# Geometry of Quadrangles in Almqvist's The Queen's Tiara 

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#### Abstract

Quadrangles are repeatedly used in construction of scenes in Swedish author C. J. L. Almqvist's novel The Queen's Tiara. They limit and frame views. Repeating these structures creates connections between scenes. They form in relations between characters. Several quadrangular structures form around one main character called Tintomara, when she involuntarily attracts characters that fall in love in her. Also, quadrangles inside and beside each other are visible in scenes. Almqvist presented these forms in the elementary geometry textbook he published a year before this novel.


## Introduction

In this paper, I will analyze geometric forms, concentrating on quadrangles, in Swedish Carl Jonas Love Almqvist's novel The Queen's Tiara, which was originally published in Swedish in 1834. The novel is situated in Sweden around King Gustaf III's murder in 1792, but fictional stories grow out of the novel's well-documented historical setting. The geometric forms of interest in this article are mainly from the fictional part of the story.

The novel is rich in themes and nuances, like the author C. J. L. Almqvist's other works and life. He also wrote textbooks for several subjects, and his several occupations included working as a teacher and principal of Nya Elementarskolan in Stockholm. His fourth elementary textbook of Mathematics, Lärobok i Geometrien [3], was published a year before The Queen's Tiara and is of interest here. That textbook was reprinted with additional text over the next two decades. It was intended for students aged 10-13 years attending the new primary school. He stated in the preface that his educational aim was to teach the readers mathematics so that they could measure and calculate independently.

Lärobok i Geometrien mentions Euclid, and it uses definitions, axioms and theorems rooted in Euclidean geometry. However, Almqvist does not concentrate on abstract proofs. He shows how to understand, draw and measure forms using simple instruments [3, pp. 5-13]. He also writes in the preface that he used a Euclidean geometry book by German Chr. Wolff as background.

Several mathematics references are present in the novel. Lars Burman states in the introduction to the Swedish critical edition of the novel [2] that mathematical marks like X (the St. Andrews Cross) are described in the novel [5, pp. ix-xi, xvi]. Also, several characters count numbers such as the passage of time or amount of money. Two characters also discuss a school ruler with right and curved boundaries as metaphors for justice: the new 13-year-old King mentions plane trigonometry and the theory of curves [1, p. 235], [ 2, pp. 242-243]. These observations lead one to wonder, whether and how Almqvist's interest and knowledge of mathematics and geometry influenced especially his most well-known novel The Queen's Tiara. This paper will demonstrate that the novel's structures and scenes include basic geometry, especially quadrangles. Although a new view into Almqvist's fiction, it is not exceptional in 19th-century Scandinavian literature. For example, Finnish Aleksis Kivi made use of some Euclidean geometry.

## General Structures and Plots of The Queen's Tiara

Most of Almqvist's fictional work is included in his book series Törnrosens bok (1833-1851), in which The Queen's Tiara can be read as an independent work or as the fourth of 28 works of the series [6, pp. 178, 189], [4, p. 14]. The novel's outer narrative frame is derived from this series, which is narrated by the character Richard Furumo to listeners at a Hunting Lodge [1, p. 256]. The novel's full title in English is The

Queen's Tiara or Azouras Lazuli Tintomara. A Tale of Events Immediately Before, During and After the Assassination of King Gustaf III of Sweden. Romaunt I Twelve Books [1]. The original Swedish title is Drottningens Juvelsmycke Eller Azouras Lazuli Tintomara, Romantiserad Berättelse om Händelser Näst Före, Under Och Efter Konung Gustaf III's Mord [2]. The full name of the novel identifies the three main plots in the structurally complex novel. The first, concerns a fictive character Azouras Lazuli Tintomara who becomes a main character later in the novel. The second is about the murder of Swedish King Gustaf III. And the third follows a queen's tiara throughout the novel and connects the kings and Tintomara. The circumstances surrounding the murder and the lost tiara lead five central characters to settle in the Kolmården area that lies 150 kilometers southwest of Stockholm by road. Almqvist uses "Kolmorden" in the Swedish novel, but it is changed to "Kolmården" in the English translation of the novel.

