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# Metaphors of Mathematics in Corneille's Theater

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Abstract

Mathematical metaphors are a distinctive and characteristic feature of Corneille's theater, closely tied to his dramatic aesthetics. I divide these metaphors into two groups, identities and combinatorics. The field of identities deals with different kinds of equations, from the level of language, where elements are equated or placed in some other relationship that can be expressed mathematically, to the level of plot, where, for example, the search for identity (e.g. who is Héraclius?) resembles an algebraic equation. Combinatorics involves the arrangements and combinations of elements, and finds its greatest application here in the question of the constitution of couples to be married. After a wide-ranging discussion of these two groups of mathematical metaphors, I move to an in-depth examination of Don Sanche d'Aragon, the play that combines, to the greatest degree, issues relating to identities and combinatorics. The perspective afforded by these mathematical metaphors is particularly useful for understanding the central shift of focus in the play from the choice of a mate for the queen to the mystery of the identity of Don Sanche. Finally, in the conclusion, the metaphors of mathematics are linked to larger issues of Corneille's dramaturgy involving both structure and sexuality.

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Mathematics is a vehicle of dramatic aesthetics for Corneille. Reading many of Corneille's plays, I have often had the impression of entering a world of calculations, equations, goemetric figures, variables, and rigidly logical combinations. Corneille seems to examine a tragic situation from all angles, almost methodically exhausting all possibilities before permitting a resolution. Instead of a tempest of passion or fate, there is an implacable rigor that surfaces in different manifestations in different plays, and to different degrees. In that spirit I propose a mathematical reading of Corneille's theater.[1] While it might seem strange to talk in terms of mathematics about Corneille, a playwright renowned for his depictions of heroism and his subtle grasp of political forces, such a reading of his theater is not a reduction, but rather a logical outgrowth of the nature of his dramaturgy. While no one to my knowledge has proposed a globally mathematical reading, certain comments indicate that I am not alone in my general impressions. Georges Couton notes in a discussion of *Héraclius* that "Corneille a cédé à l'une de ses tentations, celle de la pièce organisée comme un mécanisme d'horlogerie" (1360).

M. R. Créin speaks of a lack of lyricism: Corneille's *stances* "ont toujours une précision quasi mathématique, qui les rend fort peu lyriques."[2] Paul Bénichou discusses the "merveilleuse symérie" of *Rodogune*, the geometrical construction of certain of its scenes, and the configuration of is characters into what he terms a "quatuor" (88–89, 91). Comments such as these that point to the mathematical, in its varied forms, are fairly limited in scope. What I suggest is a far broader pattern of mathematical figures and metaphors that recur with greater or lesser density and frequency, and that form an overarching network to structure Corneille's theater.

In organizing my study, I am forced to duplicate the very phenomenon that I seek to explain: to consider the question from multiple angles, striving for exhaustivity in my examination of mathematical possibilities in Corneille's theater. For the sake of clarity, I have organized these metaphors of mathematics into two loose groups, those dealing with identities and those dealing with combinatorics. The category of identities involves equations of various sorts. Under this heading are grouped a number of features: linguistic, rhetorical, thematic, all of which suggest quantifiable relationships of various kinds. This is a broad, wide-ranging category; a number of the individual features are seemingly trivial or commonplace, but their significance is a function of their accumulation and pervasiveness. The category of combinatorics involves the combinations of different elements, the multiple angles mentioned above. Combinatorics illuminate how Corneille plots his plays and how he organizes dramatic action and tension.

The examination of these different mathematical models will lead to two very different outcomes: a more detailed analysis of *Don Sanche d'Aragon*, a relatively neglected play that mixes mathematical models to a degree not found elsewhere, and two global conclusions concerning Corneille's theater.

### *Identities*

In the simplest term an *identity* in mathematics is an equation: what is to the left of the equal sign is the same as or equivalent to what is to the right. In the theater of Corneille one finds more or less obvious examples of various kinds of equations, from the level of language, where elements are equated or placed in some other relationship that can be expressed mathematically (e.g. "Mais la civilité n'est qu'amour en Camille, / Comme en Othon l'amour n'est que civilité" *Othon*, l. 426–427),[3] to the more algebraic level of the so-called identity plays, where the identity of the variable – Héraclius, the murderer of Laïus, etc. – must be determined. Between the two extremes are situated various issues of symmetry and hierarchy that can also be conceived of readily in terms of equations.

It is perhaps no accident that Corneille's language often seems to lend itself to transcription in the form of an equation, for a number of the examples of language I might label mathematical are also examples of antithesis, Corneille's preferred rhetorical figure. Clearly opposed options are placed in the position of equivalences. For example, Cornélie says to César, "Je t'avouerai pourtant, comme vraiment Romaine, / Que pour toi mon estime est égale à ma haine" (*La Mort de Pompée*, ll. 1725–1726).[4] It is not uncommon for women to be presented as equals to the point of being interchangeable. Oedipe, for example, offers his own daughters to Thésée in place of Dircé, "Mais je crois qu'après tout, ses soeurs la valent bien" (*Oedipe*, l. 160).[5] Equality itself is at times problematic. The description of Attila's murder of his brother conveys a rejection of equality: "Son frère aîné Vléda . . . / Les [Ardaric and Valamir] traitait malgré lui [Attila] d'entière égalité; / Il [Attila] n'a pu le souffrir, et sa jalouse envie / Pour n'avoir plus d'égaux s'est immolé sa vie" (*Attila*, ll. 375–378). Indeed, no one is equal to Attila in the action of the play.[6]

Relations of inequality occur as well. When Jocaste compares Dircé's plans to leave Thebes and rule with Thésée in Athens to similar decisions that Oedipe made in his youth, Oedipe responds, "Mon exemple, et sa faute, ont peu d'égalité" (*Oedipe*, l. 304). Statements of inequality may be ambiguous. Sophonisbe attempts to reassure her husband Syphax by saying, "Je n'aime point Carthage à l'égal d'un époux" (*Sophonisbe*, l. 330), but the direction of the inequality (does she love him more or less?) is left unclear.

