Alice's Cognitive Journey: A Piagetian Analysis of Reasoning in *Alice's Adventures in Wonderland*

Prepared by
Maryam Azzam Ismael
A research paper submitted to the Faculty of Arts, Mansoura University for the requirements of MA degree in Literature

Supervised by

Prof. Asmaa Alsherbiny	**Prof. Rehab Farouk Gad**
Professor of Literature	Professor of Linguistics
Faculty of Arts	Faculty of Arts
Mansoura University	Mansoura University

Abstract

Alice's identity in *Alice's Adventures in Wonderland* has been reinterpreted across various adaptations, each reflecting shifting cultural, literary, and psychological paradigms. This study discusses and analyzes some selected textual examples from Lewis Carroll's *Alice's Adventures in Wonderland* to illustrate the protagonist's cognitive development through the lens of Jean Piaget's theory of *Cognitive Development*. Focusing on Alice's persistent questioning and her attempts to apply logical reasoning within the nonsensical environment of Wonderland, the examples shed light on the main characteristics of the transition between Piaget's Preoperational and Concrete Operational stages. Instances examined include Alice's efforts to apply learned concepts, her challenges to arbitrary rules and illogical events, her struggles with identity amidst constant change, and her developing ability to test reality. Collectively, the analysis proposed in this study attempts to demonstrate how Alice's interactions showcase the cognitive dissonance and growth associated with a child grappling with emerging logical thought while navigating a world that defies conventional rules and reason.

رحلة أليس المعرفية: تحليل التفكير في رواية لويس كارول من خلال نظرية "تطور الأدراك" لجين بياجيه

الملخص

أُعيد تفسير هوية أليس في *مغامرات أليس في بلاد العجائب* عبر العديد من التكييفات، حيث تعكس كل منها تحولات في السياقات الثقافية والأدبية والنفسية. و من ثم يناقش هذا البحث بعض الأمثلة النصية المختارة من رواية لويس كارول *مغامرات أليس في بلاد العجائب* لتحليل التطور الإدراكي للبطلة من خلال نظرية جان بياجيه للتطور المعرفي. ويركز البحث على تساؤلات أليس المستمرة ، ومحاولاتها لتطبيق المنطق في بيئة بلاد العجائب العبثية، حيث تسلط هذه الأمثلة الضوء على السمات الرئيسية للانتقال بين مرحلتي ما قبل العمليات والعمليات الملموسة وفقًا لنموذج بياجيه. وتشمل الحالات المدروسة جهود أليس في تطبيق المفاهيم المكتسبة، وتحديها للقواعد التعسفية والأحداث غير المنطقية، وصراعاتها مع الهوية وسط التحولات المستمرة، وقدرتها المتنامية على اختبار الواقع. ومن خلال هذا التحليل، يسعى البحث إلى إظهار التنافر المعرفي والتطور الإدراكي ، اللذين يعكسان صراع الطفل مع الفكر المنطقي الناشئ أثناء محاولته فهم عالم يتحدى القواعد والمنطق التقليدي.

الكلمات المفتاحية: التنافر المعرفي؛ علم النفس السردي؛ ما بعد الحداثة؛ السرديات الإدراكية؛ *مغامرات أليس في بلاد العجائب*

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1. Introduction

This study pursues how Alice's identity evolves across various adaptations, comparing her characterization in Lewis Carroll's original novel to different films, TV shows, and stage productions. The study proposes an overview of *Alice's Adventures in Wonderland* by Lewis Carroll and the importance of Alice's identity in the novel. It also examines Purpose how Alice's character evolves in different adaptations.

In the original text, Carroll presents Alice's identity as curious, logical and questioning authority. The main focus is on the psychological and philosophical interpretations of her journey and the Victorian influences on Alice's character and behavior. However, in classic film and TV adaptations such as Disney's 1951 animated *Alice in Wonderland*, Alice was represented as passive, not agent and whimsy, not logic.