## Tintomara as the Central Figure in Unrequited Love

In this article I will concentrate on the plot regarding Tintomara [1] who involuntarily attracts other characters, many of whom fall desperately in love with her. She has no clear gender or sexual identity or attributes. She is self-satisfied [5, p. xv] or immature. She changes roles by wearing garments that others want her to wear. For simplicity, she is only called "Tintomara" here, but she uses a variety of role names of theater and a later alias "Philip" [1, pp. 264, 273]. She is introduced to the readers in the fourth chapter, when she is temporarily captured after at least six characters have committed suicide or become ill by falling in love with her, and spooky rumors circulate in Stockholm [1, book (i.e. chapter) 4]. A surgeon counts the number of men and women who have fallen in love with Tintomara. He sums numbers in separate groups:

Three certainly, perhaps four or five, young fellows; likewise three or more pretty young girls, well brought up young girls. [1, p. 52] (Ja visst tre eller kanske fyra, fem unga karlar; och likaså tre eller väl flera unga, söta flickor, väl uppfostrade flickor. (...)[2, p. 51].)

After leaving Stockholm, Tintomara becomes a target of two young ladies' and two officers' love, whose mutual relationships have ruptures. Noblewomen Adolfine and Amanda $\mathrm{M}^{*}$ (represented by the white circles in Figure 1) have had a sisterly love for each other, and they have become acquainted with two noble officers, Clas Henrik and Ferdinand (represented by the black circles in Figure 1). Adolfine and Clas Henrik have had feelings for each other, as do Amanda and Ferdinand. Their relations are described by arrows on the left in Figure 1. The arrows show directions of their feelings. However, their attempts in developing relationships lead to misunderstandings, jealousy and mistrust that are represented by the broken lines on the right in Figure 1 [1, books 1-9]. Henry Olsson [7, p. 96] describes the relations as double jealousy. When the officers participated in plans to shoot King Gustaf III and had to escape, the family of M* wanted to forget these disgraceful men. The young women temporarily lose their sanity. They begin to mistrust each other. Their dreams of love turn into sorrow, and they become exhausted, sick and pale during and after a terrible masquerade night at the King's Opera, where the king is shot [1, books 1-7].


Figure 1: Interactions of four characters

Against Tintomara's will, she becomes a central character and a substitute target of love for each of these four characters [1, pp. 208-210]. The older of the sisters, Adolfine, had first acquaintance with Tintomara during the masquerade in Stockholm. While helping her dress in a rectangular room, Adolfine feels oddly warm [1, p. 82]. This room has a square base and it has a pendant exactly in the middle:
(S)he (Adolfine) entered in a small, rectangular room, (...) the chandelier, whose source of light, being placed at its centre (on the roof) [1, p. 81]. (Hon (Adolfine) kom i ett litet fyr-kantigt rum, (...) kronan, det ljuset var insatt i sjelfva medelpunkten [2, p. 78].)

This square form has been interpreted as an alchemical symbol [5, p. xv]. It can also be used in structuring the novel as the first quadrangular form around Tintomara and characters who love her. In the next room, Adolfine watches a pantomime dress rehearsal in which Tintomara dances the main role [1, pp. 82-85]. Her American wild woman character escapes her capture but she is captured again, as Henry Olsson explains. While she lies as a prisoner on the floor in an X-shape, four dancers hold her limbs. A woman holds each of her hands, and a man holds each of her legs. These five dancers in black suits, including Tintomara, are composed like a five of spades playing card on the floor. A spectator explains the plot for Adolfine with a five of spades playing card that he takes of his pocket [7, pp. 88-89].