Mathematical operations extend beyond equality and inequality to multiplication. The suffering of the Christian martyr in *Polyeucte* is figured into a kind of equation: "Dieu qui rend le centuple aux bonnes actions, / Pour comble donne encor les persécutions" (ll.1537–1538).[7] Attila's physical affliction is presented in terms of a mathematical relationship: he bleeds more or less, "Suivant . . . qu'il a plus ou moins de courroux" (*Attila*, l. 383).

Moving from the level of linguistic expression to that of the action of the plays, we find similar mathematical relationships. Oedipus is certain that he did not kill King Laïus because three does not equal one: the king was supposedly attacked by a group of three men, while Oedipus was alone when he had his confrontation that very same day.[8] *Attila* can be read as an attempt on the king's part to formulate an equation that would gauge the relative value of the waning Roman Empire and the rising Francs, in order to make a wise choice between Honorie and Ildione. In *Suréna*, Suréna's great service to the king comes to be equated with an offense against him, an equation that ultimately leads to Suréna's death.[9]

Symmetry is a common feature. Jean Rousset notes that "Corneille,

plus que tout autre, a pratiqué les symétries" (7). What is symmetrical is, metaphorically speaking, equal. One thinks of the three Curiaces and the three Horaces in battle, of the complex symmetries of characters in *Attila* with its two powerless kings and its two marriageable princesses.[10] In *Rodogune*, twins constitute a sign of equality. Their interchangeability is mirrored by the offers of throne or marriage in return for murder proffered by Cléopâtre and Rodogune respectively.[11] Understanding this category broadly, symmetries extend to exchanges, such as Elpinice and Spitridate's desire to switch financés (*Agésilas*), or Sophonisbe's offer to marry Massinisse in exchange for his protection (*Sophonisbe*). Examples of this sort are extremely frequent in Corneille's theater.

Whereas symmetries resemble relations of equality, hierarchies suggest inequality. Suréna's inferior social status is very much at issue in *Suréna*, while Don Sanche's, as we will see below, shifts radically from an inferior position to a superior one.[12] There is also a great deal of vertical movement in *Héraclius* as Martian voyages between three identities and their differing social status: Léontine's son, Héraclius, and son of the tyrant Phocas. In Corneille's overwhelmingly political landscape, where dramatic action and questions of power are inextricably linked, it is natural that hierarchies play a significant role.

Finally, within the category of identities, we find the so-called *identity plays*.[13] Like algebraic equations which must be solved for the variable *x*, the identity of one of the characters in *Oedipe, Héraclius, Don Sanche*, and *Pertharite* is open to question in some fashion. Oedipe's true identity is ascertained through the search for the correct sacrificial victim to expiate Laïus's murder. The identification of Héraclius and Don Sanche constitutes the main action of their respective plays, while Grimoald denies Pertharite's identity in a desperate attempt to hold on to the throne he has usurped. *Rodogune* is a variant of the identity play, but we never learn which of the two brothers, Séleucus or Antiochus, is the elder; the mystery is of no further interest once the former is murdered.

It should be clear from the range of examples taken from Corneille's tragedies and heroic comedies that the language of equations, relationships of equality and inequality, and algebraic equations of identity pervade this dramatic universe. It is my contention, not that other playwrights do not at times display such linguistic and thematic features, but that the frequency with which they occur in Corneille's works makes them characteristic of his theater.

*Combinations*

Combinatorics is a field of mathematics concerned with the arrangements of elements, combinations and permutations, problems of selection, as well as some aspects of probability theory. As such, it has certain

necessary links to almost all forms of theater, including the combinations of characters onstage and the arrangements of scenes and even acts. In Corneille's theater, combinatorics goes beyond these basic issues of dramaturgy to provide a vehicle, albeit not the only vehicle, for Corneille's personal dramatic aesthetics.

As I stated at the outset, many of Corneille's plays present an exhaustive examination of a given tragic situation from all possible angles. At the root of the kaleidoscope of multiple angles and perspectives is a fundamental, if not necessarily obvious, feature of Corneille's theater: the dramatic impasse. His plays frequently present a relative absence of forward movement until the swift and generally unforseeable resolution of the denouement. Unlike Racine's notion of an action "s'avançant par degrés vers sa fin" (256), here a high degree of tension is attained early and maintained. The forward trajectory of dramatic action and tension is suspended in favor of a series of different perspectives on this tension. Jacques Vier refers to this phenomenon when he speaks of "les pétrifications du sublime cornélien" (35). The dramatic impasse provides Corneille with the opportunity to examine a dilemma from all angles, with all possible combinations of characters and pressures.