In the BBC adaptations (1972, 1986), Alice's character was portrayed as faithful, reflecting wonder and confusion. This highlights a kind of contrast in Alice's independence and engagement with Wonderland's logic. As for modern reinterpretations, Tim Burton's 2010 *Alice in Wonderland* presented Alice as a stronger agent and a reflection of feminist themes. The TV series *Once Upon a Time in Wonderland, Syfy's Alice*, have presented some dark interpretations with more psychological depth. In conclusion, contemporary culture has actually reshaped Alice's identity: from passive observer to proactive heroine.

2. Alice's Psychological Journey through Piaget's Lens: Questioning and Logic

In this section, Alice's psychological journey through Jean Piaget's theory of *cognitive development*—her questioning and logical thinking align with children's growing awareness of reality are discussed.

This analysis explores the psychological journey of Alice in Lewis Carroll's *Alice's Adventures in Wonderland*, specifically through the framework of Jean Piaget's theory of cognitive development. Alice, often interpreted as being around seven years old, navigates Wonderland while exhibiting cognitive characteristics typical of the transition between Piaget's Preoperational and Concrete Operational stages. Her persistent questioning of the illogical events and characters she encounters, alongside her attempts to apply logical reasoning, provides a rich text for examining this developmental phase.

- **2.1 Piaget's Stages and Alice's Transition**

Jean Piaget proposed that children actively construct their understanding of the world through distinct developmental stages (Verywell Mind, 2024; Simply Psychology, 2025). The period relevant to Alice involves moving from preoperational thought, characterized by egocentrism and intuitive reasoning, towards concrete operational thought, where logic begins to apply to tangible experiences.

The Preoperational Stage (Approx. Ages 2-7) is marked by symbolic thought and language development, but thinking remains intuitive and often illogical by adult standards. Key features include egocentrism (difficulty seeing others' perspectives), centration (focusing on one aspect of a situation), and a lack of conservation (understanding that quantity remains the same despite changes in appearance) (Simply Psychology, 2025; Verywell Mind, 2024).

The Concrete Operational Stage (Approx. Ages 7-11) sees the emergence of logical thought applied to concrete events. Children develop decentration (considering multiple aspects), conservation, reversibility (mentally undoing actions), and a reduced egocentrism, allowing them to better understand others' viewpoints and apply logical principles like

classification (Verywell Mind, 2024; Simply Psychology, 2025). Their grasp of reality versus fantasy becomes firmer.

Alice's experiences in Wonderland continually challenge her developing cognitive structures, forcing her to confront the discrepancies between her understanding of the world and the nonsensical reality she faces.

2.2 Textual Examples and Piagetian Analysis

1. **Applying Learned Concepts (Chapter I):** Falling down the rabbit hole, Alice tries to apply schoolroom knowledge:

"'I wonder how many miles I've fallen by this time?' she said aloud. 'I must
be getting somewhere near the centre of the earth. Let me see: that would be four thousand miles down, I think—' ... '—yes, that's about the right distance—but then I wonder what Latitude or Longitude I've got to?' (Alice had no idea what Latitude was, or Longitude either, but thought they were nice grand words to say.)"
  (Carroll, Ch. I).

Alice attempts to use learned, abstract concepts (distance, geography) in a novel situation, reflecting the emerging ability for logical application seen in the Concrete Operational stage (Verywell Mind, 2024). However, her confusion about latitude and longitude shows the limits of this developing stage, where abstract concepts are not yet fully grasped (Simply Psychology, 2025). Her consideration for not dropping the marmalade jar ("she did not like to drop the jar for fear of killing somebody underneath") also shows developing logical consequence and reduced egocentrism (Carroll, Ch. I; Simply Psychology, 2025).

2. **Questioning Logic and Rules (Chapter III & VII):** Alice frequently encounters situations where rules are arbitrary or nonsensical, prompting her to question them based on her own developing logic.

The Caucus Race: Alice finds the race "very absurd" but conforms socially until the illogical conclusion: "'Everybody has won, and all must have prizes'" (Carroll, Ch. III).

Her internal judgment clashes with the group's acceptance, highlighting her growing sense of logical consistency expected in the Concrete Operational stage (Simply Psychology, 2025).

