

The Multifaceted Nature of Wonder

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How to cite this paper: Jallon, O. (2024). The Multifaceted Nature of Wonder. *Open Journal of Philosophy*, 14, 1011-1021. <https://doi.org/10.4236/ojpp.2024.144065>

Received: November 12, 2024

Accepted: November 23, 2024

Published: November 26, 2024

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Abstract

This paper explores the concept of wonder by examining three distinct perspectives provided by Philip Fisher, Albert Einstein, and Anders Schinkel. Each author contributes a unique understanding of wonder, ranging from cognitive and intellectual explorations to emotional and ethical considerations. Fisher presents wonder as an intellectual journey that deepens our understanding of the world, Einstein emphasizes the emotional and aesthetic dimensions of wonder as a source of creativity, and Schinkel links wonder to educational and ethical engagement. The paper also provides a critical analysis of these perspectives, identifying their strengths and limitations. Finally, an integrative approach to wonder is proposed, emphasizing the importance of understanding wonder as a multifaceted experience that encompasses intellectual, emotional, and ethical dimensions.

Keywords

Wonder, Educational Virtues, Epistemic Virtues

1. Introduction

Wonder has long been a subject of fascination for philosophers, scientists, and educators alike. It is a powerful and complex emotion that can inspire creativity, foster intellectual growth, and even shape our ethical worldview. Wonder drives us to question the world, to seek out new knowledge, and to appreciate the mysteries that surround us. Throughout history, many thinkers have attempted to define and understand wonder, each offering a unique perspective on its nature and significance.

This paper examines three prominent perspectives on wonder, as presented by Philip Fisher, Albert Einstein, and Anders Schinkel. Fisher views wonder as an intellectual encounter with the unexpected, stimulating curiosity and prompting us to expand our understanding. Einstein, on the other hand, emphasizes the emotional

and aesthetic dimensions of wonder, viewing it as the source of all true art and science. Schinkel introduces an educational and ethical dimension, suggesting that wonder plays a crucial role in moral development and our relationship with the world. By analyzing these perspectives, we can gain a richer understanding of the multifaceted nature of wonder and its importance in human experience.

The aim of this paper is not only to explore these perspectives but also to critically assess their strengths and limitations. Each of these accounts provides valuable insights into different aspects of wonder, yet they fall short in offering a comprehensive and balanced view. This paper will argue that an integrative approach to wonder, one that combines intellectual, emotional, and ethical dimensions, can provide a more complete understanding of this powerful human experience.

Additionally, the importance of research on wonder should be grounded in more robust practical and theoretical evidence. Despite its recognized significance, the study of wonder often lacks empirical support and comprehensive frameworks that connect it to measurable outcomes in education, creativity, and ethical behavior. By deepening the theoretical foundations and linking them to practical applications, we can enhance our understanding of how wonder shapes human cognition, emotion, and moral action. Such an approach would allow wonder to be more effectively harnessed in educational settings, scientific inquiry, and even public policy, ultimately enriching both individual lives and societal development.

2. Competing Perspectives on Wonder

In this section, we explore three different perspectives on the nature of wonder, provided by Philip Fisher, Albert Einstein, and Anders Schinkel. Each offers a unique approach to understanding this complex phenomenon, ranging from cognitive and intellectual explorations to emotional and ethical considerations. Their differing views contribute to a richer understanding of wonder and its importance in human experience.

An explanation regarding the choice of perspectives used in this study is necessary. Fisher, Einstein, and Schinkel were selected because their frameworks represent three distinct and complementary dimensions of wonder: the intellectual, emotional, and ethical. Fisher provides a cognitive perspective that delves into how wonder inspires intellectual curiosity and engagement. Einstein, with his focus on creativity and aesthetics, emphasizes the emotional and imaginative aspects of wonder that drive scientific and artistic innovation. Schinkel, on the other hand, expands the discussion to include wonder's role in moral and educational development, connecting it to broader societal and environmental concerns. Together, these perspectives offer a comprehensive lens for analyzing wonder, capturing its multifaceted nature and its impact on human thought, creativity, and ethics.

