Elsa's Reason

On Beliefs and Motives in Richard Wagner's Lohengrin

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Abstract

Once Wagner's most popular opera, *Lohengrin* has suffered scholarly neglect in the postwar period. This essay reengages with the work from the novel perspective of game theory analysis. Centering on Elsa's breach of the *Frageverbot*, it offers a rigorous epistemological study of the opera's main characters. Against traditional interpretations of the heroine's fatal decision, we propose a complex and psychologically more satisfactory account. Elsa asks the forbidden question because she needs to confirm Lohengrin's belief in her innocence, a belief that Ortrud successfully eroded in Act II. This novel interpretation reveals Elsa as a rational individual, upgrades the dramatic significance of the Act I combat scene, and signals a hermeneutic return to the heart of opera criticism, the drama itself.

For an opera titled after its male hero, *Lohengrin* surprisingly revolves around a tragic spouse. Elsa enters the stage wrongfully accused of a crime, spends half of her presence in Acts II and III torn by doubt, suffers public humiliation on her way to the altar, breaks her marital vow, and practically brings down the curtain with her onstage collapse. Wagner's engrossing vision of the 'absolute artist' is brilliantly realized through the contrast between a knight so perfect that he is condemned to the passivity of a respondent (even his *Frageverbot* is dictated from above), and a dreamy maid burdened with the opera's two vital decisions:

invoking the knight to defend her innocence, and later breaking her ignorance pledge of his origins. Indeed, on Elsa's promise to keep clear of the forbidden question Wagner hinges the two sources of suspense fueling the drama: the uncertainty about her guilt (Act I) and the growing speculation about Lohengrin's 'Nam und Art' (Acts II, III).

Conviction and doubt lie at the heart of Wagner's *Lohengrin* ('Lohengrin suchte das Weib, das an ihn *glaubte*' [Lohengrin sought the woman who believed in him]¹) and naturally call for an epistemological analysis of its characters' beliefs. What is certain and what remains conjectural? How much does each character know about the others? What do they know about what the others know about themselves? And in what way does each arrive at conclusions and translate them into actions? Such questions already have been asked by literary critics and game theorists exploring drama and fiction.² Steve Roth's analysis of the 'Mousetrap' in *Hamlet* – where the noun 'belief' appears twice as frequently as in any other of Shakespeare's play – shows that, against common perception, Hamlet does not actually gain knowledge of his father's murder. His proceeding to exact revenge 'despite of knowing

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¹ Richard Wagner, *Sämtliche Schriften und Dichtungen* (Leipzig, 1911-1914), IV:295-6, rpt. in John Deathridge and Klaus Döge, eds., *Richard Wagner. Sämtliche Werke. Band 26: Dokumente und Texte zu* Lohengrin (Mainz, 2003), 21. All German excerpts from the libretto are taken from this source.

² For a survey of cognitive literary criticism, see Allan Richardson, 'Studies in Literature and Cognition: A Field Map', in Alan Richardson and Ellen Spolsky, eds., *Cognition, Culture, and Complexity* (Aldershot and Burlington, 2004), 1-29. Steven J. Brams offers a historical survey of game theory applications to literature in 'Game Theory and Literature', *Games and Economic Behavior*, 6 (1994), 32-54.

that he can never truly know' renders *Hamlet* the first modern tragedy.³ In his path-breaking monograph *I Know that You Know that I Know*, George Butte studies belief systems in (among others) Jane Austen's novels, pointing to the 'deep intersubjectivity' in beliefs about beliefs (commonly referred to as higher or second-order beliefs).⁴ Lisa Zunshine explores Richardson's *Clarissa* and Nabokov's *Lolita* from the perspectives of theory of mind or metarepresentation (thinking about other people's thoughts and distinguishing informational layers in fiction).⁵ More recently, economists have applied game theory to study drama and opera. Analysing episodes of the TV series *CSI: Crime Scene Investigation*, Benedikt Löwe, Eric Pacuit, and Sanchit Saraf propose a formal algorithm to track the characters' belief systems and uncover building blocks of fictional narratives.⁶ Closer to music, Heike Harmgart, Steffen Huck, and Wieland Müller use counterfactual analysis to explain Tannhäuser's disruptive behavior at the singing contest in Wagner's eponymous opera, identifying the hero's dilemma once the contest is underway.⁷

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³ Steve Roth, 'Who knows who knows who's there? An epistemology of Hamlet (Or, what happens in the mousetrap)', *Early Modern Literary Studies*, 10/2 (2004), 1-27.

⁴ George Butte, *I Know That You Know That I Know: Narrating Subjects from Moll Flanders to Marnie* (Columbus, 2004).

⁵ Lisa Zunshine, *Why We Read Fiction: Theory of Mind and the Novel* (Columbus, 2006); and her 'Why Jane Austen Was Different, And Why We May Need Cognitive Science to See It', *Style*, 41 (2007), 273-97.

⁶ 'Identifying the structure of a narrative via an agent-based logic of preferences and beliefs: Formalizations of episodes from *CSI: Crime Scene Investigation*', Institute for Logic, Language, & Computation, University of Amsterdam, Prepublication Series PP-2009-33.

⁷ 'Tannhäuser's Dilemma: A Counterfactual Analysis', ELSE working papers #315. See also their paper 'The miracle as a randomization device: A lesson from Richard Wagner's

In an age where reality and fiction tend to mix freely, cognitive literary criticism promises to enrich opera hermeneutics by interrogating character behavior. Game theory especially allows us to probe the state of knowledge and set of strategies for each character in a closed system of human interaction, thus leading to a deeper understanding of human conflict, the root of all drama. Although not any opera is amenable to this type of analysis, those of Wagner demonstrate the highest integration of music and drama. Lohengrin, in particular, offers a test case, as its waning postwar popularity rests considerably on dissatisfaction with its dramatic properties. The knight's affirmation of love-at-first-sight

romantic opera *Tannhäuser und der Sängerkrieg auf Wartburg*', *Economic Letters*, 102 (2009), 33-5.

⁸ Evaluating game theory in 1960, mathematician/psychologist Anatol Rapoport found that it 'stimulates us to think *about* conflict in a new way' and, at the very least, it has an impact on our thinking processes: *Fights, Games, and Debates* (Ann Arbor, 1960), 242.

⁹ For a general introduction to rational choice theory and games, see Ken Binmore, *Rational Decisions* (Princeton, 2009). Specific applications of strategic thinking in real life appear in Avinash K. Dixit and Barry Nalebuff, *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life* (New York, 1991), and its revised form as *The Art of Strategy: A Game Theorist's Guide to Success in Business & Life* (New York and London, 2008).

¹⁰ Unlike popular fiction, high drama explores the high order beliefs of characters. Löwe, Pacuit, and Saraf find that almost all the plots of *CSI* are entirely built around problems of first-order beliefs (*who did what*).