> (...) the idea, just like these five. The chief personage is the spade in the middle, the four others in the corners are her guards. Thanks to strength and litheness only savages possess the spade in the middle frees herself from the four seated on her hands and feet in the corners. (...) [1, p. 85]. ((...) ideen, just som denna femma. Hufvudpersonen är spadern här midtpå, de fyra öfriga i hörnen äro hennes väktare. Genom en styrka och vighet, som blott vilda fruntimmer hafva, gör den medlersta spadern sig lös från de fyra i hör-nen på händer och fötter; (...) [2, p. 83].)

The playing card compositions that appear in the novel are analyzed by Henry Olsson [7, pp. 88-89], [8, p. 148]. In addition, the cross forms of the five characters are analyzed by Olsson [8, p. 149], Lars Burman [5], and Johan Almer [4]. As the pantomime continues the danger of torture and death of the prisoner changes to a love dance between the prisoner and the chief captor. However, Tintomara modifies the choreography so that she turns away from her dance partner until she escapes the room. In this pantomime, she is the center of the five of spades playing card, and she is in the X-form, too. Her acting in the pantomime precedes her later lifespan [4, p. 17], [5], [7, pp. 89-90].

In his geometry textbook, Almqvist presents quadrangle forms comprised of four straight lines, including a quadrangle ("fyrsiding"), a rectangle (a right-angled parallelogram, "ruta"), a square ("qvadrat"), and a diamond ("romboid"). He explains when quadrangles have right angles and when some sides are parallel or the same length as other sides [3, pp. 17-18; table I-II]. The rectangle ("rektangel") has only right angles, and opposite sides that are parallel and have equal length [3, p. 17; table I, figure 19]. In the novel, the black spots on the playing cards and the black-suited dancers form rectangular figures on white surfaces [1, pp. 85-86]. Both are reminiscent of the rectangular form of the cards. When the edges of the playing card and the white cloth are compared, they form rectangles.

Around Tintomara, laid out on the floor in the midst of her enemies, four guards, select pupils, were placed in a square. (...) so expressive of a five of spades; for in truth the whole - the savage herself in the centre, two young men seated on her outstretched hands and the two girls at her feet, all on a white carpet spread beneath them - bore a striking resemblance to that ominous card. [1, p. 86].
This English translation calls the form of the four guards as a square. However, Almqvist's Swedish text describes a quadrangular form, ("en fyrkant") here.

Tintomara lades på golfvet midt ibland sina fiender, och fyra väktare, utvalde elever, sattes omking henne i en fyrkant. (...) den uttrycksfulla bilden af en Spaderfemma; ty den Vil-da sjelf i midten med sina två ynglingar öfver de utsträckta händena, och sina två flickor öfver fötterna, alltsammas ofvanpå en hvit matta utbredd under dem, gjorde i sanning en tafla som liknade detta ominösa kort. [2, p. 84].

## Quadrangular at Lindmeet

The five characters - Tintomara, Adolfine and Amanda M ${ }^{*}$, Clas Henrik and Ferninand - leave Stockholm after the masquerade night and murder of the king. Former officers, Clas Henrik and Ferdinand, hide themselves at an abandoned marble quarry in Bråviken. A wild forest called Kolmården is situated north of
the quarry, and at the northern side of the forest lies Stavsjö, a mansion of the $\mathrm{M}^{*}$ family (Figure 2). The sisters' health remains poor, and heartaches distress them. The family has taken in Tintomara (who escaped Stockholm to avoid the police and the search of the lost tiara) as their young male servant. Soon, the sisters' uncle takes her to his foster son. She sings with Amanda and reads aloud for Adolfine, and both sisters begin to recover with her [1, pp. 147-163]. She also wanders in the nearby Kolmården forest where she meets Ferdinand and visits the former officers at the quarry. She learns to shoot and hunt with Ferdinand and play the violin with Clas Henrik [1, book 9]. After engaging in entertaining activities with all four characters [5, pp . $\mathrm{x}-\mathrm{xi}$ ], both sisters fall in love with Tintomara as a man and both men love her as a woman [8, p. 149]. Being beloved anguishes Tintomara, whose feelings are only platonic [1, books 9-10].

