# Entropic Life - the Silent Path of Alice's Life in Alice in Bed

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**Abstract:** Susan Sontag, a preeminent female writer, claims to have spent her life preparing for Alice in Bed. This thesis applies the polytechnical term entropy to the interpretation of Alice's path to the silence of life. The thesis develops in three parts: the author and Alice in Bed, entropy, and the interpretation of Alice's path to the silence of life by using entropy.

## 1. Introduction

Susan Sontag is known as “the conscience of the American public” and her work covers a wide range of fields, including literature, culture, art, and photography. In 2000, she won the National Book Awards for her novel In America[1]. Although Alice in Bed is Sontag's only play, it’s unique and marvelous. Sontag mentions this in the note of the play, “I think I have been preparing to write Alice in Bed all my life”.

Alice was born in a distinguished family. Her two brothers, Henry, and William, are respectively famous novelist and psychologist. And Alice is an extremely intelligent female. The prototype of Alice is the sister of the famous novelist, Henry James. “The waters of depression closed over her head when she was nineteen, she tried to summon the courage to commit suicide, she suffered from a variety of vague and debilitating ailments she went abroad, she stayed in bed, she started a diary, she died … at forty-three”.

Susan describes it as “a play about women, about women's aguish and women's consciousness of self” [2]. Death (the silence of life) and women become the theme of the play.

## 2. Entropy

### 2.1 Entropy

Entropy is a thermodynamic concept, “denoted by the symbol S. Its physical meaning is a measure of the degree of disorder of a system” [3]. According to Clausius’ definition in1865, “the energy of the universe is constant and the entropy of the universe tends to a maximum. The living organism is not an isolated system, but an open system. And life processes are not the kind of entropic processes that spontaneously degenerate from order to disorder. On the contrary, they are vigorous and move from disorder to order. We need to minimize entropy if we want to maintain the vitality of our lives. This was Dinge Xue’s idea when he studied 'what life is': to get rid of death, to stay alive, we must think of reducing the entropy in living things” [4].

### 2.2 Thermal Entropy, Information Entropy and Living Organism

There is a certain correlation among thermal entropy, information entropy and living organism. And there is an inverse relationship between information entropy and thermal entropy.

“Information entropy: the basic role of information is to remove the uncertainty people have about things” [5]. Jun Li and his co-authors elaborated on the entropy concept of thermodynamic entropy, information entropy, and their relationship to living systems in their paper “Extension of the Entropy Concept-From Thermodynamic Entropy to Information Entropy”[6]. Deer Zeng also conveyed the similar idea in his “Information Entropy, Thermodynamic Entropy, and Their Relationship to Living Systems”.

“An increase in thermodynamic entropy is equal to a decrease in information, which in turn means that an increase in information is equal to a decrease in thermodynamic entropy…An

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increase in the amount of information inevitably leads to an increase in the degree of order, while the thermodynamic entropy of the system decreases; conversely, a decrease in the amount of information inevitably leads to a decrease in the degree of order, while the thermodynamic entropy of the system increases. Increasing the amount of information eliminates the degree of uncertainty in the system and reduces the thermodynamic entropy, so the information entropy, or the amount of information, is sometimes called negative entropy".

"The progression from disorder to order is even more evident when considering the growth and development of organisms, and the evolution of species. Dissipative structure theory suggests that living systems, through constant exchange of matter and energy with the outside world, generate a negative entropy flow in the dissipative process that transforms the disorderly state of living processes into a temporally, spatially, or functionally ordered state. The negative entropy flow in this dissipative structure is information entropy" [7].

The more thermal entropy there is, the lower the vitality of the living organism there would be. Only by lowering the entropy and increasing the negative entropy (information entropy) can the living organism flourish and thrive.

In short, if the information entropy increases and the thermal entropy decreases, the living individual will grow healthily; conversely, if the information entropy keeps decreasing and the thermal entropy keeps increasing, the living entity will develop in a disorderly direction and its vitality will decrease.