¹¹ For the opera's contradictory elements, see Carl Dahlhaus, *Richard Wagner's Music Dramas*, trans. Mary Whittall (Cambridge, 1979), 35-48. The allegation that Hitler's title 'Führer' was inspired by the opera's finale and the lavishly produced revival of *Lohengrin* by

for Elsa (Act III scene 2) is contradicted by the mercenary *quid pro quo* of their marriage, and his declining the title of Duke (Act II scene 3) casts doubts on his long-term commitment to Brabant. Moreover, Elsa's martyrdom is hardly tolerable in a period of female assertiveness and the knight's tender feelings for his 'lieber Schwan!' (Act I scene 3), which Wagner exposes with an orchestral *Generalpause*, yield knowing smiles among gay and straight listeners alike. Above all, the opera's bleak ending, with both heroes departing and leaving the stage to first-timer Gottfried is hardly attractive to audiences exposed to spectacular or comforting finales in other dramatic genres. If anything, Wagner's creative struggle with this finale shows a conscious thinking about his characters.¹²

Elsa's (rational) choice

Since Elsa makes the dramatic vortex of the opera, this essay concentrates on her beliefs and behavior. Wagner literature presents a rather simplistic view of her asking the forbidden question. Critics have blamed either Lohengrin's cruelty and the impossibility of his demand, ¹³ or Elsa's emotional instability. ¹⁴ Absence of knowledge of his identity leads her to

the Nazis in 1936 certainly did not help: Pamela M. Potter, 'Wagner and the Third Reich: myths and realities', in Thomas S. Grey, ed., *The Cambridge Companion to Wagner* (Cambridge, 2008), 242.

¹² See John Deathridge, 'Through the Looking Glass: Some Remarks on the First Complete Draft of *Lohengrin*', Carolyn Abbate and Roger Parker, eds., *Analyzing Opera: Verdi and Wagner* (Berkeley, Los Angeles, and London, 1989), 81-91.

¹³ Wagner's exploration of the theme of divine-human intersection begins with his first opera *Die Feen* (1834): Thomas S. Grey, '*Meister* Richard's apprenticeship: the early operas (1833-1840)', in Grey, *Cambridge Companion to Wagner*, 24. According to Stewart Spencer,

fears of either being abandoned or unable to help him in need. Against these predictable explanations the game theory analysis presented here offers a psychologically deeper and

'Lohengrin is the artist ... who descends to earth in search of self-fulfillment, only to find disillusionment and annihilation': 'The 'Romantic operas' and the turn to myth', in Grey, *Cambridge Companion to Wagner*, 71.

¹⁴ For Carl Dahlhaus 'The condition Lohengrin lays down is impossible of fulfilment; Elsa would have to ask him his name, even without Ortrud's interference': Dahlhaus, Richard Wagner's Music Dramas, 39. Similarly, Kurt Pahlen calls Lohengrin's demand 'inhumane' and 'bordering on the impossible' and finds Elsa's breach 'typically female': Richard Wagner: Lohengrin: Einführung und Kommentar (Mainz, 1982), 261. Other writers emphasize Elsa's fear of loss. In Ernest Newman's account, she fears that 'as by magic he had come to her, so by magic he may be taken from her': The Wagner Operas (Princeton, 1949), 159. Dieter Borchmeyer argues that her dread of the numinous 'inspires in Elsa an insane and self-destructive desire to know her husband's true identity': Drama and the World of Richard Wagner (Princeton, 2004), 150. Issues of certainty and identity have also been raised. Nike Wagner, for example, claims Elsa 'must ask the question' since love requires 'sensual certainty' and is not 'an abstract emotion': Wagner Theater (Frankfurt, 1998), 87; and Barry Emslie argues that Lohengrin's conditions 'cannot be reconciled with the mundane nature of marriage' and that Elsa, by asking the question, 'asserts the importance of the sexual couple as a collective identity over that of the single male hero': 'The domestication of opera', Cambridge Opera Journal, 5 (1993), 171. In an alternative reading, finally, Slavoj Zizek proposes that Elsa 'intentionally asks the fateful question and thereby delivers Lohengrin whose true desire, of course, is to remain the lone artist sublimating his suffering into his creativity': "There is no Sexual Relationship": Wagner as a Lacanian', New German Critique, 69 (1996), 30.

dramatically more powerful one, which also upgrades the significance of the Act I combat scene. Elsa asks because her ignorance of her husband's identity raises doubts about *his belief* in her innocence. This second-order belief (Elsa thinking about her spouse's thinking about her) reveals that she has a theory of mind, showing that there is ample sophistication in her emotional turbulence.

This novel perspective draws support from Wagner himself, whose prose draft of the libretto has Elsa explicitly conditioning Lohengrin's belief in her innocence upon her own belief in his mission: 'So wie du an meine Unschuld glaubst, glaub' ich an deine hohe Sendung!' At the time, just after Lohengrin's arrival and before the trial-by-combat that will determine her fate, Elsa had no reason to doubt his identity: the knight had duly responded to her call and was willing to risk his life for her innocence. She had faith and was certain. A master psychologist, whose cognitive sophistication Wagner heightens with a progressive musical idiom, ¹⁶ Ortrud understands that without breaking the two interlocked beliefs she will never get rid of Elsa and her omnipotent knight. Indeed, her first attempt to shake Elsa's faith, by invoking the fear of loss and abandonment, fails resoundingly:

ORTRUD

Wohl daß ich dich warne, zu blind nicht deinem Glück zu trau'n; daß nicht ein Unheil dich umgarne,

¹⁵ Dokumente und Texte zu Lohengrin, 213. For a survey of Wagner's changes from the prose draft to the final libretto, see Ernest Newman, *Wagner Nights* (London, 1949), 117-25.

¹⁶ See Graham G. Hunt, 'Ortrud and the Birth of a New Style in Act 2, Scene 1 of Wagner's *Lohengrin*', *The Opera Quarterly*, 20 (2004), 47-70. Her superior understanding of psychology presumably generates from her pagan beliefs. Tales of multiple gods are psychologically more sophisticated than the deliberations of a single all-powerful god.

laß mich für dich zur Zukunft schau'n.

ELSA

Welch' Unheil?

ORTRUD

Könntest du erfassen,
wie dessen Art so wundersam,
der nie dich möge so verlassen,
wie er durch Zauber zu dir kam!

ELSA

Du Ärmste kannst wohl nie ermessen, wie zweifellos mein Herze liebt!

Du hast wohl nie das Glück besessen, das sich uns nur durch Glauben gibt!

Kehr' bei mir ein, laß mich dich lehren wie süß die Wonne reinster Treu'!

Laß zu dem Glauben dich bekehren: es giebt ein Glück, das ohne Reu'.

[Il. 544-559]

[ORTRUD

It were well I should warn you not to trust too blindly in your happiness; lest some misfortune should befall you, let me look into the future for you.

ELSA

What misfortune?

ORTRUD

Have you never reflected
that he of such mysterious lineage
might leave you in the same way
as by magic he came to you?

ELSA

Poor woman, you can never measure

how free of doubt is my heart!

You have indeed never known the happiness

that only faith can give.

Come in with me! Let me teach you

how sweet is the bliss of perfect trust!

Let yourself be converted to faith:

it brings happiness without alloy!]

Elsa resists the attack because her faith in the knight is grounded in their pact. He proved his belief in her innocence by winning the combat, and so she believes in his high mission and their happiness. In the following soliloquy, Ortrud swiftly updates her strategy. Her failure to instill doubt in Elsa's mind becomes a lever for a renewed and more powerful assault, as it inflated Elsa's confidence. Which dreamy maid could possibly teach happiness and 'perfect trust' to an older and experienced woman?

ORTRUD

Ha! Dieser Stolz, er soll mich lehren, wie ich bekämpfe ihre Treu':

gen ihn will ich die Waffen kehren, durch ihren Hochmuth werd' ihr Reu'! [ll. 560-563]

[ORTRUD

Ha! This pride of hers shall teach me how to undermine her trust!

Against it I will turn her own weapon:

through her pride shall come her pain!]