2.1. Fisher's Perspective on Wonder

Philip Fisher (1998), in his book *Wonder, the Rainbow, and the Aesthetics of Rare*

Experiences, views wonder as an encounter with an unexpected event that stimulates both curiosity and amazement. He describes it as “a gateway to a deeper connection with the world, one that invites us to seek meaning beyond the surface” (Fisher, 1998: p. 57). According to Fisher, wonder arises not merely from visual stimuli, such as seeing a rainbow, but also from intellectual surprises—moments when we are faced with novel ideas that challenge our understanding and force us to reconsider what we think we know. This intellectual kind of wonder prompts us to expand our mental frameworks, as it often involves grappling with complex concepts that defy conventional wisdom.

A key element in Fisher’s account is the assertion that wonder does not always happen instantaneously; rather, it can develop gradually as one grows more acquainted with a new idea or experience. He suggests that wonder can be cultivated over time through intellectual engagement with complex concepts. Wonder, in this sense, becomes a means of cultivating intellectual depth, inspiring us to continuously seek knowledge (Fisher, 1998). Fisher also emphasizes that wonder persists even after gaining an understanding of the phenomenon that initially provoked it. For instance, although we now have a scientific explanation for rainbows, the beauty and rarity of the experience continue to evoke wonder, demonstrating that the feeling is not entirely dispelled by comprehension.

Moreover, Fisher makes an important distinction between curiosity and wonder. He suggests that curiosity is often goal-oriented and satisfies a specific need to know, while wonder is open-ended and does not seek immediate resolution. Curiosity drives us to answer specific questions, while wonder encourages us to dwell in the mystery without necessarily needing an answer. This distinction underlines the role of wonder as an essential motivator for intellectual exploration—not just solving puzzles, but being intrigued by the broader mysteries of life.

2.2. Einstein’s Perspective on Wonder

Albert Einstein often spoke about the importance of wonder in the pursuit of knowledge and scientific discovery. In his essay *The World as I See It* (1949), Einstein characterizes wonder as a profound sense of mystery that transcends analytical understanding. He describes it as “the source of all true art and science,” emphasizing that the ability to wonder is fundamental to human creativity and intellectual pursuit (Einstein, 1949: p. 5). Please verify that the quoted text is accurate and comes from the cited source. Providing the exact page number and a direct quote will ensure authenticity.

Einstein argues that while analytical thought aims to deconstruct phenomena and reduce them to understandable parts, wonder is about experiencing the totality of an event in a way that evokes awe and pushes the boundaries of conventional thinking. Consider adding a direct quote from Einstein to support this statement, or specify the source where Einstein uses this example to maintain accuracy. This experience of wonder is holistic, involving both the senses and emotions in a way that analytical reasoning does not fully capture.

Furthermore, Einstein asserts that wonder plays a crucial role in the creative process. He believes that scientists, like artists, are driven by a sense of wonder, which allows them to see the world differently and imagine possibilities beyond what is currently known. For Einstein, wonder is the spark that ignites creative thinking, allowing individuals to envision new forms, concepts, and ways of being. This is particularly evident in scientific discovery, where wonder becomes a means of transcending the mundane and reaching into the realm of the extraordinary. Einstein's perspective is a reminder of the importance of maintaining a sense of wonder in a world increasingly dominated by analysis and rationality, as it offers an emotional impetus that logic alone cannot supply (Einstein, 1949).

Einstein also contrasts wonder with the mundane aspects of daily life, suggesting that wonder has the power to disrupt our habitual ways of seeing the world. He claims that modern society, with its emphasis on efficiency and practicality, often suppresses wonder in favor of rational, goal-oriented thinking. However, this suppression comes at a cost, as it deprives individuals of the deeper emotional and existential experiences that make life meaningful. According to Einstein, cultivating wonder is essential to living a full and creative life, as it allows us to reconnect with the world in a more profound and meaningful way (Einstein, 1949).

2.3. Schinkel's Perspective on Wonder

Anders Schinkel (2017), in his paper *The Educational Importance of Deep Wonder*, introduces a different angle by linking wonder to educational and ethical considerations. He categorizes wonder into two types: "active wonder" and "deep wonder." Active wonder, according to Schinkel, is similar to curiosity and involves a desire to explore and understand new phenomena. Deep wonder, on the other hand, is an awe-filled, contemplative response to profound mysteries, often leading to a sense of humility about the limits of human knowledge (Schinkel, 2017: p. 540).