Forestier's magisterial work, *Essai de génétique théâtrale; Corneille à l'oeuvre*, shows how Corneille's tragic aesthetic is based on the poetics of the tragic situation:

> La spécificité du tragique cornélien procède donc d'une réflexion sur la manière de produire *de façon continue* la crainte et la pitié, ou plus exactement de maintenir à son plus haut niveau le plus longtemps possible la tension tragique . . . Quelle que soit la configuration de la pièce, . . . il s'agit toujours de construire le conflit entre proches de telle manière que ces 'puissantes agitations' '*occupent la meilleure partie du poéme.*' (*Essai de génétique*, 314–315)

Forestier thus clearly outlines how Corneille's focus on the tragic situation leads him to create a dramaturgy wherein forward movement is largely relinquished in favor of prolonged dramatic tension or "puissantes agitations."

It is in the context of this drawn-out dramatic tension that the analogy of mathematics, specifically combinatorics, comes into play. As the tragic situation is extended at length, multiple angles, combinations, and permutations are both discussed and enacted. Jean Boorsch confirms this tendency in his discussion of the Cornelian denouement: "la situation a dès lors été utilisée *dans toutes ses possibilités*. C'est désormais une impasse, dont on ne peut s'échapper que par un coup de théâtre" (159, italics mine). Extensive, sometimes seemingly exhaustive, examinations of the various possibilities and combinations of variables arise from the stalled tragic situation.

An early example of this phenomenon can be found in *Le Cid*.

Rodrigue repeatedly reaffirms his valor through combat: Rodrigue against Gomès, Rodrigue against the Moors, Rodrigue against Sanche. The play ends with the promise of future combat on behalf of the king. Through this series of combats Rodrigue seeks to expiate the sin of the initial combat, which resulted in the death of Chimème's father. While the conspirators in *Cinna* plan and betray fruitlessly, Auguste, impervious, focuses solely on his own dilemma – whether to step down or remain emperor, revisting the question on multiple occasions before the unforseeable *conversion* in the final scene. Phocas spends the last three acts of *Héraclius* trying a series of tactics in his attempt to unravel the identity of Héraclius. *Sophonisbe* may be read as a varied series of efforts on the heroine's part to avoid capitulation to the Romans. Only when all possibilities have been exhausted does she commit suicide.

The most prevalent and characteristic domain for combinations in Corneille's theater involves marriage: the coupling of marriageable individuals. While the characters constitute the variables in the different combinations, what is at issue is not so much the final couplings as the kaleidoscope of matrimonial possibilities considered through the course of a given play. This kaleidoscope of possibilities, along with the complex political and personal issues they entail, often constitute the source of the dramatic impasse.

In virtually all of Corneille's plays, marriage is an issue. This is, of course, a common feature of seventeenth-century theater. What is unusual is how often Corneille goes beyond the single couple, or even the triangle, to multiple possible couplings and even multiple marriages. Multiplicity is a key feature in combinatorics, allowing the playwright numerous possible combinations and permitting him to maintain dramatic tension. This tendency is clearly found in all of Corneille's early comedies where it is often the entire focus of the play's action, and shifts (*le change*) are frequent. Indeed, at the denouement of the first four comedies, at least two betrothed couples are constituted out of sets of possible partners ranging from four to seven. By no means limited to the comedies, multiple couples and possible couplings are common throughout Corneille's theater. Even his final tragedy, *Suréna*, a model of sobriety and simplicity, presents five individuals forced to struggle with desire and political necessity in the formation of wedded couples. A number of combinations are proposed, but none is finally formed and two of the five characters die. It is not an accident that romantic happiness is described on three occasions in Corneille's theater in multiples larger than the expected two: "Je ferais trois heureux qui m'empêchent de l'être!" (*Agésilas*, l. 399); "D'un seul mot prononcé vous ferez quatre heureux" (*Tite et Bérénice*, l. 542); "Seigneur, quand vous voudrez, il [le Ciel] fera quatre heureux" (*Suréna*, l. 692).

In Corneille's universe, few of the characters are already married,

but most are marriageable.[14] Leaving aside the comedies, we find nine plays (including the above-mentioned *Suréna* and *Don Sanche d'Aragon* which I will deal with later) where the possibilities for marriage combinatorics extend beyond the triangle.[15] The majority of these plays devote most of their action to considerations of the different possible combinations of marriageable partners. Marriage is highly political in all of Corneille's serious plays; the combinations of possible marriage partners obviously reflects that reality. Still, from a certain angle, it is fascinating how many of Corneille's plays can be seen as dance-like series of shifting variables that continues on until the final choice is made: one or several couples are definitively constituted or death forecloses the options.

*Théodore* presents a configuration reminiscent of the pastoral chain: Flavie loves Placide who loves Théodore who loves God; Corneille complicates the chain with Didyme, who also loves Théodore *and* God. The combinatorics in *Sertorius* and *Tite et Bérénice* are limited to four characters each; Sertorius wavers between Aristie and Viriate, while Aristie is similarly divided between Pompée and Sertorius; Tite must choose between Bérénice and Domitie while Domitian loves Domitie. In *Pulchérie*, there are six characters set loose as variables in possible marriage equations. Once Pulchérie has decided not to marry the man she loves for political reasons, other mates must be found for them both. And while the possibility for marital bliss has been eliminated with that decision, two betrothed couples are constituted (Pulchérie and Martian, and Léon and Justine) and a third (Aspar and Irène) left as a likely prospect.