To know something is one thing; to be able to teach it is to know that you know it. Until now Elsa was faithful and certain; from the moment she rejects Ortrud's ludicrous suggestion she also *knows* that she is faithful. What she cannot realize is that her inflated self-assurance makes her more vulnerable to another attack. Indeed, Ortrud's assault in Act II scene 4 is unexpected and shattering, as it combines private betrayal (Elsa: 'I was misled by your deceit'), a breach of social protocol (the wife of an exiled man challenges in public space Brabant's heiress) and public accusation that, if true, exposes a state conspiracy (Brabant cannot be ruled by an impostor knight and a murderess Elsa).

ORTRUD

Weil eine Stund' ich meines Werth's vergessen, glaub'st du, ich müßte dir nur kriechend nah'n? Mein Leid zu rächen will ich mich vermessen, was mir gebührt, das will ich nun empfah'n.

ELSA

Weh'! Ließ ich durch dein Heucheln mich verleiten, die diese Nacht sich jammernd zu mir stahl? Wie willst du nun in Hochmuth vor mir schreiten, du, eines Gottgerichteten Gemahl?

ORTRUD

Wenn falsch Gericht mir den Gemahl verbannte, war doch sein Nam' im Lande hochgeehrt; als aller Tugend Preis man ihn nur nannte, gekannt, gefürchtet war sein tapf'res Schwert.

Der deine, sag', wer sollte hier ihn kennen, vermagst du selbst den Namen nicht zu nennen?

[...]

Kannst du ihn nennen? Kannst du uns es sagen, ob sein Geschlecht, sein Adel wohl bewährt?

Woher die Fluthen ihn zu dir getragen, wann und wohin er wieder von dir fährt?

Ha, nein! Wohl brächte ihm es schlimme Noth; der kluge Held die Frage drum verbot!

ELSA

Du Lästerin! Ruchlose Frau!

Hör', ob ich Antwort mir getrau'!

So rein und edel ist sein Wesen,

so tugendreich der hehre Mann,

daß nie des Unheil's soll genesen,

wer seiner Sendung zweifeln kann!

Hat nicht durch Gott im Kampf geschlagen

mein theurer Held den Gatten dein? Nun sollt nach Recht ihr alle sagen, wer kann da nur der Reine sein?

[...]

ORTRUD

Ha! Diese Reine deines Helden,
wie wäre sie so bald getrübt,
müßt' er des Zaubers Wesen melden,
durch den hier solche Macht er übt!
Wagst du ihn nicht darum zu fragen,
so glauben alle wir mit Recht,
du müßtest selbst in Sorge zagen,
um seine Reine steh' es schlecht!
[Il. 635-677]

[ORTRUD

Because for an hour I forgot my position
do you think that I must only cringe before you?
I intend to have revenge for my suffering;
I demand what is mine by right!

ELSA

Ah! I was misled by your deceit
when last night you crept lamenting to me.
How can you now arrogantly walk before me,
the wife of one condemned by God?

ORTRUD

Although false judgment has condemned my husband,

his name was highly honoured in the land;

he was called the crown of all virtue,

his valiant sword was known and feared.

But yours, who here can know him

if you yourself may not call him by his name?

[...]

Can you name him? Can you tell us

whether his lineage, his nobility, is well attested,

from whence the waters brought him to you,

when he will leave you again, and for where?

Ah no! It would bring disaster on him -

so the crafty hero forbade the question!

[...]

ELSA

Slanderer! Wicked woman!

Hear, if I can trust myself to answer!

So pure and noble is his nature,

so virtuous this exalted being,

that none who can doubt his mission

shall ever be free from ill-fortune.

Did not my dear hero, with God's help,

strike down your husband in the combat?

Now let all say, in justice,

which alone can be innocent?

[...]

ORTRUD

Ha, how soon would this innocence
of your hero be besmirched
if he had to reveal the magic craft
by which he wields such power here!

If you do not dare to question him
we shall all believe, with right
that you yourself falter in misgiving,
and have little confidence in his innocence!]

Launched as an unprovoked attack against Lohengrin's honesty, Ortrud's disruption (before the house of God, of all places) has cognitive effects. By introducing an alternative explanation for his victory she forces Elsa – indeed, everyone present – to confront two scenarios: either her savior won by valor, thus proving her innocence, or he cheated through magical means ('Zaubers Wesen'), which makes possible that, after all, he did not believe in her innocence. In the following scenes, Elsa gradually realizes that without revealing his identity she cannot verify his 'hohe Sendung' upon which her belief in his belief in her innocence really depends.¹⁷ What underlies her turbulence in the Act III duet is this concern

¹⁷ Richard Jones' *Lohengrin* at the Bavarian State Opera (2009) seems to adopt a similar reading. The knight is shown to be using magic in the combat (and also in his final confrontation with Friedrich). Visibly shaken by this, Elsa rushes to a room where she has kept a 'missing person' poster of her brother. Through Elsa's staring at it, Jones illustrates the nexus between Lohengrin's 'Nam und Art' and the question of her own guilt in the case of the missing brother.

for her innocence in the *mind* of her spouse. What once was a simple mindset of unshakeable faith in God and her savior has turned, with Ortrud's cognitive manipulation, into a world of multiple and conflicting possibilities and uncertainties. The price of saving her marriage (not asking the forbidden question) is to live knowing of Ortrud's alternative explanation without *ever* being able to test it. The price of restoring her Act I certainty (asking the question) is to risk her marriage (note, however, that the knight never specified the consequences of her vow breach, which leaves open the possibility that she might be forgiven). We can represent her dilemma as follows:

Elsa's strategy

secure knowledge of protect my marriage /
Lohengrin's identity be happy with Lohengrin

Don't ask the forbidden question

Ask the forbidden question

1	NO	YES/ NOT QUITE
	YES	MAYBE

By choosing the second, Elsa proves that she is both human and a thinker; and that her mental stability (the need to know) outweighs her emotional pain (the fear to lose). If she is devastated in the finale, at least she does know her departing husband's identity, which confirms to all Brabant and to herself that he won the combat fairly, thus proving her innocence. Her objective being fulfilled, she, too, is free to depart the world, though in the way humans do (collapsing *entseelt*).

Bayesian updating and the trial-by-combat

Elsa's martyrdom is first and foremost mental, we propose. Quite suddenly, she passes from a cognitive state of absolute knowledge to that of stochastic belief, predicating on alternatives that inform her decision-making. To understand her condition, let us ponder on the ultimate consequences of Ortrud's scenario: if the knight cheated, then Friedrich was presumably the real winner. If so, his charges against Elsa were just and she was guilty, which is, of course, impossible for her to accept, for she knows of her innocence. The only solution for this impasse would be to consider trial-by-combat as being inherently flawed, which then would cast doubt on the existence of divine justice and, ultimately, of God. In short, Elsa's entire worldview would collapse. The judicial duel concluding Act 1 thus turns into a focal point in the minds of everyone except Lohengrin, and deserves to be examined as something more than a piece of spectacular action or a formal counterweight to the wedding procession in Act III.

In medieval times, trial-by-combat or judicial duel was reserved for cases where the truth of a matter could not be ascertained otherwise, such as murders without witnesses. It was accepted that, because of the high stakes involved (losing one's own life), one was submitting his case directly to God's hands to receive either victory or death regardless of his physical attributes. As this 'wager of battel' involves a winning and a losing agent, it qualifies as a zero-sum bet and can be further illuminated through a class of celebrated results in game theory called *agreement theorems*. The basic logic of these theorems is grounded in the observation that, if somebody is willing to bet against us, he must have different

¹⁸ For a historical background of this judicial procedure, see Vickie L. Ziegler, *Trial by Fire* and Battle in Medieval German Literature (Rochester, 2004), 7-10.

information from ours. And this we need to take into account when we update our beliefs.¹⁹ As a result, agents will never trade in a zero-sum environment where one's gain is the other's loss, and they will never bet.²⁰ Agreement theorems and the Bayesian updating they rest on allow us to probe the degree of knowledge and strategies of both combatants even *before* they cross swords.