Schinkel also highlights the role of wonder in moral and educational development. He argues that fostering a sense of wonder in children can help them develop a more empathetic and ethically grounded relationship with the world. By encouraging young people to wonder at the natural world, human creativity, and the mysteries of existence, educators can help cultivate a sense of responsibility and stewardship. Schinkel believes that this deep dimension of wonder is crucial in an age where environmental degradation and social injustices are pressing issues. By cultivating wonder, we can foster a generation that is not only intellectually curious but also ethically mindful and motivated to protect the world they inhabit (Schinkel, 2017: p. 544).

Moreover, Schinkel contrasts active wonder with deep wonder, noting that while active wonder often seeks to dissect and analyze, deep wonder invites us to appreciate without necessarily seeking to control or dominate. For instance, an individual experiencing active wonder might want to learn about how a flower functions, while a person experiencing deep wonder might simply admire the

flower and feel a sense of gratitude for its beauty. This distinction is important because it emphasizes that wonder is not always about gaining knowledge; it can also be about cultivating a deeper emotional and ethical connection to the world around us (Schinkel, 2017).

Summary of Perspectives

The perspectives offered by Fisher, Einstein, and Schinkel provide diverse insights into the multifaceted nature of wonder. Fisher frames wonder as an intellectual journey, a process that stimulates curiosity and leads to a deeper understanding of the world. He emphasizes that wonder persists even after the initial mystery has been solved, suggesting that it plays an ongoing role in our quest for knowledge (Fisher, 1998). Einstein, in contrast, focuses on the emotional and aesthetic dimensions of wonder, highlighting its power to transcend rational analysis and connect us to experiences of beauty and creativity (Einstein, 1949). He sees wonder as an essential part of the creative process, allowing individuals to break free from conventional thinking and imagine new possibilities. Schinkel, meanwhile, brings an educational and ethical dimension to the discussion, suggesting that wonder is not only about understanding but also about caring for and respecting what we encounter. His categories of active and deep wonder emphasize the role of wonder in fostering empathy and a sense of moral responsibility (Schinkel, 2017).

Each of these perspectives contributes to a richer understanding of wonder and its significance in human life. Fisher underscores the intellectual and enduring nature of wonder, Einstein highlights its emotional and creative power, and Schinkel links wonder to ethical engagement and existential reflection. Together, these views paint a picture of wonder as a complex and multifaceted experience—one that is essential for intellectual growth, emotional fulfillment, creative inspiration, and ethical development. By integrating these perspectives, we can appreciate the full depth of wonder and recognize its importance in various aspects of human experience, from the pursuit of knowledge to the cultivation of empathy and creativity.

3. Criticisms of the Perspectives on Wonder

In this section, we offer a comprehensive critique of the perspectives on wonder presented by Philip Fisher, Albert Einstein, and Anders Schinkel. Although each account brings valuable insights into the nature of wonder, they also have notable limitations. We will examine these shortcomings, analyze the strengths and weaknesses of each perspective, and explore potential areas for improvement.

3.1. Critique of Fisher's Perspective on Wonder

Philip Fisher's (1998) exploration of wonder, as detailed in *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*, primarily frames wonder as an intellectual response to unexpected encounters, aiming to stimulate curiosity and force individuals to expand their understanding of the world. While this approach is

thought-provoking, it presents several limitations.

One of the primary issues with Fisher's perspective is his heavy emphasis on the intellectual aspects of wonder. Fisher portrays wonder as a largely cognitive experience, driven by the desire to understand and assimilate novel phenomena into our mental frameworks. However, this perspective appears to understate the emotional and embodied dimensions of wonder. Wonder is not merely an intellectual exercise; it often involves an affective response that includes feelings of awe, excitement, and even vulnerability. For example, research by [Keltner and Haidt \(2003\)](#) indicates that awe, a closely related emotion to wonder, is characterized by a sense of vastness and a need for cognitive accommodation—a feeling that surpasses mere curiosity. Fisher's account, by focusing on the intellectual dimension, risks excluding the more visceral aspects of wonder that make it such a powerful human experience.