Tintomara likes to sing and play music alone at a special crossroads in front of a massive lime tree in the middle of Kolmården. This place is called "Linden Meet" or "Lindmeet", described as:

Where the roads cross, under the linden tree, which I suppose gives its name [1, p. 168]. (Vägar korsa hvarann på stället der under linden, derföre kallas det väl Lind-mötet [2, p. 175].)
Afraid of becoming beloved by all four characters, she bids farewell to the beautiful forest at Lindmeet. The crossroads is signed by a " $\because:$ " in the novel [1, p. 209]. Per Atterbom noted this sign in his book review in 1835 [7, p. 93]. The crossroads form repeats the X and playing card form of the pantomime rehearsal on the night of the masquerade [4], [7]. Since no characters other than Tintomara have yet entered the ": $:$ ", this symmetric sign might describe symmetry of the crossroads and the centrality of her. However, the angles of the crossing paths are not described exactly here, which differs from the Almqvist's textbook [3]:

> Since the four paths, two coming southward from the Bråviken district, and two from the north around Stavsjö, intersected in the little patch of greensward, sitting there under the linden tree she was in the middle of a cross shaped like a $::[1$, p. 209]. (- de fyra Vägar-ne, af hvilka tvenne kommo söderifrån Bråvikstrakten, och tvenne norrifrån Stafsjönejderna till den lilla gräsplanen, hvarest de alla afskuro hvarann, så att hon sjelf under linden satt midt i korset, som vägarne bildade likt ett $::[2$, p. 217].)

Ferdinand tells that Lindmeet is situated

- about half-way, you know, between Stavsjö and Bråviken (where the quarry is situated), and a league (one-half of a Swedish mile) from either [1, p. 168]. (ungefär midt emellan Stafsjö och Bråviken här, en half mil från hvardera [2, p. 175].)
Each of the four characters wishes to meet Tintomara (represented by the grey circle in Figure 2) alone in that crossroads [1, p. 208]. The two white figures - the young woman (represented by the white circles in Figure 2) - simultaneously approach her on the northern paths, and the two black figures - the men (represented by the black circles in Figure 2) - on the southern paths [7, p. 96]. The paths are marked by dotted lines in Figure 2. Johan Almer [4, p. 17] describes the changing X-forms at Lindmeet as repetitions of the pantomime and Henry Olsson [7, p. 96] interprets the four characters around Tintomara in Kolmården as a repetition of the playing card form from the pantomime. The four characters near her until they are "within a few arms lengths" [1, p. 210] ("att de (characters) blott voro några famnar ifrån linden" [2, p. 219]). In the geometry book Almqvist presents measures of length so that different line lengths can be compared, mentioning for example ells ("alnar"), fathmons ("famnar"), Swedish miles ("milar"), foot ("fot"), inches ("tum") as measures [3, pp. 2-3]. He also uses them to construct scenes in the novel. Most of these measures are based on the human body, and they precede the metric system.

The crossroads at Lindmeet is formed inside a quadrangle, as Tintomara sees the coal black lines of the conifer trees on the horizon (Figure 2). A quadrangle ("fyrsiding") has four sides and angles, which all might be different, describes Almqvist [3, pp. 17-22, table I-II]. However, the novel does not describe exactly whether the horizon lines forms a regular rectangle, a square or a rhombus.

But the four paths, each of which opened up a long perspective deep into the forest, were coal-black - great black lines on all four sides - the dense vegetation on all hands forbade the moonlight to enter them [1, p. 209]. ((...) Men de fyra vägarne, som, hvar på sitt håll, utgjorde långa perspektiver djupt in i skogen, voro kol-svarta - likt stora svarta linier åt fyra sidor - ty täta omgifvande växter afhöllo allt månljus ifrån att inkomma på dem [2, p. 217].)
The Swedish text implies that the roads cross under the tree.