¹⁹ See, for example, Robert J. Aumann, 'Agreeing to disagree', *The Annals of Statistics*, 4/6 (1976), 1236-39; Paul Milgrom and Nancy Stokey, 'Information, Trade and Common Knowledge', *Journal of Economic Theory*, 26 (1982), 17-27; James K. Sebenius and John Geanakoplos, 'Don't Bet On It: Contingent Agreements With Asymmetric Information', *Journal of the American Statistical Association*, 78 (1983), 424-26.

An example from the world of finance: Consider a seller who has an asset of uncertain value and a potential buyer. Both have some private information about what the asset's value upon eventual liquidation. The information they have may differ such that, initially, the values they attach to the asset may differ. If the buyer has more positive information than the seller he may be more optimistic about the asset's future value than the seller and, thus, from the outset one might think that they have incentives to trade. But now notice that the sheer willingness of the potential buyer to buy the asset at a price above the seller's reservation value *contains information for the seller*. Why would the buyer be willing to buy at such a price if he had not more optimistic information than the seller? Hence, the seller must update his beliefs about the expected value of the asset. At the same time, when the seller's sheer willingness to sell at a low price contains information for the buyer who must infer that the seller has some more pessimistic information. Hence, he has to adjust his beliefs downward. As can be shown mathematically, this process of belief adjustment will continue until both, seller and buyer, reach agreement about the expected value of the seller and, hence, lose their interest to trade.

Thomas Bayes (1702 – 1761) was a British mathematician and Presbyterian minister who showed, in a posthumously published *Essay towards solving a Problem in the Doctrine of Chances* (1763), how *conditional probabilities* can be computed. ²¹ If a piece of news arrives, the probability of something being the case has to be recomputed *conditional* on the new information. This very process where a *prior* belief is transformed into a conditional or *posterior* belief is the process of Bayesian updating. Common examples include investors updating their beliefs about the economic potential of companies in response to the arrival of new technologies; voters adjusting their beliefs about a politician's integrity after hearing rumours about corruption; and lovers pondering how much they are loved back despite a phone that does not ring. New information can arrive as factual knowledge (e.g. updating weather forecast on the basis of new data) or in the form of other people's beliefs. The latter is the one we will apply to the two combatants in *Lohengrin*.

As mentioned above, the trial by combat is a zero-sum game: Lohengrin bets on Elsa's innocence and Friedrich on Elsa's guilt. Since only one is expected to survive, both contestants have to be fairly certain about their respective cause. This can happen only if they have uneven access to private information. Indeed, Lohengrin knows for a fact that Elsa did not kill her brother because, omniscience discounted, he was led to Brabant by the supposed murder victim transformed into a swan. Friedrich, on the other side, believes in her guilt based on second-hand evidence, Ortrud's eyewitness account and his observing Elsa's behavior during interrogation:

als ich mit Drohen nun in Elsa drang, da ließ in bleichem Zagen und Erbeben

²¹ Andrew I. Dale, *Most Honourable Remembrance: The Life and Works of Thomas Bayes* (New York, 2003), 258-335; see also Stephen M. Stigler, 'Thomas Bayes's Bayesian Inference', *Journal of the Royal Statistical Society. Series A (General)*, 145 (1982), 250-58.

der gräßlichen Schuld Bekenntniß sie uns seh'n. [11. 50-52]

[when I questioned Elsa threateningly

her pallor and her trembling revealed to us

her confession of her hideous crime.]

His indirect knowledge is compounded by conflict of interest: the eyewitness happens to be Elsa's enemy and, by the time of the trial, also his wife; still worse, both benefit from Elsa's death. This is one reason why he avoids disclosing his source before the King and rushes to propose a duel:

Wess' ich sie zeih', dess' hab' ich sich'ren Grund:

glaubwürdig ward ihr Frevel mir bezeugt.

Doch eurem Zweifel durch ein Zeugniß wehren,

das stünde wahrlich übel mein Stolz! [ll. 131-134]

[Her offence is proved to me beyond doubt;

but to dispel your doubts by calling a witness

would truly wound my pride!]

In the absence of contradictory evidence and without Lohengrin's presence, Friedrich has every reason to expect victory. Indeed, no Brabantine volunteers to defend Elsa ('Ohn' Antwort ist der Ruf verhallt:' l. 172 [The challenge dies away unanswered]), prompting Friedrich to boast 'auf meiner Seite bleibt das Recht.' (l. 175) [Right is on my side!].

The knight's arrival changes everything. He is a stranger, thus he cannot be evaluated, lands (or rather docks) in a miraculous way and looks pure beyond doubt:

welch' seltsam Wunder! ...

...

Ein Wunder ist gekommen!

Ha, unerhörtes, nie geseh'nes Wunder! [ll. 187-194]

[What a strange and wondrous sight! ...

...

A miracle has transpired,

A miracle such as we have not heard nor seen!]

Indeed, the Brabantines advise Friedrich 'Steh' ab vom Kampf! Wenn du ihn wagst, / zu siegen nummer du vermagst!' (ll. 256-257) [Call off the fight! If you challenge him, / you will never succeed in conquering him.] Under Bayesian updating, he should reconsider his commitment to the duel because of Lohengrin's willingness to fight and everybody's updated belief that he may not win. Wagner himself describes his deportment as one of inner struggle ('mit leidenschaftlich schwankendem und endlich sich entscheidendem, innerem Kampfe': ll. 261/262; in the verse draft, 'nach heftigem inneren Kampfe': l. 433). Why does he, then, continue the challenge and agree to fight?

Friedrich's beliefs

We propose that Friedrich's beliefs change in a subtle way, thus affecting the logic of agreement theorems. His belief 'Elsa is guilty', based on Ortrud's account, is displaced by a belief in his sincerity in believing 'Elsa is guilty'. Observe that from now on his statements revolve exclusively around his honor and truthfulness ('ich zu lügen nie vermeint.': 1. 266 [I have never stooped to tell a lie]). The duel is no longer about Elsa's crime but about his integrity in espousing this belief ('Herr Gott, verlass' mein' Ehre nicht!': 1. 299 [Lord God, let me not be dishonoured!]). Moments before crossing swords with Lohengrin, Friedrich still has something to gain even if he dies: his personal integrity.

Friedrich's strategy

prove Elsa's guilt defend my sincerity

Fight with Lohengrin

MAYBE YES

NO NO

Withdraw from the duel

Agreement theorems predict that agents will only bet and knights will only fight if they have either perfect knowledge (such as Lohengrin) or if the zero-sum assumption does not quite hold, that is, if one agent stands to gain something from engaging in the bet regardless of its outcome (such as Friedrich who wants to maintain his sincerity). Friedrich is bound to lose not only because Lohengrin (his divine nature aside) fights for the right cause, but also because he himself replaced the strength of a first-order belief with a reflection upon it. ²² In warfare higher-order beliefs are crucial for winning a battle, but can be fatal for those in the line of fire, who are supposed to act instantly without any reflection. ²³ Friedrich's 'updating' has consequences for his post-duel attitude, as we shall see below.

