy. We already mentioned the game of rhitmomachy, where the tokens had shapes, numerical values, and represented harmonic proportions all at the same time, and which served as a valuable and popular teaching tool that entrenched these connections between geometry, mathematics and the world of sounds. Throughout our period (1290-1650), the bleeding of one discipline (geometry, arithmetic) into another (musical composition) was institutionalized both by the Boethian curriculum and by a pedagogical game –rhithmomachy– that combines music, geometry and arithmetic. Although this relates primarily to music and composition, and not specifically word composition and oratory, there is no difference between musical (melody) and textual (words) composition if we are reminded of Dante's definition of language as the only way for one reason to communicate with another via sensible medium, be it word sounds or words on the page, perceived by the senses.

Mazzio also draws a brilliant parallel between *Euclid* and Ovid's *Metamorphoses*, pointing out that the openings of the two books echo each other: *Of shapes transformed to bodies strange, I purpose to entreate* (Ovid) vs. teaching *how a figure of any form may be changed into a Figure of an other forme* (Euclid)[66]. In that sense, Mazzio says, the play is part of the pedagogical plotting –in the sense of generating a narrative– of mathematics. The allegory is an extended humanistic and mathematical *word problem*[67].

Mazzio also links her discussion to James Elkins's history of Renaissance perspective[68]. Elkins's *Poetics of Perspective* proposes that perspective is *a kind of experimentation on the ruins of mathematics*, an image that we recognize from Mazzio's discussion of Kepler who accused Ramus of haranguing the ghost of Euclid in the ruins of his *Elements*[69]. Kepler

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[65] Mazzio 2004, p. 65 n. 33.
[66] *Ibidem*, p. 61; Euclid, b1r; Ovid 1567, c6r.
[67] Mazzio 2004, pp. 52-53.
[68] Elkins 1994.
[69] Mazzio 2004, pp. 114-116.

shows that Ramus misunderstood Euclid and ruined Euclid's last books by his ignorance[70]. For Kepler, Ramus's criticism of Euclid is not relevant: Ramus misunderstands Euclid, and his critique makes Euclid into what Euclid is not, a ghost haunting the ruins of *Elements*. For Elkins, other ruins of Euclid – the imperfect and ignorant improvisations of perspective made by artists, not mathematicians– are the grounds of the melancholy aesthetics of *the fragment, the partial, and the divisible*, even as the proper study of perspective, in turn, is no longer the domain of artists but of *math and science books*[71]. This melancholy mood is expressed in painting (ruins) and in writing on painting. In this context, Mazzio notes that *Blame Not* is also a play about melancholy as the appropriate symptom of improvisation and nonscientific production growing out of science. As we mentioned, refining the idea of Renaissance self-fashioning, Mazzio calls this fractured self not the Renaissance self-fashioning but *self-fractioning*. Yet, on a note of optimism drawn from Walter Benjamin, this riven self produces (and benefits from) a mode of theatrical representation that allows intense feelings, open-ended plots, and multiple truths[72].

4. MEDIEVAL AND EARLY MODERN SELF AS THE PREMODERN CONTINUUM

If the new fractured self emerges at the turn of the sixteenth century, as Mazzio argues, it does not necessitate a monolithic medieval unity from which to arise, or medieval simplicity to complicate. Rather, combined examples from Mazzio's and my own history of *individu* show that mathematical vocabulary was borrowed, at the very latest in 1377, to describe the human condition. Medieval and early sixteenth century texts are not opposites of the figures and relations *ca*. 1600 articulated by Mazzio, but rather their genealogies.

If the early modern self was fragmented, it may have been more happily individualized than Mazzio suggests. For example, unlike the grains of sand on the seashore whose number is finite, humans (if we assume humanity may continue indefinitely into the future) present infinite variations of complexions embodied by individuals, just as the mathematical definition of the infinite requires; cited above, the image of infinitely varied individual complexions in Lanfranc's medical textbook is the earliest attested use of the word *individu*, 1377. And, the notion of *individu* or atom is not only one of

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[70] Ong 1958.
[71] Mazzio 2004, p. 59.
[72] *Ibidem*, p. 62.

fragmentation, but also plenitude, as we have shown above in the discussion of the double meaning of *individu* in the 1486 Passion play and 1481 *Somme abregiet*. Mathematics and human reality, especially in thinking about the human subject or self, can be perfectly compatible, as well as being (at other times) in a state of tension and frustration expressed by drama, as Mazzio suggests. Let us not overemphasize the *embodied infinite difference* aspect of *individu* to the detriment of "atomic" plenitude: both are bound in the word *indivisible*. I suggest that tension and drama are not the only, and perhaps not as constant a condition of the premodern self as Mazzio shows– though any credit for discovering exceptions to her readings must first go to Mazzio's brilliant and thought-provoking study.

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