Whilst noticing how several paths crossed and came together there, (...) Seating herself on a tall stone against the lime tree's trunk [1, p. 165]. (Hon (Tintomara) märkte, att några vägar sammanstötte och korsade sig på planen under linden. (...) Hon satte sig nu på en hög sten vid sjelfva lindens stam [2, pp. 170-171].)


Figure 2: Lindmeet between Stavsjö and Marble Quarry seen from above
The center of the geometric form might represent something central in the novel: possible geometric forms in the scene might be analyzed. If the quadrangular form were regular, it would have a central point in addition to the crossroads. The stone at Lindmeet must be a little in front of the tree in the crossroads because she is stated to be on the stone at the center of the crossroads [1, pp. 165-167]. Later, she can see the four figures approach her when she is on the stone. The central part of the Lindmeet in Figure 2 is illustrated in Figure 3a and 3b. Tintomara (represented by the small pale-grey circle inside the quadrangular) on a stone (represented by the darker circle below the small circle) is in the center of the Lindmeet. The lime trunk (represented by the largest circle) stands behind her. Although, in an imprecise description of Lindmeet, the tree is situated in the middle of Lindmeet:

The Linden Meet, where the paths cross, in the centre of the pretty little patch of greensward and the great lime tree [1, p. 208]. (Lindamot, vägskalet, med den lilla vackra gräsplanen och den stora linden midtpå [2, p. 217].)
This depiction cannot be exact since the trunk is not transparent. Tintomara is able to see each of the path lines, and each character on the path can see her. So, the tree must stay a little behind the stone (as in Figures 3a and 3b). Otherwise, the trunk would block some views of the paths (as in Figure 3c). However, a reader might fill the gaps in a novel by imagination without noticing the impossibilities. These inexact depictions become visible, when the scene is drawn geometrically from above; a geometric view results in new knowledge that can be used for analysis of the novel.

(a)

(b)

(c)

Figure 3: Possible and impossible forms of the central part of Lindmeet seen from above

## Solna Wood

Tintomara's escape from her four lovers in Kolmården leads her to Stockholm, where she becomes a prisoner of President Reuterholm, who gained more power after the death of King Gustaf III. When Reuterholm arouses fear by a book of torture, she escapes from his dark prison room. Her escape leads her to hide in the White Guard's band as a clarinetist, wearing guard clothes and using a male name [1, pp. 215264].

Then, the young King Gustaf IV Adolph settled in the middle of a plaza to observe a parade clearly. Tintomara's continuous fear of becoming beloved motivates her to cry out "No!!!" [1, p. 261] during the parade, when she sees Duke Karl kissing the message leaf that she had sent to Countess Rudensköld to escape Reuterholm. Other musicians in the guard feel they have been disgraced without a cause when the shout causes the King to recede from the parade. Later, she is pushed by other guard musicians to the middle of their barrack and then into a corner. Afraid of losing her clothes during the brawl, she draws her sword and slaughters an oboe player. This act results in a death sentence that will secretly be changed to a frightening spectacle in Solna Wood near Stockholm. The scene in Solna connects the main plots of the novel. The execution is justified by the military law, and the spectacle is arranged by the regime [1, p. 261279]. Reuterholm plans a false execution in an attempt to make Tintomara obey him [7, pp. 91-92].

Repeatedly in the novel, Tintomara becomes a prisoner of four characters [8, p. 152]. As Henry Olsson [7, pp. 92-93], [8, p. 151] notes, four characters stand around her in the royal tent in Solna Wood, while she is prepared for the deadly spectacle. They include the young King, his uncle Duke Karl, Reuterholm, and Countess Rudensköld [1, p. 271], [7, pp. 92-93]. This repeats the figure of four characters around her during the pantomime and in forest of Kolmården [8, pp. 151-152]. In Solna they all love her, but they also threaten her life with the spectacle. They dress her with symbols of her misdeeds. The King crowns her with a tiara of tiny flowers as a symbol of the queen's tiara, which she "borrowed" and lost during the masquerade night. That tiara is the center of another main plot in the novel. Referring to the third main plot, she is prepared for death by the priest that prepared the murderer of the King Gustaf III for his death sentence. However, this priest is not able to complete his services after discovering that she is not baptized and has no idea of Christianity. In all, several characters apply for or plan mercy [1, pp. 271-276].