His life being spared by the knight, Friedrich is left to bemoan the loss of his honor ('Mein' Ehr' hab' ich verloren, / mein' Ehr', mein' Ehr' ist hin!': ll. 362-363). Still believing in God's will ('Weh'! mich hat Gott geschlagen,': l. 320), his defeat proves he was wrong and his witness, Ortrud, had lied to him:

²² On this subject, see Dan Sperber, 'Intuitive and Reflective Beliefs', *Mind & Language*, 12/1 (March 1997), 67-83.

²³ 'Many armies got their soldiers drunk before battle. This may have reduced their fighting efficiency, but it also reduced their capacity for rational calculation of self-preservation': Dixit and Nalebuff, *The Art of Strategy*, 423.

War's nicht dein Zeugniß, deine Kunde,

die mich bestrickt, die Reine zu verklagen?

...

Und machtest mich, ...

zu deiner Lüge schändlichem Genossen?' (Il. 368-369, 383-385)

Was it not your testimony, your story,

that inveigled me into accusing the innocent Elsa?

• • •

And made me, ...

the base accomplice of your lies?

Although she knows of Elsa's innocence, Ortrud does not believe in God, thus she is not obliged to accept the result as fair. At her lowest point in the opera, she finds recourse in her fertile mind and spins the alternative scenario that will drive Lohengrin off Brabant and will lead to Elsa's and (accidentally?) to her own husband's deaths: the knight cheated using magic, thus Elsa is guilty and should be condemned leaving Friedrich to rule Brabant and Ortrud to restore worship of her pagan gods.

The trial-by-combat and Lohengrin's victory thus beget the mental conflict that will dominate the following two acts. The question is why Friedrich, who has been duped once by Ortrud with catastrophic results is willing to follow her for a second time. A ready explanation is that he has nothing to lose. His honor and lofty position in Brabant vanished, he finds Ortrud's comforting scenario preferable to the harsh reality of poverty and exile. On a deeper, cognitive level, however, we find in Act II scene 1 that his belief in Elsa's guilt was actually mounted on his own belief in Ortrud's honesty and accuracy.

Friedrich's mindset

	pre-duel beliefs	test result	post-duel beliefs
eal	Elsa is guilty trial-by-combat is a <i>judicium Dei</i>	I lose	Elsa is innocent God punished me
ideal	Ortrud says she witnessed Elsa killing		Ortrud didn't witness the
	Gottfried		crime
ıal	Ortrud is a reliable witness		Ortrud is dishonest
actual	I am an honest man who never lies		I am honest (though gullible)
	trial-by-combat is a <i>judicium Dei</i>		the trial-by-combat was
			flawed

Had Friedrich entered the duel with a first-order belief on Elsa, he would have had to accept its outcome as just. Instead, he confronted Lohengrin from a cognitively weak position (accepting a second-hand account and sliding into self-reflexivity), thus opening up his mind to multiple explanations. Of his pre-duel beliefs the one about his honesty cannot be revised because it is based on personal knowledge, thus making the truth of all the rest open to question. This mental crack allows Ortrud to plant the seed of doubt in Act II scene 1.

Enter the Music

If anything, the above interpretation upgrades the role of Ortrud, whom Wagner invented specifically as a reactionary figure (*Reaktionärin*).²⁴ Her addition to the Lohengrin story

²⁴ Stewart Spencer and Barry Millington, eds., *Selected Letters of Richard Wagner* (New York, 1987), 248.

creates two couples, instead of a pair and a villain, thus increasing the opera's dramatic complexity. Among other advantages, our cognitive perspective exposes a new coupling based on the characters' state of beliefs. ²⁵ Lohengrin and Ortrud hold absolute beliefs, always know more than their partners, control the flow of information to them (a forbidden question and an alternative scenario), and do survive (though having failed to reach their goals). It is no coincidence that Wagner associates them with two relative keys (A major and F-sharp minor). One even is tempted to find symbolic meaning in the tonic-submediant oscillation in the 'Grail' motif and its melodic equivalent in Loehngrin's statements, as if the 6 scale degree introduces a human variable in the perfection of the A major triad (for instance, in his address to the swan). [Ex. 1]²⁶ Conscious of his harmonic operations, Wagner rewards Ortrud's short-lived victory in the end of the opera with the Grail theme appearing on her key until Lohengrin's prayer breaks her magic spell once and for all, and restores Brabant's 'Führer' with a triumphant perfect cadence on A major. [Ex. 2] Elsa and Friedrich, on the other hand, have to adjust their beliefs throughout the opera, which leads to fluctuating behavior, and

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²⁵ Robert Wilson has explored the idea of complementary couples in his production of *Lohengrin*, where 'Ortrud and Elsa have mirroring movements to suggest that they represent different aspects of one character': Mike Ashman, 'Wagner on stage: aesthetic, dramaturgical, and social considerations', in Grey, *Cambridge Companion to Wagner*, 272. From our perspective, this gesture confirms Ortrud as a social chameleon with a wide behavioral range. She is capable of adopting her target's mentality and subtly manipulating his/her mind.

The musical examples are from the vocal score in Karl Klindworth's piano reduction (Mainz, 1913) available through the IMSLP/Petrucci online library http://www.imslp.org/wiki/>. Measure numbers refer to the full score edited by John Deathridge and Klaus Döge (Mainz, 1996, 1998, 2000).

both die. Their mental kinship is reflected in their tonal space, A-flat major for Elsa and flat keys for Friedrich in Act I.

Choice of key also underscores the conjugal state of the two couples. Elsa's A-flat major is the nearest possible to Lohengrin's A major yet the furthest away in the circle of fifths, the half-tone friction between the two tonal plateaus suggesting the impossibility of a human-divine union. The heir first encounter, Lohengrin briefly adopts Elsa's key up to the repeated *Frageverbot*, which brings him back to A. [Ex. 3] Wagner wonderfully frames this episode with two chorus sections in A major, reflecting Lohengrin's divine aura. In Act III, their brief spell of conjugal happiness finds expression in E major (mm. 306ff), but following their duet's climax in unison singing (mm. 355-361), the music reverts to Lohengrin's key (m. 363). He will return to flat key area only prior to his departure, addressing Elsa for the last time (mm. 1298-1368). On the side of the villains, Friedrich's vocal space of flat keys in Act I is reversed in the following one, a clear sign of his dependence on Ortrud. His full conversion to her key of F-sharp minor comes with their homophonic singing in the revenge duet (mm. 391-418).

Wagner not only invented Ortrud but also endowed her with his most advanced techniques.²⁸ While Lohengrin's mindset of absolute belief is evident through triadic, folk-like melodies [**Ex. 4**], Ortrud's cognitive complexity manifests itself in harmonically open utterances, with emphasis on diminished seventh chords, the use of the orchestra as an index of her seductive power, and specific motifs 'whose presence evokes a nexus of slithery,

²⁷ For a study of the opera's literary models on this topic, see Dieter Borchmeyer, *Drama and the World of Richard Wagner*, trans. Daphne Ellis (Princeton and Oxford, 2003), 147-56.