With *Othon* and *Agésilas*, Corneille reached the height of combinatorical complication. In the first, marriage partners are simultaneously markers of power (e.g., the road to the throne is through marriage to Galba's niece) and of personal satisfaction (Camille, Plautine, and Othon are highly motivated by feelings of love, generally against their own best political interests). Couton conveys the almost fantastic degree of complication in this play:

Corneille disposait de deux dames à marier, la nièce de l'empereur et la fille d'un ministre, de trois prétendants; d'un autre candidat à l'empire, Pison; de la possibilité d'accorder ou de refuser à chaque couple la couronne impériale; de la faculté de prévoir, dès avant la conclusion d'un mariage, le divorce qui libérerait les conjoints pour de nouvelles unions. Le nombre de formules devenait presque illimité. ("Notice" to *Othon*, 1491)

In *Agésilas* we find six marriage variables, as we did in *Pulchérie*. But where the latter play was focused on the queen herself, here all six characters have independent romantic agendas. Furthermore, as in *Othon*, political considerations complicate and compete with personal desires. Both Cotys and Agésilas love Mandane; Spitridate and Elpinice want

to marry each other, but are betrothed to others; Aglatide wants only to marry a king, while Agésilas, a king, is concerned about the political consequences of marrying Mandane, a foreigner. In both *Othon* and *Agésilas* there are simply too many characters vying to form marriages. Multiplicity has veered off into excess.

*Attila* marks a fusion of complication and order. Here we find five characters (as well as two secondary characters who wish to marry each other) and almost all possible combinations are considered at some point, including the scandalous possibility of marrying Ildione and/or Honorie to someone of lowly rank. Strong symmetry is established by the two powerless kings and the two financées of Attila: they have already formed two satisfied potential couples when the play opens. The figure of complication is, of course, Attila. Not only is he the *odd man out*, quite literally,[16] but he is a figure of problematic excess by virtue of the fact that he has promised marriage to two women. One of the strict rules of the combinatorics of marriage throughout Corneille's theater, regardless of the mores of the worlds he represents, is that there can be only one bride: "qui promet à deux outrage l'une et l'autre" (*Attila*, l. 461). In a situation reminiscent of Molière's *Dom Juan*, where Dom Juan bobs back and forth between Pierrette and Martine, Attila wavers between Honorie and Ildione. He offers different possible solutions to his combinatorial problem, suggesting at one point that "L'une sera ma femme, et l'autre mon otage" (l. 62); he later moves in the direction of a division of his gifts in order to accommodate them both: "l'une aura ma main, si l'autre eut mes tendresses, / L'une aura ma grandeur comme l'autre eut mes voeux" (*Attila*, ll. 966–967). In fact, like Sertorius, he never manages to resolve the problem of one too many women to marry. Instead, Attila is conveniently eliminated by a hemorrhage. Attila's death reduces the number of marriage partners to a practicable even number, and marks the return to order and symmetry.

Multiplicity provides the basic combinatorial problem at the heart of *Héraclius*, although it has little to do with marriage. Martian has to contend with the vertiginous situation of believing himself to be three different people (Léonce, Héraclius, and Martian) in the course of one day. And just as there are too many potential wives for the eponymous characters in *Sertorius* and *Attila*, in *Héraclius* there are too many characters named Héraclius, with Martian and Héraclius both vying for the same identity. The multiplication of Héraclius comes at the price of the category, Martian, son of Phocas. Instead of one of each, there are two of the former and none of the latter.[17] By killing one, Phocas will not solve his true problem (the lack of a Martian), but at least he will rectify the monstruosity of the duplication of Héraclius.[18] Multiplicity of variables arises again in *Oedipe*, where the ambiguity of the oracle of Laïus allows first Dircé to be identified as the expiatory victim,

then Thésée (although he lies about his identity), and finally Oedipe himself.

### Don Sanche d'Aragon

It is clear that mathematical models appear, in one form or another, in much of Corneille's theater. Curiously, few plays combine a significant degree of the two categories, identities and combinatorics. *Héraclius* is the most obvious exception: different combinations of identities circulate throughout, including the possibility of an incestuous couple, a special variant of marriage combinatorics. *Don Sanche d'Aragon*, Corneille's first *comédie héroïque*, goes even further in combining both mathematical identities and combinatorics. Examining this play will illuminate in greater depth the way in which mathematical features inform Corneille's dramatic aesthetic.

Very briefly, *Don Sanche d'Aragon* presents a heroic commoner, Carlos, who has distinguished himself in the service of both Elvire, unmarried and about to be returned to the throne of Aragon, and Isabelle, the unmarried queen of Castile. The latter, because of political necessity, is in the process of selecting a husband from among three suitors who have been chosen as the most worthy in the land. It is clear that both woman are sentimentally attached to Carlos although he is not a viable match for either. Isabelle asks Carlos to make the choice of consort for her, arousing the wrath of the aspirants. Meanwhile, a rumor has surfaced that Don Sanche d'Aragon, Elvire's brother and heir to the throne, long thought dead, is alive. After numerous detours and with the aid of a long-lost case containing a letter from the dead king, Carlos is discovered to be Don Sanche.