Tintomara must wear white clothing that hides her sex and gender [1, p. 271]. A piece of red cloth also appears as a playing card-like form - the "ace of diamonds" - that the shooters will aim at. On the white background it resembles an ace of diamonds, a rhombus. Duke Karl describes it as follows:

This little bit of red cloth is diamond-shaped, eine Raute [1, p. 272]. (Denna röda lapp liknar fullkomligt en stor ruta - [2, p. 281].)
The English translation describes the cloth as "romboid" [1, p. 272], which would have right angles and four parallel sides, as Almqvist describes in his geometry book. However, "ruta", the original Swedish term that Almqvist uses in the novel [2, p. 281], might not be so regular. In his geometry book Almqvist presents both right-angled and oblique-angled "parallelograms" (i.e. "ruta" or "romb"), which have four sides and parallel opposite sides. [3, pp. 17-18, table I, figure 20].

Next in the scene, the court forms a line outside the royal tent ("en linie af gala"), and then the young King and Countess Rudensköld as well as Reuterholm and Duke Karl come in front of the line [1, p. 280], [2, pp. 289-290]. An adjutant verifies that each of the sixteen shooters has taken the bullet out of his cartridges so that the theatrical shooting would produce only noise and smoke, leaving Tintomara alive [1, pp. 278-279]. As occurs repeatedly in the novel, the adjutant counts numbers in two groups and sums them:

[^0]In Figure 4, the characters are depicted by small circles. The exact form in which the 16 shooters stand is not described, but their faces are towards Tintomara and backs towards Solna Church. Henry Olsson [7, p. 92] states that the 16 shooters would form a circle ("omges med en ring") around her. But this is not possible as shooters must see the red cloth in her chest. Her back and the trunk of the tree must not hide that cloth. Two options exist: if each of the 16 shooters separately measures the "twenty-five feet" ( 50 ells, "på femtio alnars") [1, pp. 278-279], [2, pp. 287-289] from her, they would form an arc. If one of them measures the distance, they could form a row beside him, as the English translation describes. Tintomara also sees the sunrays on the gun pipes towards her (the arrows as a fan form in Figure 4) as well as the bullet form on the top of Solna Church (the small circle above the square in Figure 4) [1, pp. 279-280].

To separate public from the shooting area, guards form a large square, a carré, around Tintomara and the shooters. The public looks at her from outside the carré. [1, p. 279], [2, p. 288-289].) Together, the carré and the public resemble a frame of a painting, the inner border of which is a square. However, the English translation partly loses the figure of the frame of the quadratic painting:

The great crowds drawn by curiosity (...), and whom only a thick hedge of bayonets could keep at dis-tance from the prisoner, made on all sides a picture less notable for charm than contrast [1, p. 279]. (och de stora folksamlingar (...) dem nyfiken kallat (...) vara närvarande, och som endast en stark spetsgård höll på afstånd ifrån fången, gjorde åt alla sidor i vildmarken en tafla, vida mer afstcikande, än angenäm [2, p. 288-289].)
The square form becomes clear in the description of the "carre" or "compact square of men" that have Tintomara inside their form. As Almqvist describes in his geometry book, the square has four right angles and four right sides that have the same length. [3, p. 17, table I, figure 18].