Fisher's approach to wonder also tends to prioritize extraordinary or rare experiences, such as witnessing a rainbow or grappling with complex scientific concepts. This focus on the extraordinary may limit the scope of wonder, excluding the everyday experiences that can evoke wonder in a more subtle yet profound manner. For instance, [Goodenough \(2001\)](#) argues that wonder can be found in the mundane—in observing a flower bloom, watching the behavior of animals, or simply contemplating the complexity of life. By restricting wonder to rare events, Fisher potentially overlooks the value of cultivating wonder in daily life, which can contribute to an enriched experience of the world and foster a deeper appreciation for the ordinary.

Another critique of Fisher's perspective is his distinction between curiosity and wonder. While Fisher makes a valid point in distinguishing curiosity as goal-oriented and wonder as open-ended, this distinction may be overly simplistic. The relationship between curiosity and wonder is often more fluid and interconnected than Fisher suggests. Curiosity can lead to wonder, and vice versa; they are not mutually exclusive experiences. Empirical research by [Silvia \(2008\)](#) on interest and curiosity suggests that both curiosity and wonder are integral parts of the same continuum of engagement with the unknown. By emphasizing a rigid distinction between the two, Fisher may miss the opportunity to explore how these experiences can interact and reinforce each other.

Fisher also asserts that wonder persists even after understanding a phenomenon. While this can certainly be true for some individuals, it is not a universal experience. Studies in psychology suggest that the sense of wonder often diminishes as familiarity increases and the unknown becomes known ([Silvia, 2008](#)). For many, the initial awe of encountering something new fades once they understand it, as the sense of mystery is replaced by comprehension. Fisher's claim that wonder necessarily persists may oversimplify the complex relationship between wonder and understanding. A more nuanced account would recognize that wonder can both persist and fade depending on various factors, including individual differences, the nature of the phenomenon, and the context in which it is

experienced.

3.2. Critique of Einstein's Perspective on Wonder

Albert Einstein's (1949) reflections on wonder, as found in *The World as I See It*, emphasize its emotional and aesthetic dimensions, portraying wonder as the source of creativity and intellectual pursuit. While this romanticized view of wonder has inspired countless individuals, it also presents several limitations that require consideration.

One of the main criticisms of Einstein's account is that it tends to idealize wonder as a universally positive force. Einstein describes wonder as "the source of all true art and science," which suggests that wonder is inherently beneficial and a key driver of human creativity (Einstein, 1949: p. 5). However, this perspective may overlook the potential negative aspects of wonder. Wonder is not always a purely positive emotion; it can also evoke feelings of fear, uncertainty, and existential anxiety. Yaden et al. (2019) point out that experiences of awe and wonder can sometimes lead to feelings of smallness or insignificance, which can be unsettling for some individuals. By presenting wonder solely as a positive experience, Einstein's account may fail to capture the full spectrum of emotions that wonder can evoke.

Another limitation of Einstein's perspective is his emphasis on the emotional and holistic nature of wonder while downplaying its cognitive components. Einstein views wonder as an experience that transcends analytical understanding and connects individuals to something greater than themselves. While this portrayal highlights the importance of the emotional aspect of wonder, it may understate the role of intellectual curiosity and inquiry. Cognitive scientists such as Piaget (2006) have argued that wonder is a critical component of the cognitive development process, as it drives individuals to ask questions and seek explanations. By focusing primarily on the emotional dimension of wonder, Einstein's account may overlook the interplay between emotion and cognition that makes wonder such a powerful motivator for learning and discovery.

Einstein also critiques modern society for suppressing wonder in favor of rationality and efficiency, attributing this suppression to the demands of practicality and goal-oriented thinking. While this critique is valid to some extent, it may be overly simplistic in its analysis. The suppression of wonder is influenced by multiple factors, including educational systems, cultural attitudes, and even individual personality traits. For example, Engel (2015) argues that the way children are taught in school—whether they are encouraged to explore and ask questions or simply absorb information—plays a significant role in shaping their capacity for wonder. By attributing the loss of wonder primarily to societal emphasis on efficiency, Einstein's account may miss the complexity of the factors that contribute to the diminishing sense of wonder in individuals.

Moreover, Einstein's view that cultivating wonder is essential for a meaningful and creative life may not resonate with everyone. While many people do find

meaning through experiences of wonder, others derive fulfillment from different sources, such as relationships, personal achievements, or acts of service. **Viktor Frankl (1963)** argued that meaning in life can be found through purpose, resilience, and connection with others, without necessarily invoking wonder. Einstein's perspective, though inspiring, may be limited in its applicability to the diverse ways in which individuals find meaning and purpose in their lives.