The spectator recognizes that *Don Sanche* must be an identity play because the eponymous character is not presented onstage nor is he even mentioned until the end of the third act. In both *Don Sanche* and *Héraclius*, the identity quandary is set up by the announcement that a legitimate heir to the throne, long believed dead, is in fact alive. In *Héraclius* the central question was *Who is the real Héraclius?* as there are two characters who lay claim to that identity. Here we ask simply *Who is Don Sanche?*, but no one claims to be him. As in *Héraclius*, the readers of the play do not share the question that concerns both characters and spectators, having been informed by the list of characters that Carlos is a "cavalier inconnu, qui se trouve être D. Sanche, roi d'Aragon." In fact, it seems unlikely that a spectator, any more than many of the characters in the play, would long doubt that Carlos must be Don Sanche. The identity of the two is over-determined by the simple correlation of absence and presence. Once Don Sanche's existence is announced at the end of the third act, Carlos becomes unnecessary to both queens: Isabelle will inevitably marry Don Sanche, thus obviating

the need for Carlos's help in choosing the most worthy of her three designated suitors; Elvire will cede her throne to her brother and thus will not require Carlos's help in returning to the throne in Aragon. Carlos, however, although no longer needed, remains. Don Sanche, although announced, does not appear. Inevitably, they must collapse into a single identity.

Identity and combinatorics are integrated in a novel fashion in *Don Sanche d'Aragon*: "Corneille a combiné sur le seul personnage de 'Carlos' un mystère d'identité conscient et volontaire et un mystère d'identité inconscient" (Forestier, *Esthétique de l'identité*, 273). Carlos is hiding what he believes to be his identity: Sanche, the son of a humble fisherman. In fact his true identity as Don Sanche, heir to the throne of Castile, was hidden from him. Thus there are finally three identities sharing the same body, the two Sanches, both defined by their birth, and the central, heroic Carlos, the self-made man who claims his exploits as his parents.[19] Corneille complicates matters further by having Carlos receive a new triple identity in the titles accorded him by Isabelle: Marquis de Santillane, Comte de Pennafiel, and Gouverneur de Burgos. Thus his triple identity as Sanche-Carlos-Don Sanche is compounded by this new triplet. And while no mention is made of any social hierarchy between these three new titles, their very diversity suggests difference, thus paralleling on a far more limited scale the social distinctions between Sanche, Carlos, and Don Sanche. Even if we read the three as a solid, ennobling block, marquis-comte-gouverneur, they nonetheless provide a different social category from the three identities with which Carlos is already endowed. Combinatorics complicates identity here, because while Carlos cannot be simultaneously Sanche and Don Sanche, he can be at once Marquis de Santillane, Comte de Pennafiel, and Gouverneur de Burgos.

*Don Sanche* is a play of empty spaces that need to be filled. It is a considerable coincidence that both Aragon and Castile, neighboring and allied realms, are missing a male leader.[20] The space of king must be filled in both cases. Like an algebraic equation, the correct value must be selected for the variable. Much attention is paid to who will fill this space for Isabelle. Similarly, the space designated *Don Sanche* must be filled as well, and many, including the belligerent counts, are willing to plug Carlos in that blank, simply in order to fill it. The issue of filling a space comes up a third time when Carlos sits where he is not entitled to sit, alongside the three counts (I, iii). The scandal of such an act was considerable in the seventeenth century, where the permission to sit, as well as the type and placement of the seat, were powerful signs of social position. Carlos's act is a clear indicator of his ambition, not simply in social terms, but in terms of identity. We might venture that

Isabelle ennobles him in this scene at least in part because he claims the space of a nobleman.

Hierarchies, which suggest relations of inequality, are common in *Don Sanche*. This is hardly surprising in a play dominated throughout by problems of social class. Forestier notes that the theme of inequality of social condition was a popular one at the time Corneille composed this play (*Essai de génétique*, 159). Marine Corlouer finds the network of metaphors based on "la hauteur et la bassesse" to be one of the most important in the play (58).[21] The social hierarchy of this play is by no means limited to Carlos's unstable position. The basic problem, in fact, has nothing to do with him, but with the two young queens. Neither has a king to marry and thus cannot marry her equal. Elvire makes this clear when discussing how it would be best to wait until her return to Aragon to select a spouse: "de là, beaucoup mieux / Sur le choix d'un époux nous *baisserons* les yeux" (ll. 39–40, italics mine). Léonor takes the notion of hierarchy one step further, commenting on her daughter's evident interest in Carlos: "Vous les [eyes] abaissez trop" (l. 41). In fact, until Don Sanche's identity is revealed, all of the women are socially superior to all of the men onstage.