The Mad Tea-Party: Alice logically objects to being offered more tea when she's had none: "'I've had nothing yet,' Alice replied in an offended tone, 'so I can't take more.'" The Hatter's response, twisting logic ("'You mean you can't take less... it's very easy to take more than nothing'"), directly confronts Alice's concrete operational attempt to apply rules to quantity and language (Carroll, Ch. VII; Verywell Mind, 2024).

3. **Struggles with Identity and Abstract Thought (Chapter V):** The Caterpillar's blunt question, "'Who are you?'", throws Alice into confusion:

"Alice replied, rather shyly, 'I—I hardly know, Sir, just at present—at least I know who I was when I got up this morning, but I think I must have been changed several times since then.' ... 'I can't explain myself, I'm afraid, Sir,' said Alice, 'because I'm not myself, you see.'" (Carroll, Ch. V).

Alice's struggle reflects the challenge rapid physical changes pose to a stable sense of self, a concept still solidifying during the transition to concrete operations. Her attempt to logically explain her feeling ("because I'm not myself") demonstrates reasoning, but the abstract nature of identity proves difficult to articulate, a common feature before the Formal Operational stage (Simply Psychology, 2025; Verywell Mind, 2024).

4. **Confronting Arbitrary Authority and Reality Testing (Chapter VIII):** In the Queen's Croquet Ground, the rules are nonsensical (flamingo mallets, hedgehog balls). Alice initially tries to adapt but eventually rejects the absurdity:

"'Off with her head!' the Queen shouted... 'Who cares for you?' said Alice, (she had grown to her full size by this time.) 'You're nothing but a pack of cards!'" (Carroll, Ch. VIII).

This climax shows Alice asserting her own logic and reality testing against the illogical and arbitrary authority of the Queen. Recognizing the characters as "nothing but a pack of cards" signifies a stronger grasp of reality and the ability to evaluate the situation based on concrete

evidence, characteristic of a more solidified Concrete Operational perspective (Verywell Mind, 2024; Simply Psychology, 2025).

In sum, Alice's journey through Wonderland serves as a compelling narrative illustration of a child navigating the cognitive shifts between Piaget's Preoperational and Concrete Operational stages. Her constant questioning, attempts to apply logic, frustration with inconsistency, and eventual assertion of reality demonstrate the dynamic process of developing logical thought and differentiating fantasy from the concrete world. *Wonderland*, in its absurdity, acts as a catalyst, pushing Alice to test and refine her understanding of rules, identity, and reality itself.

3. Examples of Alice's Questioning and Logic (Piagetian Lens)

The following examples from Lewis Carroll's *Alice's Adventures in Wonderland* illustrate Alice's cognitive development, particularly her questioning and attempts at logical reasoning, interpreted through Jean Piaget's theory.

1. Down the Rabbit-Hole (Chapter I): Applying Learned Concepts & Questioning Physics

"'I wonder how many miles I've fallen by this time?' she said aloud. 'I must be getting somewhere near the centre of the earth. Let me see: that would be four thousand miles down, I think—' (for, you see, Alice had learnt several things of this sort in her lessons in the schoolroom... still it was good practice to say it over) '—yes, that's about the right distance—but then I wonder what Latitude or Longitude I've got to?' (Alice had no idea what Latitude was, or Longitude either, but thought they were nice grand words to say.)"

Piagetian Connection: This shows Alice attempting to apply learned, abstract concepts (distance, earth's center, latitude/longitude) to her current, bizarre situation. While her understanding is incomplete (mixing up terms, unsure of concepts), it reflects the Concrete Operational stage's emerging ability to use logic and learned rules, even if misapplied. Her self-correction and awareness that she doesn't fully understand latitude/longitude also hint at developing metacognition.

"She took down a jar from one of the shelves as she passed; it was labelled 'ORANGE MARMALADE', but to her great disappointment it was empty: she did not like to drop the jar for fear of killing somebody underneath, so managed to put it into one of the cupboards as she fell past it."

Piagetian perspective: This demonstrates emerging logical consequence (dropping jar = potential harm) and social consideration, characteristic of moving beyond pure egocentrism towards Concrete Operational thought.