## 3. The Interpretation of Alice's Path to the Silence of Life by Using Entropy

In the play's note, Susan Sontag first mentions the protagonist of Woolf's A Room of One's Own, Judith Shakespeare. Sontag concludes that women's talents are neglected not because of a lack of encouragement, "Silent because of the way that women are defined and therefore, commonly, define themselves". (Sontag)These roles are labeled "For the obligation to be physically attractive and patient and nurturing and docile and sensitive and deferential to fathers (to brothers, to husbands) contradicts and must collide with the egocentricity and aggressiveness and the indifference to self that a large creative gift requires in order to flourish". (Sontag) All these assigned role characteristics contradict with women's innate talents, creating a series of contradictions and unresolved issues. These contradictions are highlighted in the main character of the play, Alice. They are the mysteries that she can never answer for herself on her way to the silent path of life. The information entropy in her life keeps decreasing and the thermal entropy keeps increasing, leading her life to a disorderly direction.

### 3.1 Decrease in Information Entropy and Increase in Thermodynamic Entropy

Because of Alice's illness, she spends most of her time in her room, lying in bed and recuperating. In Alice's relatively closed life system, the information entropy keeps decreasing and the thermal entropy keeps increasing, and finally she feels that the only way to reach certainty in the life system is ending her life. The decrease in information entropy, and the increase in thermal entropy can be mapped from the following two aspects: high physical entropic state and spiritual entropic process.

#### 3.1.1 High Physical Entropic State

Alice is the sister of the famous novelist Henry James. She was nineteen years old when she first had the thought of committing suicide. She suffered from physical pain for a long time. She died at the age of 43. In the play, Alice spends most of her time staying in her bedroom, lying in bed. Alice's life force is dwindling due to the torment of her illness. And Sontag indicates that Alice has a breast cancer. Although there are many servants taking care of her, her health deteriorates day by day due to the lack of effective medical treatment. This decrease in the information entropy (effective medical treatment) accelerates Alice's increase in thermal entropy and her physical decay.

#### 3.1.2 Spiritual Entropic Process

Alice wants to be approved by others. She searches for the meaning and certainty of life. She

turns to men and women (female ghosts), expecting to find resonance, but ultimately fails. The information entropy she needs to support a healthy life continues to decrease and the thermal entropy which puts disorder in life increases. Eventually the only certainty in life that she recognizes is death.

She first tries to find useful information entropy from her father.

Alice is gifted and has been favored by her father. Alice is eager to receive her father's approval and appreciation, hoping to get guidance (information entropy) from him. In the third act of the play, her father states that he has never kept her within bounds of the traditional female roles. He lets her use his study and treats her equally. He is confident that Alice has the talent and gifts of competing with males. Alice confides in her father that she has no willing to live and asks for the permission of committing suicide. Surprisingly, her father only requires that she can do this slowly without hurting others. Her father's disguised approval of Alice's suicidal thought becomes a propeller that increases disorder in Alice's life.

Then Alice turns to women (female ghosts) for exploring the certainty of life.

In the fifth act of the play, Alice conveys that she needs the advice from women. She attends a mad tea party which is like the one in Alice's Adventures in Wonderland. However, those present, Margaret Fuller, Emily Dickinson, Kundry and Myrtha are female ghosts. They were all quite extraordinary females. Margaret was an American female writer, feminist, and social reformer. Emily Dickinson was a legendary American poet whose talent was incomprehensible to her contemporaries. And Myrtha was “the Queen of the Wilis, a company of ghosts of young women, who betray in love, have die before their wedding day, from Act II of Giselle”. Kundry was “the bitter, guilt-ridden woman who wants to sleep”[2].Alice wants to discuss life and death with these remarkable female ghosts, hoping to get the information entropy that could sustain her life. Alice expresses that death is an intimate friend, whereas for Margaret, living is her hope and death is very heavy. Emily leaves midway to heal her pain. Emily's understanding of death is bridle. The arrival of Alice’s mother's spirit disturbs Alice greatly. But her mother ends up leaving hastily because she can't grab a seat besides sleepy Kundry. Wounded by love, Myrtha feels that Alice must been wounded by a man. The only way to free Alice from the horror of seeing things when she closes her eyes is death. This tea party does not increase information entropy and fails quelling Alice's longing for death.

## 4. Conclusion

Physics Nobel laureate Erwin Schrödinger noted that “Only by constantly drawing negative entropy from its environment can it avoid death and remain alive”[8]. The decrease in information entropy and the increase in thermal entropy, lead to Alice’s physical and mental exhaustion, and ultimately get her to a silent path of life, death.

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