 $^{^{28}}$ Hunt, 'Ortrud and the Birth of a New Style', 47-70.

sinister, readily shifting figures.²⁹ Most prominent of these is that of temptation ('Versuchungs-motiv') formed around a diminished seventh chord. Its appearance in the last two acts of the opera affirms Ortrud's successful penetration into the minds of her victims. In Act II scene 1, we hear it underscoring Friedrich's admission 'wie willst du doch geheimnisvoll den Geist mir neu berücken!' [would you once again mislead my spirit by your arcane arts?] (mm. 260-261); moments later, he is under Ortrud's full control singing the revenge oath with her in the octave. More prominently, the motif signals the cognitive assaults against Elsa's absolute belief in Lohengrin. Her mental poisoning begins with Ortrud's warning 'zu blind nicht deinem Glück zu trauen' [not to trust too blindly in your happiness] (m. 761). As argued above, doubt begins its workings (in reduced form of the motif in Elsa's signature instrument oboe) after her public confrontation with Ortrud, forcing her plead to Lohengrin 'Mein Reiter! Schütze mich vor dieser Frau!' [My rescuer! Protect me from this woman!] (mm. 1651-1656) and reaches its climax in Friedrich's final address to Elsa 'Vertraue mir!' (mm. 2001-2013). The motif reappears in her Act III scene with Lohengrin, occupying Elsa's mind in m. 634 and finally overtaking her vocal line in mm. 654-658 ('Wie soll ich Ärmste glauben, dir g'nüge meine Treu?' [How can I believe that my poor trust is sufficient?]). [Ex. 5] Aside from motivic treatment, the intense chromaticism associated with Ortrud allows her to manipulate harmonically her victims. Consider, for example, Friedrich's final glimpse of suspicion in F minor (mm. 364-372), which Ortrud instantly dissolves by enharmonic modulation into C-sharp major for a return to her native Fsharp minor key (mm. 374-376). [**Ex. 6**]

If Elsa's changing beliefs are evident through the temptation motif, Friedrich's confusion is suggested through harmonic and rhythmic means. His mental struggle, after

²⁹ Thomas S. Grey, 'Leitmotif, temporality, and musical design in the *Ring*', in Grey, *Cambridge Companion to Wagner*, 88.

being advised to withdraw from the duel, manifests as irregular palpitation of clusters of seconds moving gradually upwards. [Ex. 7] Relevant to our cognitive perspective are also two musical parallels. The ascending chromatic line in the flute in Act I prepares us for Elsa's vision of her savior sung in her native A-flat major. Wagner describes her demeanor as confident ('Elsas Mienen gehen von dem Ausdruck träumerischen Entrücktseins zu dem schwärmerischer Verklärung über.' mm. 350-54), signaling a state of absolute belief, which Ortrud and Friedrich will later attack. The same gesture is repeated only once in the opera, in Act III, at the conclusion of Elsa's love duet with Lohengrin. This time the ascending line leads to A major, Lohengrin's key. The two instances frame Elsa's period of absolute belief, one where she has the resources to fight doubt. Indeed, after the second gesture the deterioration of her mindset is rapid and irreversible. [Ex. 8] Another musical parallelism with cognitive effects is the call 'Elsa'. It cannot be a coincidence that Ortrud's first call to her is on the notes of the *Frageverbot* with practically identical accompaniment. As if intuiting the fatal consequences of her befriending Ortrud, Elsa responds 'Wie schauerlich und klagend ertönt mein Name durch die Nacht!' [How sinister and mournful is the sound of my name in the night!] When Lohengrin calls her by name in Act III, he inadvertently evokes the moment, as the sudden harmonic change from sharp to flat key and Elsa's reply show 'Wie süss mein Name deinem Mund entgleitet!' [How sweetly my name glides from your lips!] But since her encounter with Ortrud led her to doubt, she now continues 'Gönnst du des deinem holden Klang mir nicht?' [Must you refuse to let your own be heard?] In other words, Ortrud ingeniously appropriates the *Frageverbot* to induce Elsa to breach it. [Ex. 9]

Concluding remarks

This essay proposes a critical reengagement with Wagner's most neglected opera in postwar years. Introducing social science and game theoretic methodologies in opera hermeneutics,

we subject *Lohengrin*'s main characters to a rigorous epistemological analysis, studying their beliefs and decision-making strategies. In particular, we employ novel methodological tools in opera criticism to trace the cognitive state of the opera's two dramatic variables, Elsa and Friedrich, as they move from one reversal of fortune to another. Their fluctuating behavior involve complex higher-order or self-reflective beliefs and are a key to a deeper understanding of Elsa's choice, which stands at the core of the opera.

Elsa asks the forbidden question because she needs certainty about Lohengrin's *belief* in her innocence. Only by finding out his true 'Nam und Art', his true reason for fighting for her will be revealed. She may fear that asking the forbidden question may have terrible consequences, but not asking it will leave her in permanent agony, as she will live with someone whom she suspects of suspecting her of murder. This is the most unsettling result of this epistemological study, as it offers a radically different, psychologically convincing answer to the central question that drives two thirds of the *Lohengrin* plot. At the same time it offers a much more modern view of Elsa who not simply passively accepts the verdicts of others about her guilt or innocence but instead makes an active choice to prove her innocence. The analysis also upgrades the dramatic role of the combat scene in Act I, the outcome of which becomes a fixed point of reference for the rest of the opera.

We find that this approach yields substantial benefits for multiple recipients. Students and critics can probe with precision the dramatic coherence of operas and the psychological depth of their characters. Opera singers and directors can analyze character motivation with reliable accuracy and deepen their engagement with the performed material. Not least, spectators and listeners can use a powerful tool to explore the internal world of the operatic canon and better appreciate dramatic nuances. Above all, this perspective reflects Wagner's own vision for an all-embracing music drama. Much as the artist has to 'completely step outside himself, to grasp the inner nature of an alien personality with that completeness

which is needful before he can portray it, '30 so a spectator can better identify with Wagnerian heroes if he engages with their state of mind. Indeed, Wagner's understanding and use of the orchestra as a universal current out of which emerge individual utterances and upon which float ideas as leitmotifs practically invites for a cognitive opera criticism whether this appears as Wolzogen's leitmotif guide or a rigorous analysis like the one undertaken here.

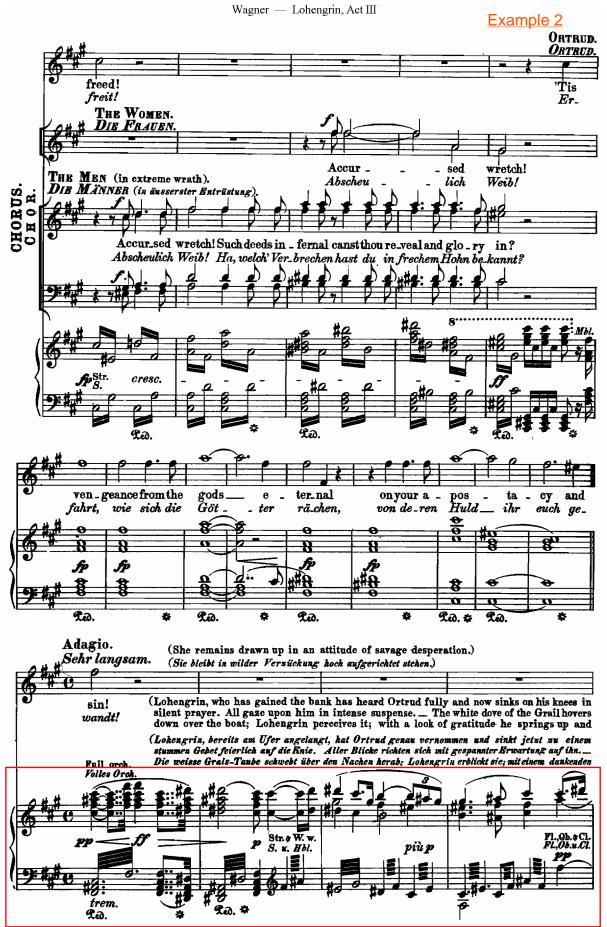
 $^{^{30}}$ Richard Wagner, 'The Art-Work of the Future', trans. William Ashton Ellis, in *Richard* Wagner's Prose Works Volume 1 (London, 1895), 193.