2. The Pool of Tears (Chapter II): Size Constancy & Emotional Reasoning

"'I wish I hadn't cried so much!' said Alice, as she swam about, trying to find her way out. 'I shall be punished for it now, I suppose, by being drowned in my own tears! That will be a queer thing, to be sure! However, everything is queer to-day.'"

Piagetian perspective: Alice connects her action (crying) to a consequence (drowning in tears). While the situation is fantastical, her attempt to establish cause-and-effect, even based on the absurd reality she's in, shows developing logical thought. Her acceptance of the 'queerness' reflects an attempt to adapt her understanding of reality. The struggle with rapid size changes throughout this chapter also challenges her understanding of conservation (Preoperational difficulty).

3. A Caucus-Race and a Long Tale (Chapter III): Questioning Rules & Fairness

"Alice thought the whole thing very absurd, but they all looked so grave that she did not dare to laugh... At last the Dodo said, 'Everybody has won, and all must have prizes.' 'But who is to give the prizes?' quite a chorus of voices asked. 'Why, she, of course,' said the Dodo, pointing to Alice... Alice had no idea what to do..."

Piagetian perspective: Alice recognizes the absurdity of the race (no clear start, finish, or rules) but conforms socially. The Dodo's illogical conclusion (everybody has won) challenges Alice's developing sense of fairness and logic, typical of the Concrete Operational stage where rules become important.

4. Advice from a Caterpillar (Chapter V): Identity & Abstract Thought

"The Caterpillar and Alice looked at each other for some time in silence: at last the Caterpillar took the hookah out of its mouth, and addressed her in a languid, sleepy voice. 'Who are you?' said the Caterpillar. This was not an encouraging opening for a conversation. Alice replied, rather shyly, 'I—I hardly know, Sir, just at present—at least I know who I was when I got up this morning, but I think I must have been changed several times since then.'"

Piagetian perspective: Alice's confusion about her identity, exacerbated by her physical changes, reflects a struggle with the concept of self-constancy. While identity formation is more central to Erikson's theories, within Piaget's framework, this instability challenges the stable schemas expected in the Concrete Operational stage. Her attempt to logically explain her confusion ("changed several times") shows her reasoning process.

"'Explain yourself!' 'I can't explain myself, I'm afraid, Sir,' said Alice, 'because I'm not myself, you see.' 'I don't see,' said the Caterpillar."

Piagetian perspective: Alice attempts a logical explanation based on her subjective experience, but the Caterpillar's literal interpretation highlights the communication breakdown often seen when preoperational (or Wonderland-logic) meets emerging concrete operational thought. Alice struggles to articulate an abstract sense of self.

5. Pig and Pepper (Chapter VI): Cause/Effect & Social Rules

"'Please would you tell me,' said Alice, a little timidly, 'why your cat grins like that?' 'It's a Cheshire cat,' said the Duchess, 'and that's why. Pig!'"

Piagetian perspective: Alice seeks a logical cause-and-effect explanation for the cat's grin. The Duchess provides a tautological, nonsensical answer ("It's a Cheshire cat, and that's why"), frustrating Alice's attempt at reasoning. This interaction highlights the clash between Alice's search for logical consistency (Concrete Operational) and the arbitrary nature of Wonderland.

6. A Mad Tea-Party (Chapter VII): Logic, Rules & Time

"'Take some more tea,' the March Hare said to Alice, very earnestly. 'I've had nothing yet,' Alice replied in an offended tone, 'so I can't take more.' 'You mean you can't take less,' said the Hatter: 'it's very easy to take more than nothing.'"

Piagetian perspective: Alice applies logical rules of language and quantity ("can't take more" if one had none). The Hatter twists the logic, playing on the literal meaning. This exemplifies Alice's Concrete Operational attempt to impose logical structure on language, clashing with the party's disregard for conventional rules.

(Regarding the watch that tells the day of the month) "'Which is wrong?' Alice inquired meekly. 'It tells the day of the month, and doesn't tell what o'clock it is!' 'Why should it?' muttered the Hatter. 'Does your watch tell you what year it is?' 'Of course not,' Alice replied very readily: 'but that's because it stays the same year for such a long time together.' 'Which is just the case with mine,' said the Hatter."