Manrique is the character most committed to the reigning system of social hierarchy. This commitment is obvious when Manrique destabilizes Carlos's identity by telling him that he is either an unworthy "aventurier" (l. 1264), or he is the king of Aragon. From the count's perspective, Carlos can be placed above or below, but he cannot be Manrique's equal. In fact the situation is more complex than the division "aventurier"/king suggests. Carlos, the military hero, is first not fit to sit with the counts, and then not fit for them to fight in a duel. Manrique does, however, deem him sufficiently *généreux*, a quality associated with nobility, to decide for himself whether it would be appropriate for him to marry Manrique's sister (ll. 993–997). In the last act of the play, Manrique is newly disturbed by the possibility that Carlos may be even more unequal than he had imagined, that is, the son of a fisherman. Manrique would prefer to elevate him to the rank of king, even if he is not in fact Don Sanche, than to have him slide too far down the social scale. Because of the importance given to social hierarchy in the play, the problem becomes one of creating balanced equations in a world in which the variables are either unstable (Carlos) or unequal (the counts and the queens).

Combinatorics are anchored in *Don Sanche* in the problem of selecting a marriage partner. In fact this is the only one of Corneille's plays that combines the focus on the combinatorics of marriage with an equal concentration on the identity of a main character. The combinatorics of marriage take a different form than that found in any of other of

Corneille's plays: two women and four men. Furthermore, three of the four men, the counts, represent the best of a far larger group of potential mates for Isabelle. The fourth man, Carlos, cannot, for reasons of social class, claim the rank of suitor. Indeed, neither Isabelle nor Elvire, despite their love for Carlos, can express her strong feelings. Because of the inequality in social station, they cannot even conceive of a marriage between Carlos and themselves.[22] Of the four men, only two have an interest in Elvire (Alvar and Carlos), but their interest extends to Isabelle as well, making for unusually complex marriage combinatorics. In part, the combinatorics of *Don Sanche* are a function of the doubling of characters: there are two marriageable queens, and two virtually interchangeable counts, Manrique and Lope.[23]

Multiplicity, or rather excess, provides a number of further combinatorial problems. Carlos loves both Isabelle and Elvire, that is, one too many. We are reminded of Attila with his two fiancées and Sertorius attempting to choose between Viriate and Aristie. Of course, Carlos's situation is quite different. He is not in a position to marry either woman and thus can hardly be taxed with excess or inconstancy. As he himself points out, "Qui n'a rien à prétendre en peut bien aimer deux" (l. 1411). The excess, however, is simply displaced from the amorous to the heroic realm: both Elvire and Isabelle claim him as their defender. Carlos recognizes his multiple loyalties, telling Elvire, "J'embrasse également son service, et le vôtre" (l. 690). He comes to realize the problems that serving two queens entails: "son plus grand service est un grand crime ailleurs" (l. 712). Two is simply too many.[24] Elvire, shifting the territory to love, underlines the basic problem of having divided loyalties: "Un coeur n'est à personne, alors qu'il est à deux" (l. 715). Ironically, Elvire is guilty of this same excess. As Jean Bidwell points out, "Elvire loves both Carlos and Alvar although she herself maintains that inconstancy is 'le plus grand des crimes' (II, iv.714) and accuses both men of this sin" (243). Alvar is excessive in seeking to marry both Elvire and Isabelle. While he loves only the former, he is caught between two systems of values, that of love and that of political honor. Having been chosen as one of the "finalists" for the hand of Isabelle, it would be dishonorable to demur. The trap of competing systems is ratcheted up a notch when he volunteers to fight Carlos to prove himself worthy of Isabelle's hand: if he defeats Carlos (and eventually the other counts; see below), then he must marry Isabelle and lose Elvire. If he is defeated, he will have shown himself unworthy of Elvire as well as Isabelle. In either event (and reminiscent of Rodrigue's quandary in *Le Cid*), his love is sacrificed.

The difficulties of arriving at the proper combinations of marriage partners, especially in a situation which provides twice as many men as women, lead to secondary combinatorial systems. The first of these

involves the question of the duel. Isabelle, in her own weakness and inde-
cision, gives to Carlos the responsibility of selecting who is to be her
husband and king. Carlos, as a soldier, turns to force as a means of
selection. The duel, with its potential for destruction and its arbitrary,
or at least capricious, outcome, is horrifying to both queens. In the final
analysis, by shifting the choice to the outcome of a duel, Carlos makes
no choice at all. Both he and Isabelle, each in love with the other, refuse
to choose a husband out of the allotted pool. No duel ever takes place,
of course, but the projected outlines of how the selection will take place
are complex and problematic. Alvar, because he does not consider himself
above fighting Carlos (as do both Manrique and Lope) and/or because
he is not afraid to fight, will fight Carlos in the first round. If he prevails,
then he will fight the remaining two counts. The final winner will be
awarded Isabelle's hand. Aside from the potential for leaving three
significant national figures dead, this system of selection is greatly
flawed. What happens if Carlos defeats Alvar? The other two counts
will only duel their social equals. And if Alvar wins, who is he to fight
first, Lope or Manrique? Clearly these duels do not constitute a successful
combinatorial system. Both queens rightly oppose them.

Another secondary combinatorial system involves Lope's and
Manrique's matrimonial plans. Each, quite coincidentally, has a mar-
riageable sister. They have agreed that in order to prevent jealousy
between them, the one who is not chosen by Isabelle would marry the
chosen count's sister, thus assuring both men a position of at least brother-
in-law to the king. The chosen man's sister is therefore not available
to be married to Carlos, having already been promised to the other count.
The system is ingenious and has the advantage of adding another (albeit
not entirely specified) female to the combinatorial pool. Like the system
of duels, however, it has a serious flaw. The system is set up for two
suitors, yet when it was developed there were three. Alvar is elimi-
nated only after this combinatorial plan is devised. There is no suggestion
that the counts would have found each other's sisters quite so desir-
able had Alvar been selected.