Wagner Lohengrin Act I









unfastens the chain from the swan's neck, whereupon the swan sinks and in its place Lohengrin lifts to the bank a beautiful youth in gleaming silver garments _ Godfrey.)

Blicke springt er auf und löst dem Schwan die Kette, worauf dieser sogleich untertaucht; an seiner Stelle hebt Lohengrin einen schönen Knaben in glänzendem Silbergewande ("Gottfried") aus dem Flusse an das Ufer.)



comes forward and makes obeisance to the King: all look at him with surprise and delight, the men of Brabant bowing the knee in homage to him. — Godfrey hastens to Elsa's arms: she, after a short outburst freudiger Verklärung auf Gottfried, welcher nach vorn schreitet und sich vor dem König verneigt: Alle betrachten ihn in seligem Erstaunen, die Brabanter senken sich huldigend vor ihm auf die Knig. — Gottfried eilt in Elsa's Arme; diese,



of joyous rapture, turns hastily towards the shore where Lohengrin is no longer visible.)

nach einer kurzen freudigen Entrückung, wendet hastig den Blick nach dem Ufer, wo sie Lohengrin nicht mehr erblickt.)





(turning more towards Elsa) (Er wendet sich etwas



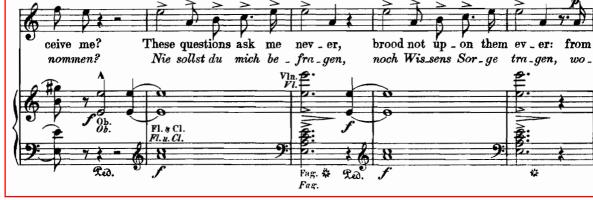
(Elsa, who, since perceiving Lohengrin, has remained motionless and as if spellbound, now seems reawakened by his address and throws herself at his feet in overpowering rapture.) (Elsa, die, seitdem sie Lohengrin erblichte, wie im Zauber regungslos festgebannt war, sinkt, wie durch seine Ansprache erweckt, in überwältigend wonnigem Gefühle zu seinen Füssen.)