Piagetian perspective: Alice questions the function of the watch based on conventional understanding (watches tell time). The Hatter uses flawed analogical reasoning. Alice identifies the flaw in his logic initially but gets confused by his nonsensical justification, showing the limits of her concrete operational reasoning when faced with deliberate absurdity.

7. The Queen's Croquet-Ground (Chapter VIII): Arbitrary Rules & Moral Reasoning

"Alice thought she had never seen such a curious croquet-ground in her life; it was all ridges and furrows; the balls were live hedgehogs, the mallets live flamingoes, and the soldiers had to double themselves up and stand on their hands and feet, to make the arches... Alice's chief difficulty was in managing her flamingo..."

Piagetian perspective: Alice observes the complete lack of consistent rules and the absurdity of the game's components. Her attempts to play signify an effort to understand and operate within this illogical system, a hallmark of trying to apply concrete operational strategies (following rules, achieving goals) in a preoperational-like environment where rules are fluid and nonsensical.

"'Off with her head!' the Queen shouted at the top of her voice. Nobody moved. 'Who cares for you?' said Alice, (she had grown to her full size by this time.) 'You're nothing but a pack of cards!'"

Piagetian perspective: This marks a significant shift. Alice, having regained her normal size (and perhaps cognitive stability), finally rejects the illogical authority and arbitrary cruelty of the Queen. She asserts her own sense of reality and logic ("nothing but a pack of cards"), demonstrating a firmer grasp characteristic of the Concrete Operational stage, where reality testing becomes more robust and she can challenge the fantasy.

Conclusion

The present paper attempted to highlight Alice's cognitive ascent through the looking glass of Piaget. It claimed that Alice's tumultuous journey through the bewildering landscape of Wonderland serves as a remarkably vivid narrative portrayal of cognitive development, specifically mirroring the critical transition between Jean Piaget's Preoperational and Concrete Operational stages. Far from being a passive observer, Alice actively engages with the illogicalities of Wonderland, employing her burgeoning reasoning skills to question, analyze, and attempt to impose order on the chaos. Her persistent inquiries into the arbitrary rules, nonsensical pronouncements, and fluid nature of identity and physical form are not mere expressions of confusion; they are manifestations of a mind striving towards logical consistency and a stable understanding of reality, hallmarks of the Concrete Operational stage.

Throughout her adventures, Alice consistently demonstrates the application of emerging logical principles, drawing upon her schoolroom learning and innate sense of cause-and-effect, even when Wonderland's physics and social norms defy such reasoning Her attempts to understand distances while falling, her objections to the Mad Tea Party's linguistic and quantitative absurdities, and her search for fairness in the Caucus Race all point to a cognitive framework moving beyond the purely intuitive and egocentric perspective of the Preoperational stage. She actively tests hypotheses, seeks explanations, and evaluates situations based on her developing understanding of how the world should work,

showcasing the active construction of knowledge central to Piaget's theory.

However, Alice's journey is equally defined by the limitations inherent in this transitional phase. Her struggles with abstract concepts, particularly the notion of a stable identity amidst constant physical transformation, underscore the challenges faced before the consolidation of concrete operational thought and the later emergence of formal operational reasoning. Wonderland, in its relentless absurdity, acts as both a foil and a catalyst. It relentlessly challenges her existing schemas, pushing the boundaries of her understanding and forcing her to confront the dissonance between her internal logic and external chaos. This very struggle, this cognitive friction, fuels her development, compelling her to refine her reality testing and strengthen her logical faculties.

The culmination of Alice's cognitive journey within the narrative – her ultimate rejection of the Queen's arbitrary authority and her declaration that the court is "nothing but a pack of cards" – represents a significant developmental milestone. It signifies not just a return to her physical size, but a cognitive assertion of her own, more stable grasp of reality. She moves from bewildered participant to critical evaluator, capable of distinguishing the fantastical from the concrete and imposing her own logical framework onto the situation. Therefore, Alice's Adventures in Wonderland, when viewed through a Piagetian lens, transcends simple fantasy; it becomes a compelling allegory for the intellectual growing pains and ultimate triumphs of a child navigating the complex passage towards logical thought and a coherent understanding of the world.

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