There is a basic tension in *Don Sanche d'Aragon* between combin-
taorics and identity. We find this reflected in the way the focus of the
play shifts from the former (*Whom is Isabelle to marry?*) to the latter
(*Who is Don Sanche?*). The shift from combinatorics to identity can be
seen as motivated by the flaws in the combinatorial systems we have
just examined. No combination can be devised to solve the dilemma;
the answer must come from elsewhere, specifically from the miracu-
lous reappearance of the long-lost Don Sanche and the assignment of this
identity to Carlos. Thus it is only at the very end that the two strands
come together: the resolution of the problem of identity settles the
combinatorics of marriage, felicitously allowing for two love matches.

Isabelle can marry Don Sanche because he is now her equal, while Elvire can marry Alvar precisely because she is no longer his superior, having ceded the throne of Aragon to her brother. Thus the play arrives at two perfectly balanced equations after passing through a dizzying array of combinations and variants.

What then are we to make of the myriad references, literal, metaphorical, structural, and thematic, to mathematics in Corneille's theater? First, we can see how highly constructed Corneille's plays are. And while I in no way wish to suggest that Corneille envisioned his plays as mathematical experiments, these recurring mathematical models are a distinctive feature of his theater, one not found developed elsewhere in the plays of his contemporaries. Mathematical references color our readings and account for certain general perceptions, such as Corneille's preoccupation with excess, and even his rigidity in later plays.

Finally, I would like to suggest two very different global perspectives on Corneille's theater. First, I believe that the presence of mathematical figures can be linked to the curious absence of sexual passion in this dramatic universe, or conversely, to the omnipresence of self-control. It is not so much that Cornelian characters, after the tetralogy, do not desire, as it is that they never entirely abandon themselves to their desire. Eurydice, belatedly, perhaps comes closest. Far more common, to name only a few, are Sophonisbe who offers her hand in exchange for Massinisse's protection, Sertorius and Attila who subsume their passion to political reason, or Pulchérie who sacrifices her love for Léon to her own high standards for the throne. The result is a high degree of calculation, in all senses of the word, associated with attraction and marriage, and a suppression of libido.

Corneille is forever compared to Racine. When I speak of the absence of sexual passion in Corneille's theater, one inevitably is reminded of its abundance in Racine's tragedies. My second global conclusion involves an explicit comparison between the two playwrights that may help to illuminate Corneille's reliance on mathematical figures. Racine uses time and space to structure his dramatic universe. From Georges Poulet's "Notes sur le temps racinien" and John Lapp's *Aspects of Racinian Tragedy* to the works of many others, it has been made clear that Racine was highly conscious of the dramatic and tragic potential of time and space in his plays. The force of these two elements in shaping his theater is evident everywhere – from Iphigénie's imminent return, to Pyrrhus's imminent wedding, to the walls of the seraglio, and the impossibility of leaving Trézène. In contrast, it is striking how little Corneille makes of either time or space. Occasionally, there is a small nod in those directions – Valamir and Aldaric restricted to their own

and Attila's tents, Phocas insisting that Pulchérie make up her mind to marry Héraclius the next day, four days remaining before Tite and Domitie are to marry, or Camille and Sabine left onstage while the battle between the Horaces and the Curiaces takes place elsewhere – but they are infrequent and, with the exception of the last example, little exploited for their tragic potential. Time and space simply do not structure Corneille's theater. The figures of identity and combinatorics, distinctive of the theater of Corneille, serve as a compensatory structuring feature, one that extends beyond mere form to engage multiple aspects of the plays, in a fashion at least similar to that of time and space for Racine.

Notes

1. Of related interst, see recent studies of mathematical elements in literary texts by Culik, Plottel, Wilden, Goulet, and Phillips.

2. Cited by Rivaille (677).

3. All references are to George Couton's edition of Corneille's theater.

4. Honorie laments, "Mon âme des deux parts [if Attila marries her, or if he marries Ildione] attend même supplice, / . . . / Je meurs s'il me choisit, ou ne me choisit pas" (*Attila*, ll. 442–444); Emilie says to Cinna, "Ne crains point de succès qui souille ta mémoire: / Le bon et le mauvais sont égaux pour ta gloire" (*Cinna*, ll. 261–262); Curiace states, "Déjà les deux armées, / D'une égale chaleur au combat animées" (*Horace*, ll. 279–280).

5. Honorie is not pleased by Attila's marriage politics: "Par ce choix [of a wife] qu'il balance il la fait mon égale" (*Attila*, l. 390); Spitridate and Cotys did not specify which of Lysander's daughters each wanted to marry; the two young women were perceived as interchangeable because the men's primary concern, initially at least, was to become Lysander's sons-in-law (*Othon*).

6. In *Horace*, Valère notes the disjunction between equality and inequality when the three Curiaces pursue Horace: "Leur ardeur est égale à poursuivre sa fuite; / Mais leurs coups inégaux séparent leur poursuite" (ll. 1111–1112). In *Andromède*, Phinée is furious that his fiancée is to be sacrificed to the monster, and accuses the king, her father, of "indigne équité" in permitting his daughter to run the same risk as the other maidens of the kingdom (l. 667).