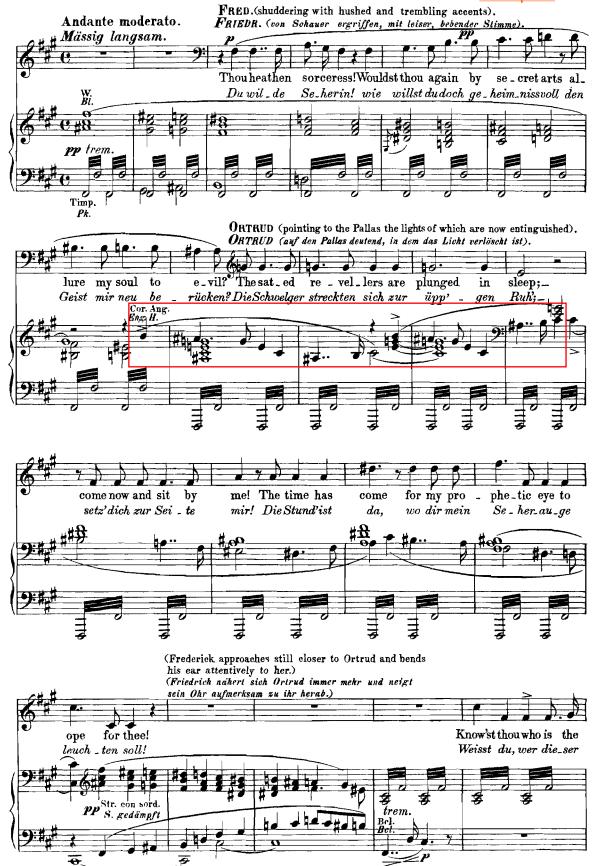








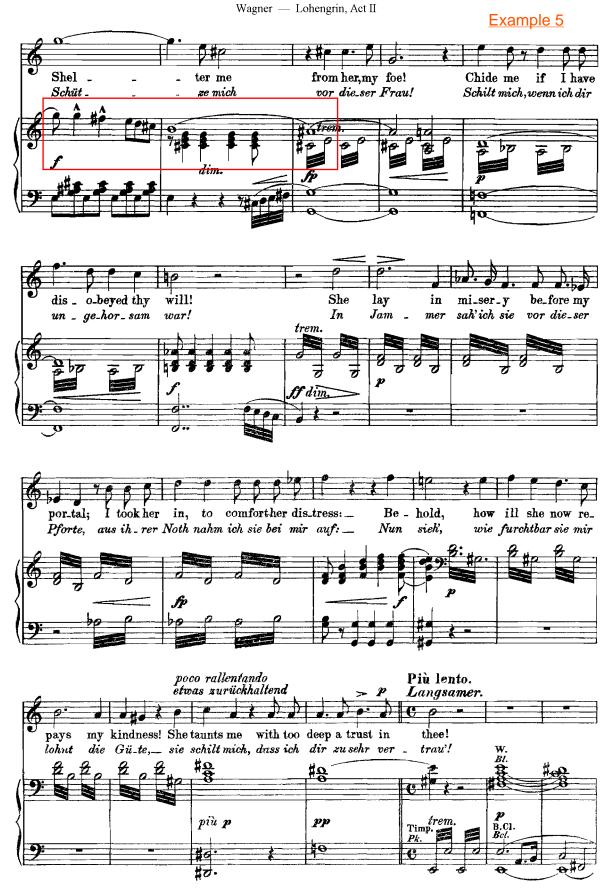


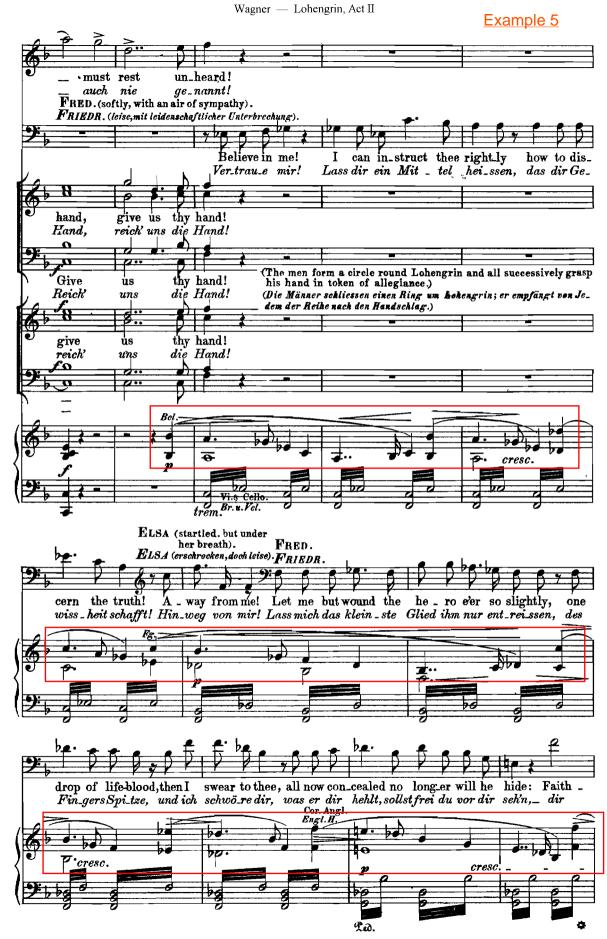




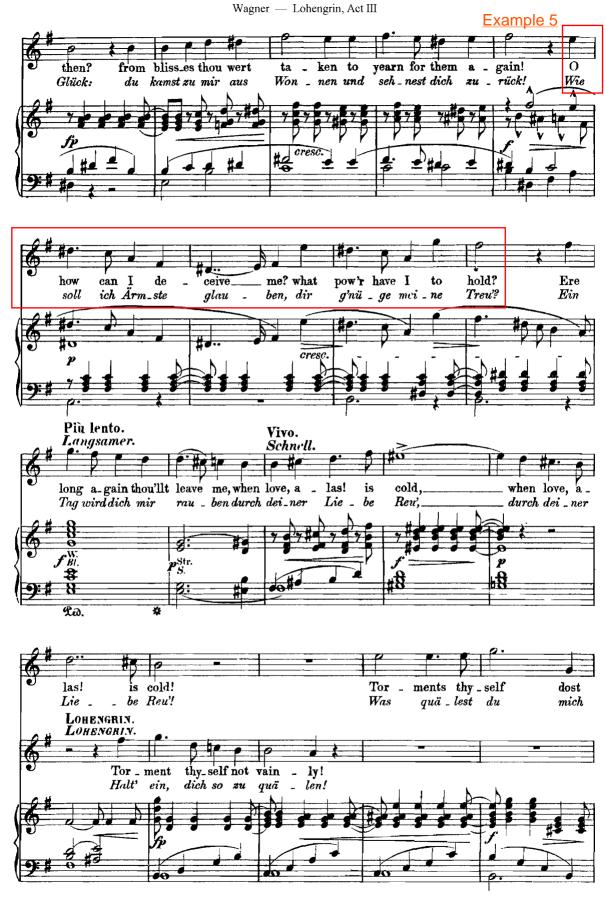


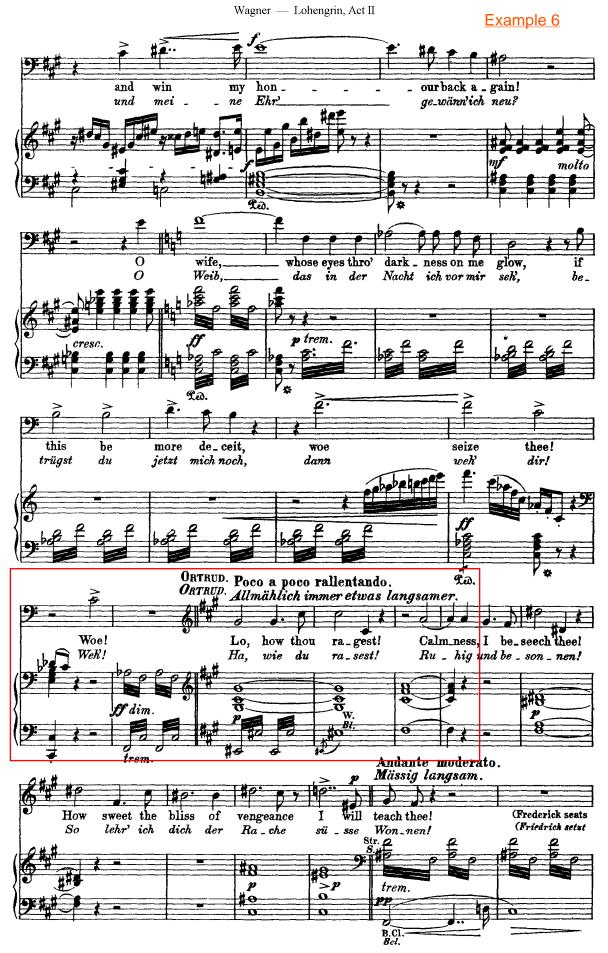








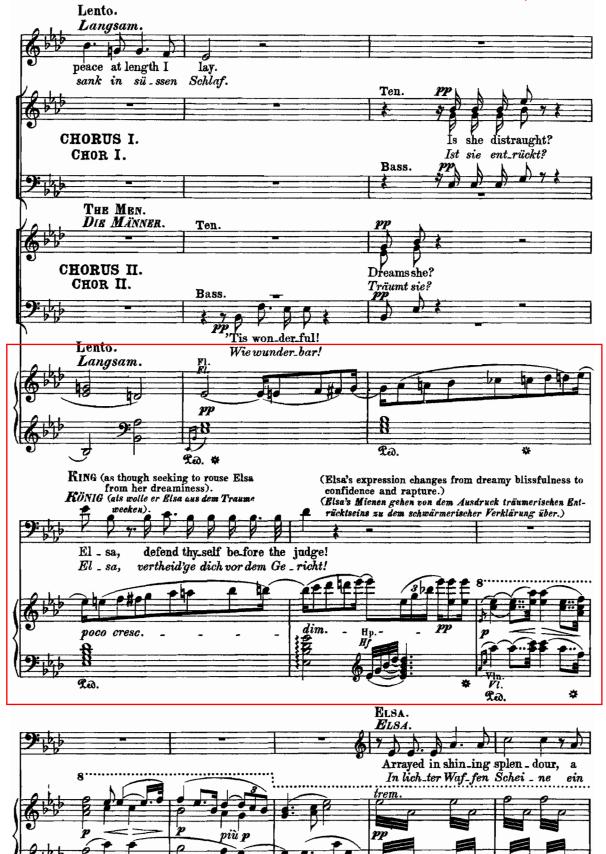










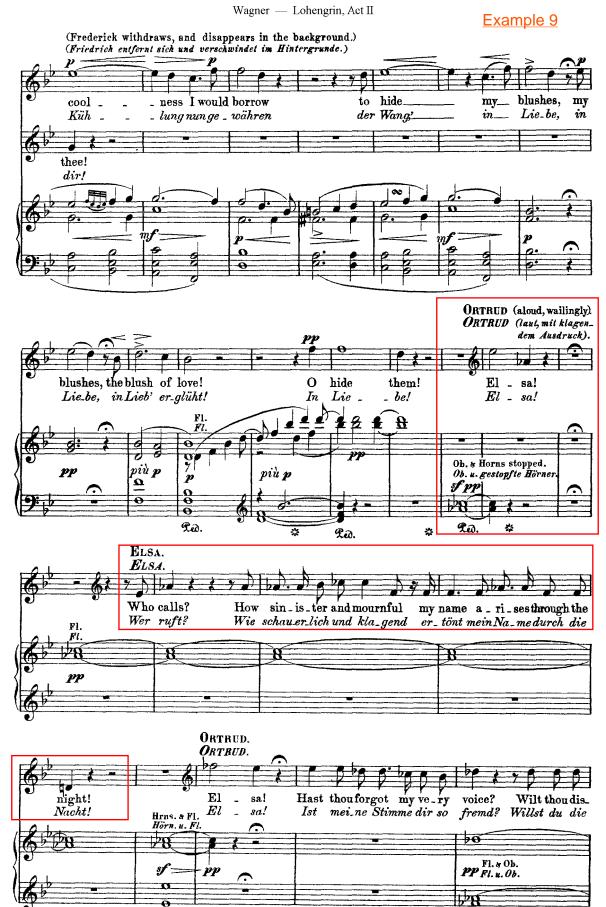


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