3.3. Critique of Schinkel's Perspective on Wonder

Anders Schinkel (2017), in *The Educational Importance of Deep Wonder*, presents a nuanced account of wonder by distinguishing between "active" and "deep" wonder and highlighting its educational and ethical dimensions. While Schinkel's perspective is comprehensive, there are several areas where his account could be further refined.

One of the main strengths of Schinkel's account is his distinction between active and deep wonder, which allows for a more nuanced understanding of different types of wonder experiences. However, this distinction can also be seen as somewhat rigid, and the boundary between active and deep wonder is not always clear. In practice, individuals may move fluidly between active and deep wonder, and the two types of wonder may coexist in a single experience. For example, someone may begin with active wonder—seeking to understand how a particular phenomenon works—and gradually transition to deep wonder as they contemplate the broader implications and beauty of what they have discovered. Schinkel's categorization, while useful for analysis, may not fully capture the dynamic and interconnected nature of wonder as it is experienced in real life (**Schinkel, 2017**).

Another limitation of Schinkel's perspective is his strong emphasis on the ethical and moral dimensions of wonder. While it is true that wonder can foster empathy, ethical reflection, and a sense of responsibility towards the world, not all experiences of wonder lead to ethical outcomes. One can feel wonder at a technological achievement, for instance, without necessarily reflecting on its ethical implications or developing a greater sense of responsibility. Empirical research suggests that the ethical impact of wonder depends on various factors, including the individual's personality, the context of the experience, and subsequent reflection (**Keltner & Haidt, 2003**). Schinkel's account may overstate the ethical potential of wonder, assuming a direct connection between experiencing wonder and developing moral virtues. A more balanced approach would recognize that wonder has the potential to inspire ethical reflection, but it does not guarantee it.

Schinkel's emphasis on the educational importance of deep wonder is compelling, but it may also overlook the practical challenges of fostering wonder in formal educational settings. Creating an environment that encourages deep wonder requires educators who are themselves capable of experiencing and modeling wonder. However, teachers often face constraints such as standardized curricula, limited time, and pressures to meet assessment targets, which can make it difficult to prioritize wonder in the classroom (**Jardine, 2006**). Schinkel's account would

be strengthened by offering practical strategies for educators to foster wonder despite these challenges, perhaps by integrating wonder into existing curricula in small, achievable ways.

Additionally, Schinkel's focus on deep wonder as an inherently positive experience may fail to account for the more unsettling aspects of wonder. Deep wonder often involves confronting profound mysteries, such as the vastness of the universe or the complexities of human existence. These experiences can evoke feelings of insignificance or existential anxiety, which may not always be positive or conducive to personal growth (Yaden et al., 2019). By acknowledging the dual nature of deep wonder—its capacity to inspire awe and its potential to evoke discomfort—Schinkel's account would provide a more realistic and balanced understanding of the experience.

Summary of Criticisms

The perspectives on wonder presented by Fisher, Einstein, and Schinkel each offer valuable insights but also have significant limitations. Fisher's account is rich in its intellectual exploration of wonder, yet it tends to understate the emotional and embodied dimensions of the experience. His emphasis on rare and extraordinary events as catalysts for wonder may also limit the applicability of his theory to everyday life. Einstein's romanticized portrayal of wonder highlights its role in creativity and emotional fulfillment but may overlook the cognitive aspects of wonder and the complexities of its emotional impact. His critique of modern society's suppression of wonder could be expanded to include a more nuanced analysis of various contributing factors. Schinkel's distinction between active and deep wonder, along with his emphasis on the educational and ethical importance of wonder, provides a comprehensive framework but may be overly rigid and idealistic. His perspective could be improved by addressing the practical challenges of fostering wonder in educational settings and recognizing the potentially unsettling aspects of deep wonder.

By critically examining these perspectives, we gain a deeper understanding of the multifaceted nature of wonder. Each account highlights different aspects of the experience—intellectual, emotional, creative, ethical—but also reveals areas where our understanding could be refined and expanded. Future research on wonder would benefit from an integrative approach that considers its cognitive, emotional, and ethical dimensions, as well as its potential benefits and challenges in both extraordinary and everyday contexts.