This tree stood almost in the centre of the entire assembly, surrounded at a considerable distance by a compact square of men in parade uniforms, serious and silent. In the whole open space around the tree and inside this square there was thus not a soul, only the prisoner, who stood there alone [1, p. 280]. (på ett betydligt afsånd omgifvet af en carré, eller fyr-kantig hai, tystlåtet allvarsamt manskap i sina bästa kläder. På hela den stora planen rundt om trädet, innanför haien, fan sådeles ingen men-niska, och fången stod i sin enslighet der. [2, p. 289, italic as original].)
The red rhombus on her chest can be seen inside a square form of the carré during the spectacle, where she is set on a podium and tied to a large tree trunk behind her [1, pp. 279-280], [2, pp. 288-289]. If the red cloth is a regular diamond-shaped form, it and the carré surrounding the cloth would have similar forms (they would be "likformiga"), which is a geometry concept explained by Almqvist [3, p. 19].


Figure 4: A planned false execution and a murder of Tintomara in Solna Wood
The structure of the setting is very similar to Lindmeet [7, p. 92]. However, Tintomara felt positive loneliness at Lindmeet within the forest [1, pp. 166-167]. But in Solna, her solitude is negative [1, pp. 179180]. She escaped her four physical captors in the pantomime and four amorous captors at Lindmeet. But she cannot escape her captors in Solna Wood since she thinks of the King as an absolute authority. She
states that the King allowed her walk alone outside the day before her execution [1, p. 271]. However, Johan Almer [4] suggests that Tintomara prefers death to being controlled by Reuterholm, and Henry Olsson [7, p. 91] interprets the execution as an emergency exit for the novel.

During the novel, transitions to the new scenes at new geographic areas are motivated by Tintomara's need to escape characters that love her and want to possess or catch her. Almqvist usually uses four characters in love with Tintomara during a scene. Some of the lovesick characters transition into the following scenes and mediate the story. In Solna Wood, one of the 16 men shooting Tintomara, Ferninand, has a jealous motive. He has joined the guard as a volunteer. Against the rules, he fills the emptied cartridge with a secret bullet from his pocket and shoots Tintomara dead [1, pp. 208, 280-285].

## Summary and Conclusions

Repeated quadrangular forms construct scenes in C. J. L. Almqvist's novel The Queen's Tiara. While the St. Andrews Cross X and playing card forms have been discussed in earlier research [4], [7], [8], the repetition of quadrangles connects remarkable scenes concerning one main character, Tintomara, have not. Quadrangular forms can be both decorative and fraught. Some quadratic forms that Almqvist describes in his geometry book [3] structure the plot around Tintomara in the novel. The forms might also attract educational interest in basic geometry among the readers of the novel.

Some quadrangular forms are depicted less exactly in the novel compared to the geometry book. Quadrangles often appear when Tintomara feels anguished of characters possessively falling in love with her. She encounters external threats during the scenes of pantomime, Lindmeet, and Solna Wood. The love of other characters compels her to run out of the quadrangular forms and transition to new scenes. The structure is destructive for herself and for those that fall in love with her. For audience, these forms offer aesthetic but shocking, cruel spectacles.

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[8] H. Olsson. "Om Komposition och Huvudteman i Drottningens Juvelsmycke." Perspektiv på Almqvist. Dokument och Studier Samlade av Ulla-Britta Lagerroth och Bertil Romberg. Rabén \& Sjögren, 1973, pp. 140-157.


[^0]:    "You are to hand me over exactly the same number of bullets as there are marksmen. I demand the utmost precision. Sixteen men have been seconded to the firing squad. One, two, three, four - I must have sixteen bullets, lieutenant - five, six, seven, eight... and there lie eight more ... yes, the tally's exact. (...)"[1, p. 279]. ("Låt mig se, sade han, till mig skola inlem-nas precist lika mänga kulor, som de vid tillfället förordnade skyttar. Här måste högsta noggrannhet iakttagas. Till skyttar vid arkebusering-en kommenderades sexton man. En, två, tre, fyra; jag skall hava sexton kulor, her löjtnant; fem, se, sju, åtta.. och der äfven åtta....se så, det är alldeles rätt (...)" ${ }^{\text {[2, p. 288].) }}$