7. Eurydice complains to Palmis, "Ah, vous redoublez trop par ce discours charmant / Ma haine pour le Prince, et mes feux pour l'amant" (*Suréna*, ll. 195–196).

8. In *Othon*, Vinius proposes an equation (arrangement of marriage partners) that will permit equality and even, because of the emperor's fondness for his niece, inequality:

> Et l'unique remède est de gagner Camille,
> Si sa voix est pour nous, la leur est inutile,
> Nous serons pareil nombre, et dans l'égalité
> Galba pour cette nièce aura de la bonté. (ll. 169–172)

9. In *Andromède*, Persée repeatedly sets aside his own divine advantages in order to create a level playing field in which to vie for Andromède; he proposes "un combat égal" (l. 1674) to the attacking Phinée despite having Medusa's head at his disposal.

10.   Jean-Marie Apostolidès describes *Attila* in terms of a "jeu complexe de symétries." Attila "est le seul être 'unique' du drame; il maintient les symétries en parfait équilibre" (73–74).

11.   In *Tite et Bérénice*, Domitian proposes to marry Bérénice in a move of symmetry tinged with a spirit of vindictiveness.

12.   The situation is similar in *Othon*, where Vinius's position as advisor to the emperor is initially superior to Othon's; Vinius then supports placing Othon in a position superior to his own as heir through marriage to the emperor's throne. In *Andromède*, the gods introduce inequality; they are superior to mortals and attempt to control the human action of the play.

13.   Georges Forestier suggests that this group of plays constitutes "un véritable cycle de l'identité," something that has long gone unnoticed ("Corneille et le mystère de l'identité," 665).

14.   And within the small group of married couples that we do find, several are of an older generation (Auguste and Livie in *Cinna*, Valens and Marcelle in *Théodore*, Prusias and Arsinoé in *Nicomède*, Céphée and Cassiope in *Andromède*), others divorce (Médée and Jason in *Médée*, Pompée and Aristie in *Sertorius*, Sophonisbe and Syphax in *Sophonisbe*), and others endure severe trauma to their marriage (Sabine and Horace in *Horace*, Polyeucte and Pauline in *Polyeucte*, Oedipe and Jocaste in *Oedipe*, Sophonisbe and Massinissse in *Sophonisbe*). This leaves Pertharite and Rodelinde in *Pertharite*, but they are reunited as a couple only at the end of the play.

15.   The term *triangle* suggests the possibility of a geometric metaphor as well in Corneille's theater. Indeed, *Horace* is a complex combination of squares and triangles. By approaching the question from the direction of combinatorics, geometry is left by and large implicit in the discussion of how Corneille employs different configurations of characters and elements. The role of geometry has been noted in Corneille's theater by Louis Rivaille: "On pourrait approcher davantage du vrai point de ressemblance de certains vers de Corneille avec les mathématiques, et l'on se sent tenté de dire que cet écrivain a fait parfois du rythme et de ses proportions un emploi géométrique" (677).

16.   John Lyons notes the resemblance between this play and Corneille's early comedies, such as *Mélite*, in which there are imbalances in the number of available mates (155).

17.   Phocas says: "Trop d'un Héraclius en mes mains s'est remis, / Je tiens mon ennemi, mais je n'ai plus de fils" (ll. 1373–1374).

18.   *Héraclius* provides a curious configuration of mothers and sons. The onstage mother, Léontine, herself a fairly rare figure in Corneille's theater, is complemented by two dead mothers (the wives of Phocas and Maurice) referred to on several occasions. Constantine, the dead wife of the emperor Maurice, is even given a voice in the action; her words are read in the last scene and serve as the proof of Héraclius's identity. The three mothers are tied to sons whose status is the contrary of their own: that is, the dead mothers have live sons and vice-versa. Multiplicity and symmetry combine.

19.   "Seigneur, pour mes parents je nomme mes exploits, / Ma valeur est ma race, et mon bras est mon père" (ll. 252–253).

20.   Forestier notes the problem of the "vacance du pouvoir" in this play (*Esthétique de l'identité*, 538). Furthermore, the dominance of female royalty is compounded by the presence of Léonor, the queen-mother, who has no significant dramatic role until the dénouement.

21.   Isabelle describes Carlos in terms of "une *haute* valeur qui part d'un sang *abjet*" (l. 1680). Corlouer finds that the subject of the inequality of social rank is central in 16 of the 27 scenes (55–56).

22.   Forestier notes that in other romanesque treatments of social inequality of the period, heroines express their love nonetheless (*Essai de généique*, 160). Here it is clear that Carlos would think less of the queens if they did:

> Si votre âme sensible à ces indignes feux
> Se pouvait oublier, jusqu'à souffrir mes voeux,
> . . . . . . . . . . . . . . . . . . . . . . . .
> Commençant aussitôt vous moins estimer,
> Je cesserais sans doute aussi de vous aimer. (ll. 531–536)

23.     Jacques Scherer mentions these two counts in his discussion of the inseparability of characters who have the same function, noting that they appear together in eleven scenes (36).

24.     Michel Prigent has a different perspective on Carlos's double allegiances: "Carlos n'agit pas ici en héros car il ne choisit pas et il ne choisit pas car la nature est muette: ne sachant qui il est, il ne sait qui il aime" (271).

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