4. Conclusion

The concept of wonder is a rich and multifaceted phenomenon that plays an essential role in human experience. By examining the perspectives of Philip Fisher, Albert Einstein, and Anders Schinkel, this paper has highlighted the diverse ways in which wonder can be understood—as an intellectual journey, an emotional and aesthetic experience, and a catalyst for ethical and educational development. Fisher emphasizes the enduring intellectual nature of wonder, while Einstein

highlights its emotional and creative power, and Schinkel links wonder to ethical engagement and the cultivation of empathy. Together, these perspectives paint a picture of wonder as an essential motivator for learning, creativity, and moral growth.

However, each of these perspectives also has its limitations. Fisher's account tends to understate the emotional and embodied dimensions of wonder, focusing primarily on intellectual engagement. Einstein's portrayal of wonder as a purely positive force overlooks its complexities and the potential for negative emotions, such as fear or existential anxiety. Schinkel's distinction between active and deep wonder, while insightful, may be overly rigid, and his emphasis on the ethical implications of wonder may overstate its influence on moral development.

To address these shortcomings, this paper proposes an integrative approach to wonder that encompasses intellectual, emotional, and ethical dimensions. Wonder is not simply an intellectual pursuit, an emotional reaction, or an ethical awakening; it is all of these things, woven together in a way that has the potential to transform how we see ourselves and the world. By understanding wonder as an integrative experience, we can better appreciate its role in fostering curiosity, emotional depth, creativity, and ethical engagement. Ultimately, cultivating wonder can enrich our lives, deepen our understanding of the world, and inspire us to act with greater empathy and responsibility.

Future research on wonder should explore its application in interdisciplinary fields such as neuroscience, pedagogy, and environmental ethics. Investigating how wonder can be cultivated through technology or urban design could also provide insights into fostering societal well-being. These suggestions build on the limitations identified in the current study, aligning closely with the integrative nature of the proposed framework.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- Einstein, A. (1949). *The World as I See It*. Philosophical Library.
https://cooperative-individualism.org/einstein-albert_the-world-as-i-see-it.pdf
- Fisher, P. (1998). *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*. Harvard University Press. <https://www.hup.harvard.edu/books/9780674955622>
- Engel, S. (2015). *The Hungry Mind: The Origins of Curiosity in Childhood*. Harvard University Press. <https://www.hup.harvard.edu/books/9780674984110>
- Frankl, V. E. (1963). *Man's Search for Meaning*. Beacon Press.
<https://www.beacon.org/Mans-Search-for-Meaning-P602.aspx>
- Goodenough, U. (2001). *The Sacred Depths of Nature*. Oxford University Press.
<https://global.oup.com/academic/product/the-sacred-depths-of-nature-9780197662069>
- Jardine, D. W. (2006). *Piaget and Education Primer*. Peter Lang.
<https://www.peterlang.com/document/1102024>
- Keltner, D., & Haidt, J. (2003). Approaching Awe, a Moral, Spiritual, and Aesthetic

Emotion. *Cognition and Emotion*, 17, 297-314.

<https://doi.org/10.1080/026999303002297>

Piaget, J. (2006). *The Mechanisms of Perception*. Routledge.

<https://doi.org/10.4324/9780203715758>

Schinkel, A. (2017). The Educational Importance of Deep Wonder. *Journal of Philosophy of Education*, 51, 538-553.

<https://www.krachtigeleraar.nl/wp-content/uploads/2019/10/Schinkel-The-educational-importance-of-deep-wonder.pdf>

<https://doi.org/10.1111/1467-9752.12233>

Silvia, P. J. (2008). Interest—The Curious Emotion. *Current Directions in Psychological Science*, 17, 57-60. <https://www.jstor.org/stable/20183249>

Yaden, D. B., Kaufman, S. B., Hyde, E., Chirico, A., Gaggioli, A., Zhang, J. W., & Keltner, D. (2019). The Development of the Awe Experience Scale (AWE-S): A Multifactorial Measure for a Complex Emotion. *The Journal of Positive Psychology*, 14, 474-488.

<https://doi.org/10.1080/17439760.2018.1484940>